



September 26, 2017

Project No: 170248

Tim Harris  
Benton Harbor Charter School Academy  
455 Riverview Drive  
Benton Harbor, Michigan 49022

Re: Water Testing  
Benton Harbor Charter School Academy

Dear Mr. Harris

Please find the enclosed laboratory results from water samples Northern Analytical Services, LLC. (NAS) collected at the site. Samples were collected to determine the levels of the lead and copper present in drinking water at each active drinking fountain and sink found in the building. Testing was performed as part of an annual inspection of your building.

Samples were collected on August 30, 2017 by Juston Rehkopf, a State of Michigan accredited Lead Based Paint Inspector (P05558) of NAS. Samples were collected by filling a single 250 milliliter container, pre-treated by the laboratory with acid, at each faucet/drinking fountain and delivering them to the laboratory for analysis. Sample collection was conducted in the morning prior to the water being used by occupants as a "first draw" sample. NAS did not flush or otherwise run each faucet or fountain prior to sample collection; to our knowledge each faucet and fountain sat dormant for at least 6 hours prior to sample collection.

Once delivered to the laboratory (Pace Analytical), samples were analyzed for the presence of copper and lead in accordance with US EPA method 200.8. A copy of the laboratory report is attached.

According to the US EPA's Lead and Copper rule, which applies to schools and child care facilities that meet the definition of a public water system, the practical quantitation limit (PQL) for lead is 0.005 micrograms of lead per liter of water (mg/L) and 0.050 mg/L for copper. The PQL is the concentration of lead or copper that can be reliably measured within specified limits during routine laboratory operating conditions using approved methods. The action level is the concentration of lead or copper in potable water which determines whether a system may be required to install corrosion control treatment, collect water quality parameter samples, collect source water samples, replace lead service lines, and /or deliver public education about lead. The action level for lead is 0.015 mg/L and 1.3 mg/L for copper.

Essentially the PQL is the limit of detection and the Action Level is the level at which steps should be taken in order to minimize or eliminate exposure to lead or copper. Actions to be taken when the action level is exceeded include the following:

- Public education-provide information to building occupants about the water quality.
- Water quality parameter (WQP) monitoring-establish a routine monitoring program.
- Source water monitoring and source water treatment if necessary.
- Corrosion control treatment (CCT).

Choice Schools Associates  
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The following is a summary of our findings:

<b>Sample ID</b>	<b>Location</b>	<b>Copper Concentration (mg/L)</b>	<b>Lead Concentration (mg/L)</b>
BH-1	Main Office Bathroom Sink	0.019	ND
BH-2	Main Office Sick Bay Sink	0.019	ND
BH-3	Rm 162 Bathroom Sink	0.034	ND
BH-4	Rm 157 Bathroom Sink	0.079*	ND
BH-5	West Drinking Fountain by Rm 151	0.023	ND
BH-6	East Drinking Fountain by Rm 151	0.023	ND
BH-7	Rm 156 Bathroom Sink	0.032	ND
BH-8	Rm 151 Bathroom Sink	0.059*	ND
BH-9	Drinking Fountain in Main Hall	0.0039	ND
BH-10	Main Hall Boy's Bathroom West Sink	0.012	ND
BH-11	Main Hall Boy's Bathroom Center Sink	0.080*	ND
BH-12	Main Hall Boy's Bathroom East Sink	0.064*	ND
BH-13	Main Hall Girls Bathroom West Sink	0.0064	ND
BH-14	Main Hall Girls Bathroom Center Sink	0.0066	ND
BH-15	Main Hall Girls Bathroom East Sink	0.022	ND
BH-16	West Drinking Fountain in Middle School Hall	0.014	ND
BH-17	East Drinking Fountain in Middle School Hall	0.021	ND
BH-18	Middle School Hall Boy's Bathroom North Sink	0.097*	ND
BH-19	Middle School Hall Boy's Bathroom South Sink	0.037	ND
BH-20	Middle School Hall Girls Bathroom North Sink	0.083*	ND
BH-21	Middle School Hall Girls Bathroom Center Sink	0.093*	ND
BH-22	Middle School Hall Girls Bathroom South Sink	0.039	ND
BH-23	Mens Bathroom Sink by Copy Room	0.026	ND
BH-24	Womans Bathroom Sink by Copy Room	0.025	ND
BH-25	North Drinking Fountain by Copy Room	0.38*	0.0014
BH-26	Teachers Lounge Sink	0.093*	ND
BH-27	North Sink in Kitchen	0.28*	0.0042
BH-28	East Sink in Kitchen	0.073*	ND
BH-29	Drinking Fountain by Kitchen	0.0076	ND
BH-30	North Sink in Boys Bathroom by Kitchen	0.0066	ND
BH-31	Center Sink in Boys Bathroom by Kitchen	0.024	ND
BH-32	South Sink in Boys Bathroom by Kitchen	0.022	ND
BH-33	North Sink in Girls Bathroom by Kitchen	0.082*	ND
BH-34	Center Sink in Girls Bathroom by Kitchen	0.040	ND
BH-35	South Sink in Girls Bathroom by Kitchen	0.0091	ND
BH-36	Art Room Sink	0.083*	ND
BH-37	Rm 156 Kitchen Sink	0.13*	0.0018

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\* exceeds the PQL for lead or copper.  
\*\*exceeds the action level for lead or copper.

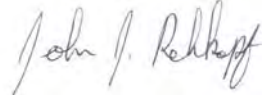
Of the 327 samples collected, none exceeded the PQL for lead; 14 of the samples exceeded the PQL for copper, none of those samples exceeded the action level for copper.

Based on these results, NAS recommends the following actions:

- Re-test all fixtures at least annually and following any major changes to the system.

NAS appreciates the opportunity to provide these services and looks forward to assisting you with any re-testing needed. Please do not hesitate to contact me with any questions.

Sincerely



John J. Rehkopf  
President

October 04, 2017

John Rehkopf  
Northern Analytical Services  
14870 225th Avenue  
Big Rapids, MI 49307

RE: Project: Benton Harbor Charter  
Pace Project No.: 462877

Dear John Rehkopf:

Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 2017. 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



## REPORT OF LABORATORY ANALYSIS

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## CERTIFICATIONS

Project: Benton Harbor Charter  
Pace Project No.: 462877

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### Grand Rapids Certification ID's

5560 Corporate Exchange Ct SE, Grand Rapids, MI 49512  
ISO/IEC 17025:2005, Certificate #AT-1542.01  
DoD-ELAP, Certificate #ADE-1542  
Minnesota Department of Health, Certificate #1177224  
Arkansas Department of Environmental Quality, Certificate #17-046-0  
Georgia Environmental Protection Division, Stipulation  
Illinois Environmental Protection Agency, Certificate #004097  
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 #P330-14-00305

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## REPORT OF LABORATORY ANALYSIS

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### SAMPLE SUMMARY

Project: Benton Harbor Charter

Pace Project No.: 462877

Lab ID	Sample ID	Matrix	Date Collected	Date Received
462877001	BH1	Drinking Water	09/22/17 08:44	09/27/17 08:00
462877002	BH2	Drinking Water	09/22/17 08:44	09/27/17 08:00
462877003	BH3	Drinking Water	09/22/17 08:47	09/27/17 08:00
462877004	BH4	Drinking Water	09/22/17 08:49	09/27/17 08:00
462877005	BH5	Drinking Water	09/22/17 08:50	09/27/17 08:00
462877006	BH6	Drinking Water	09/22/17 08:50	09/27/17 08:00
462877007	BH7	Drinking Water	09/22/17 08:53	09/27/17 08:00
462877008	BH8	Drinking Water	09/22/17 08:54	09/27/17 08:00
462877009	BH9	Drinking Water	09/22/17 08:55	09/27/17 08:00
462877010	BH10	Drinking Water	09/22/17 08:57	09/27/17 08:00
462877011	BH11	Drinking Water	09/22/17 08:57	09/27/17 08:00
462877012	BH12	Drinking Water	09/22/17 08:57	09/27/17 08:00
462877013	BH13	Drinking Water	09/22/17 08:58	09/27/17 08:00
462877014	BH14	Drinking Water	09/22/17 08:58	09/27/17 08:00
462877015	BH15	Drinking Water	09/22/17 08:58	09/27/17 08:00
462877016	BH16	Drinking Water	09/22/17 09:00	09/27/17 08:00
462877017	BH17	Drinking Water	09/22/17 09:00	09/27/17 08:00
462877018	BH18	Drinking Water	09/22/17 09:02	09/27/17 08:00
462877019	BH19	Drinking Water	09/22/17 09:02	09/27/17 08:00
462877020	BH20	Drinking Water	09/22/17 09:03	09/27/17 08:00
462877021	BH21	Drinking Water	09/22/17 09:03	09/27/17 08:00
462877022	BH22	Drinking Water	09/22/17 09:03	09/27/17 08:00
462877023	BH23	Drinking Water	09/22/17 09:05	09/27/17 08:00
462877024	BH24	Drinking Water	09/22/17 09:06	09/27/17 08:00
462877025	BH25	Drinking Water	09/22/17 09:09	09/27/17 08:00
462877026	BH26	Drinking Water	09/22/17 09:11	09/27/17 08:00
462877027	BH27	Drinking Water	09/22/17 09:12	09/27/17 08:00
462877028	BH28	Drinking Water	09/22/17 09:13	09/27/17 08:00
462877029	BH29	Drinking Water	09/22/17 09:14	09/27/17 08:00
462877030	BH30	Drinking Water	09/22/17 09:15	09/27/17 08:00
462877031	BH31	Drinking Water	09/22/17 09:15	09/27/17 08:00
462877032	BH32	Drinking Water	09/22/17 09:15	09/27/17 08:00
462877033	BH33	Drinking Water	09/22/17 09:18	09/27/17 08:00
462877034	BH34	Drinking Water	09/22/17 09:18	09/27/17 08:00
462877035	BH35	Drinking Water	09/22/17 09:18	09/27/17 08:00
462877036	BH36	Drinking Water	09/22/17 09:21	09/27/17 08:00
462877037	BH37	Drinking Water	09/22/17 09:21	09/27/17 08:00

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### SAMPLE ANALYTE COUNT

Project: Benton Harbor Charter  
Pace Project No.: 462877

Lab ID	Sample ID	Method	Analysts	Analytes Reported
462877001	BH1	EPA 200.8	CKD	2
462877002	BH2	EPA 200.8	CKD	2
462877003	BH3	EPA 200.8	CKD	2
462877004	BH4	EPA 200.8	CKD	2
462877005	BH5	EPA 200.8	CKD	2
462877006	BH6	EPA 200.8	CKD	2
462877007	BH7	EPA 200.8	CKD	2
462877008	BH8	EPA 200.8	CKD	2
462877009	BH9	EPA 200.8	CKD	2
462877010	BH10	EPA 200.8	CKD	2
462877011	BH11	EPA 200.8	CKD	2
462877012	BH12	EPA 200.8	CKD	2
462877013	BH13	EPA 200.8	CKD	2
462877014	BH14	EPA 200.8	CKD	2
462877015	BH15	EPA 200.8	CKD	2
462877016	BH16	EPA 200.8	CKD	2
462877017	BH17	EPA 200.8	CKD	2
462877018	BH18	EPA 200.8	CKD	2
462877019	BH19	EPA 200.8	CKD	2
462877020	BH20	EPA 200.8	CKD	2
462877021	BH21	EPA 200.8	CKD	2
462877022	BH22	EPA 200.8	CKD	2
462877023	BH23	EPA 200.8	CKD	2
462877024	BH24	EPA 200.8	CKD	2
462877025	BH25	EPA 200.8	CKD	2
462877026	BH26	EPA 200.8	CKD	2
462877027	BH27	EPA 200.8	CKD	2
462877028	BH28	EPA 200.8	CKD	2
462877029	BH29	EPA 200.8	CKD	2
462877030	BH30	EPA 200.8	CKD	2
462877031	BH31	EPA 200.8	CKD	2
462877032	BH32	EPA 200.8	CKD	2
462877033	BH33	EPA 200.8	CKD	2
462877034	BH34	EPA 200.8	CKD	2
462877035	BH35	EPA 200.8	CKD	2
462877036	BH36	EPA 200.8	CKD	2
462877037	BH37	EPA 200.8	CKD	2

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH1		Lab ID: 462877001		Collected: 09/22/17 08:44	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.019</b>	mg/L	0.0010	1		10/02/17 18:48	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 18:48	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH2		Lab ID: 462877002	Collected: 09/22/17 08:44	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.019</b>	mg/L	0.0010	1		10/02/17 18:49	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 18:49	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH3		Lab ID: 462877003	Collected: 09/22/17 08:47	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.034</b>	mg/L	0.0010	1		10/02/17 18:50	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 18:50	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH4		Lab ID: 462877004		Collected: 09/22/17 08:49	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.079</b>	mg/L	0.0010	1		10/02/17 18:52	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 18:52	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH5		Lab ID: 462877005		Collected: 09/22/17 08:50	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.023</b>	mg/L	0.0010	1		10/02/17 18:53	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 18:53	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH6		Lab ID: 462877006	Collected: 09/22/17 08:50	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.023</b>	mg/L	0.0010	1		10/02/17 18:59	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 18:59	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH7		Lab ID: 462877007		Collected: 09/22/17 08:53	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.032</b>	mg/L	0.0010	1		10/02/17 19:01	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:01	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH8		Lab ID: 462877008		Collected: 09/22/17 08:54	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.059</b>	mg/L	0.0010	1		10/02/17 19:02	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:02	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH9		Lab ID: 462877009	Collected: 09/22/17 08:55	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.0039</b>	mg/L	0.0010	1		10/02/17 19:03	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:03	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH10		Lab ID: 462877010	Collected: 09/22/17 08:57	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.012</b>	mg/L	0.0010	1		10/02/17 19:07	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:07	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH11		Lab ID: 462877011		Collected: 09/22/17 08:57		Received: 09/27/17 08:00		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
<b>200.8 ICPMS Metals, Total</b>		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Copper	<b>0.080</b>	mg/L	0.0010	1	10/03/17 07:50	10/03/17 15:31	7440-50-8		
Lead	ND	mg/L	0.0010	1	10/03/17 07:50	10/03/17 15:31	7439-92-1		

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH12		Lab ID: 462877012	Collected: 09/22/17 08:57	Received: 09/27/17 08:00	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8							
Copper	<b>0.064</b>	mg/L	0.0010	1		10/02/17 19:14	7440-50-8		
Lead	ND	mg/L	0.0010	1		10/02/17 19:14	7439-92-1		

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH13		Lab ID: 462877013		Collected: 09/22/17 08:58	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.0064</b>	mg/L	0.0010	1		10/02/17 19:19	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:19	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH14		Lab ID: 462877014	Collected: 09/22/17 08:58	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.0066</b>	mg/L	0.0010	1		10/02/17 19:20	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:20	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter  
Pace Project No.: 462877

Sample: BH15		Lab ID: 462877015		Collected: 09/22/17 08:58	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.022</b>	mg/L	0.0010	1		10/02/17 19:21	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:21	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH16		Lab ID: 462877016	Collected: 09/22/17 09:00	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.014</b>	mg/L	0.0010	1		10/02/17 19:22	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:22	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH17		Lab ID: 462877017	Collected: 09/22/17 09:00	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.021</b>	mg/L	0.0010	1		10/02/17 19:24	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:24	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter  
Pace Project No.: 462877

Sample: BH18		Lab ID: 462877018		Collected: 09/22/17 09:02	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.097</b>	mg/L	0.0010	1		10/02/17 19:25	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:25	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH19		Lab ID: 462877019	Collected: 09/22/17 09:02	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.037</b>	mg/L	0.0010	1		10/02/17 19:30	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:30	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH20		Lab ID: 462877020	Collected: 09/22/17 09:03	Received: 09/27/17 08:00	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8							
Copper	<b>0.083</b>	mg/L	0.0010	1		10/02/17 19:31	7440-50-8		
Lead	ND	mg/L	0.0010	1		10/02/17 19:31	7439-92-1		

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH21		Lab ID: 462877021	Collected: 09/22/17 09:03	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.093</b>	mg/L	0.0010	1		10/02/17 19:32	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:32	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH22		Lab ID: 462877022	Collected: 09/22/17 09:03	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.039</b>	mg/L	0.0010	1		10/02/17 19:34	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:34	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH23		Lab ID: 462877023	Collected: 09/22/17 09:05	Received: 09/27/17 08:00	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8							
Copper	<b>0.026</b>	mg/L	0.0010	1		10/02/17 19:35	7440-50-8		
Lead	ND	mg/L	0.0010	1		10/02/17 19:35	7439-92-1		

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter  
Pace Project No.: 462877

Sample: BH24		Lab ID: 462877024	Collected: 09/22/17 09:06	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.025</b>	mg/L	0.0010	1		10/02/17 19:36	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:36	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH25		Lab ID: 462877025		Collected: 09/22/17 09:09	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.38</b>	mg/L	0.0050	5		10/03/17 14:42	7440-50-8	
Lead	<b>0.0014</b>	mg/L	0.0010	1		10/02/17 19:37	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH26		Lab ID: 462877026		Collected: 09/22/17 09:11	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.093</b>	mg/L	0.0010	1		10/02/17 19:38	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:38	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH27		Lab ID: 462877027	Collected: 09/22/17 09:12	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.28</b>	mg/L	0.0050	5		10/03/17 18:38	7440-50-8	
Lead	<b>0.0042</b>	mg/L	0.0010	1		10/02/17 19:40	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH28		Lab ID: 462877028		Collected: 09/22/17 09:13	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.073</b>	mg/L	0.0010	1		10/02/17 19:41	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:41	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH29		Lab ID: 462877029		Collected: 09/22/17 09:14		Received: 09/27/17 08:00		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
<b>200.8 ICPMS Metals, Total</b>		Analytical Method: EPA 200.8 Preparation Method: EPA 200.8							
Copper	<b>0.0076</b>	mg/L	0.0010	1	10/03/17 07:50	10/03/17 15:32	7440-50-8		
Lead	ND	mg/L	0.0010	1	10/03/17 07:50	10/03/17 15:32	7439-92-1		

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH30		Lab ID: 462877030		Collected: 09/22/17 09:15		Received: 09/27/17 08:00		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8							
Copper	<b>0.0066</b>	mg/L	0.0010	1		10/02/17 19:47	7440-50-8		
Lead	ND	mg/L	0.0010	1		10/02/17 19:47	7439-92-1	M1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH31		Lab ID: 462877031		Collected: 09/22/17 09:15	Received: 09/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.024</b>	mg/L	0.0010	1		10/02/17 19:52	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:52	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH32		Lab ID: 462877032	Collected: 09/22/17 09:15	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.022</b>	mg/L	0.0010	1		10/02/17 19:53	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:53	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>Sample: BH33</b>		<b>Lab ID: 462877033</b>		Collected: 09/22/17 09:18	Received: 09/27/17 08:00	Matrix: Drinking Water		
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.082</b>	mg/L	0.0010	1		10/02/17 19:55	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 19:55	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter  
Pace Project No.: 462877

Sample: BH34		Lab ID: 462877034	Collected: 09/22/17 09:18	Received: 09/27/17 08:00	Matrix: Drinking Water				
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8							
Copper	<b>0.040</b>	mg/L	0.0010	1		10/02/17 19:56	7440-50-8		
Lead	ND	mg/L	0.0010	1		10/02/17 19:56	7439-92-1		

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH35		Lab ID: 462877035	Collected: 09/22/17 09:18	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.0091</b>	mg/L	0.0010	1		10/02/17 20:00	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 20:00	7439-92-1	

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### ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH36		Lab ID: 462877036	Collected: 09/22/17 09:21	Received: 09/27/17 08:00	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8						
Copper	<b>0.083</b>	mg/L	0.0010	1		10/02/17 20:01	7440-50-8	
Lead	ND	mg/L	0.0010	1		10/02/17 20:01	7439-92-1	

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## ANALYTICAL RESULTS

Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH37		Lab ID: 462877037		Collected: 09/22/17 09:21		Received: 09/27/17 08:00		Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
<b>200.8 MET ICPMS Drinking Water</b>		Analytical Method: EPA 200.8							
Copper	<b>0.13</b>	mg/L	0.0050	5		10/03/17 14:44	7440-50-8		
Lead	<b>0.0018</b>	mg/L	0.0010	1		10/02/17 20:02	7439-92-1		

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### QUALITY CONTROL DATA

Project: Benton Harbor Charter  
Pace Project No.: 462877

QC Batch: 5900 Analysis Method: EPA 200.8  
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep  
Associated Lab Samples: 462877001, 462877002, 462877003, 462877004, 462877005, 462877006, 462877007, 462877008, 462877009

METHOD BLANK: 24233 Matrix: Water  
Associated Lab Samples: 462877001, 462877002, 462877003, 462877004, 462877005, 462877006, 462877007, 462877008, 462877009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	mg/L	ND	0.0010	10/02/17 18:20	
Lead	mg/L	ND	0.0010	10/02/17 18:20	

LABORATORY CONTROL SAMPLE: 24234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	mg/L	.02	0.020	101	85-115	
Lead	mg/L	.02	0.020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24235 24236

Parameter	Units	462876009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	mg/L	0.15	.1	.1	0.26	0.25	112	101	70-130	5	20	
Lead	mg/L	ND	.02	.02	0.025	0.026	124	127	70-130	2	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24238 24239

Parameter	Units	462876010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	mg/L	0.30	.1	.1	0.41	0.42	111	117	70-130	1	20	
Lead	mg/L	ND	.02	.02	0.025	0.024	123	120	70-130	2	20	

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### QUALITY CONTROL DATA

Project: Benton Harbor Charter  
Pace Project No.: 462877

QC Batch: 5901 Analysis Method: EPA 200.8  
QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep  
Associated Lab Samples: 462877010, 462877012, 462877013, 462877014, 462877015, 462877016, 462877017, 462877018, 462877019, 462877020, 462877021, 462877022, 462877023, 462877024, 462877025, 462877026, 462877027, 462877028

METHOD BLANK: 24241 Matrix: Water  
Associated Lab Samples: 462877010, 462877012, 462877013, 462877014, 462877015, 462877016, 462877017, 462877018, 462877019, 462877020, 462877021, 462877022, 462877023, 462877024, 462877025, 462877026, 462877027, 462877028

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	mg/L	ND	0.0010	10/02/17 19:04	
Lead	mg/L	ND	0.0010	10/02/17 19:04	

LABORATORY CONTROL SAMPLE: 24242

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	mg/L	.02	0.020	100	85-115	
Lead	mg/L	.02	0.021	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24243 24244

Parameter	Units	462877010 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	mg/L	0.012	.02	.02	0.031	0.032	91	98	70-130	4	20	
Lead	mg/L	ND	.02	.02	0.025	0.026	123	127	70-130	3	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24246 24247

Parameter	Units	462877012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Copper	mg/L	0.064	.02	.02	0.084	0.082	99	92	70-130	2	20	
Lead	mg/L	ND	.02	.02	0.025	0.025	123	122	70-130	0	20	

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### QUALITY CONTROL DATA

Project: Benton Harbor Charter

Pace Project No.: 462877

QC Batch: 5902

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: ICPMS Metals, No Prep

Associated Lab Samples: 462877030, 462877031, 462877032, 462877033, 462877034, 462877035, 462877036, 462877037

METHOD BLANK: 24249

Matrix: Water

Associated Lab Samples: 462877030, 462877031, 462877032, 462877033, 462877034, 462877035, 462877036, 462877037

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	mg/L	ND	0.0010	10/02/17 19:45	
Lead	mg/L	ND	0.0010	10/02/17 19:45	

LABORATORY CONTROL SAMPLE: 24250

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	mg/L	.02	0.021	103	85-115	
Lead	mg/L	.02	0.021	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24251 24252

Parameter	Units	462877030 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	Spike Conc.	MS Result	MSD Result						
Copper	mg/L	0.0066	.02	.02	0.025	0.027	92	101	70-130	7	20	
Lead	mg/L	ND	.02	.02	0.024	0.027	122	132	70-130	8	20 M1	

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### QUALITY CONTROL DATA

Project: Benton Harbor Charter

Pace Project No.: 462877

QC Batch: 5904

Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8

Analysis Description: 200.8 MET

Associated Lab Samples: 462877011, 462877029

METHOD BLANK: 24254

Matrix: Water

Associated Lab Samples: 462877011, 462877029

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Copper	mg/L	ND	0.0010	10/03/17 15:13	
Lead	mg/L	ND	0.0010	10/03/17 15:13	

LABORATORY CONTROL SAMPLE: 24255

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Copper	mg/L	.05	0.047	93	85-115	
Lead	mg/L	.05	0.047	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24256

24257

Parameter	Units	462875009 Result	MS		MSD		MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
			Spike Conc.	MS Result	Spike Conc.	MSD Result						
Copper	mg/L	0.12	.05	0.16	.05	0.16	95	97	70-130	1	20	
Lead	mg/L	ND	.05	0.053	.05	0.052	106	104	70-130	2	20	

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## QUALIFIERS

Project: Benton Harbor Charter

Pace Project No.: 462877

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### 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.

### ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

## REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,  
without the written consent of Pace Analytical Services, LLC.

### QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Benton Harbor Charter

Pace Project No.: 462877

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
462877001	BH1	EPA 200.8	5900		
462877002	BH2	EPA 200.8	5900		
462877003	BH3	EPA 200.8	5900		
462877004	BH4	EPA 200.8	5900		
462877005	BH5	EPA 200.8	5900		
462877006	BH6	EPA 200.8	5900		
462877007	BH7	EPA 200.8	5900		
462877008	BH8	EPA 200.8	5900		
462877009	BH9	EPA 200.8	5900		
462877010	BH10	EPA 200.8	5901		
462877012	BH12	EPA 200.8	5901		
462877013	BH13	EPA 200.8	5901		
462877014	BH14	EPA 200.8	5901		
462877015	BH15	EPA 200.8	5901		
462877016	BH16	EPA 200.8	5901		
462877017	BH17	EPA 200.8	5901		
462877018	BH18	EPA 200.8	5901		
462877019	BH19	EPA 200.8	5901		
462877020	BH20	EPA 200.8	5901		
462877021	BH21	EPA 200.8	5901		
462877022	BH22	EPA 200.8	5901		
462877023	BH23	EPA 200.8	5901		
462877024	BH24	EPA 200.8	5901		
462877025	BH25	EPA 200.8	5901		
462877026	BH26	EPA 200.8	5901		
462877027	BH27	EPA 200.8	5901		
462877028	BH28	EPA 200.8	5901		
462877030	BH30	EPA 200.8	5902		
462877031	BH31	EPA 200.8	5902		
462877032	BH32	EPA 200.8	5902		
462877033	BH33	EPA 200.8	5902		
462877034	BH34	EPA 200.8	5902		
462877035	BH35	EPA 200.8	5902		
462877036	BH36	EPA 200.8	5902		
462877037	BH37	EPA 200.8	5902		
462877011	BH11	EPA 200.8	5904	EPA 200.8	6008
462877029	BH29	EPA 200.8	5904	EPA 200.8	6008

### REPORT OF LABORATORY ANALYSIS

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**CHAIN-OF-CUSTODY / Analytical Request Document**  
 The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

**Section A**

Required Client Information:

Company: **Northern Analytical**  
 Address: **17870 225th Ave**  
 Email To: **Big Rapids, MI 49307**  
 Phone: **231-679-0005** Fax: **231-679-0005**  
 Requested Due Date/TAT:

Required Project Information:

Report To: **John Rehkopf**  
 Copy To:  
 Purchase Order No.:  
 Project Name: **Benton Harbor Charter**  
 Project Number:

Section C

Invoice Information:

Attention: **See section A**  
 Company Name:  
 Address:  
 Pace Quote Reference:  
 Pace Project Manager:  
 Pace Profile #:

**REGULATORY AGENCY**

NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  OTHER

Page: **1** of **4**  
**2183151**

ITEM #	Section D Required Client Information	Matrix Codes MATERIAL / CODE	Matrix / CODE	Matrix Code	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
						COMPOSITE START	COMPOSITE END/GRAB							
1	BH 1													
2	BH 2													
3	BH 3													
4	BH 4													
5	BH 5													
6	BH 6													
7	BH 7													
8	BH 8													
9	BH 9													
10	BH 10													
11	BH 11													
12	BH 12													

**ADDITIONAL COMMENTS**  
**RELINQUISHED BY / AFFILIATION** *Justin Rehkopf* **DATE** *9-27-17* **TIME** *8:57*  
**ACCEPTED BY / AFFILIATION** *John Rehkopf* **DATE** *9-27-17* **TIME** *8:57*  
**SAMPLE CONDITIONS**  
 Temp in °C  
 Received on Ice (Y/N)  
 Custody Sealed Cooler (Y/N)  
 Samples Intact (Y/N)

ORIGINAL

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: *John Rehkopf*  
 SIGNATURE of SAMPLER: *John Rehkopf*  
 DATE Signed (MM/DD/YY): *9-27-17*

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.

**CHAIN-OF-CUSTODY / Analytical Request Document**  
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

#462877

2183150

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company:	see page 1	Report To:		Attention:	
Address:		Copy To:		Company Name:	
Email To:		Purchase Order No.:		Address:	
Phone:		Project Name:	Benston Harbor Charter	Face Quote Reference:	
Fax:		Project Number:		Pace Project Manager:	
Requested Due Date/TAT:				Pace Profile #:	
<b>REGULATORY AGENCY</b>			<b>Requested Analysis Filtered (Y/N)</b>		
<input type="checkbox"/> NPDES	<input type="checkbox"/> GROUND WATER	<input checked="" type="checkbox"/> DRINKING WATER			
<input type="checkbox"/> UST	<input type="checkbox"/> RCRA	<input type="checkbox"/> OTHER			
Site Location	STATE:				
	MI				

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	Matrix Codes DW WT WW P SL OL WP AR TS OT	Matrix Code (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
						COMPOSITE START	COMPOSITE END/GRAB			Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH	Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	Methanol				
1	BH 13				DU G	9-22-17	8:58		1											
2	BH 14						8:58													
3	BH 15						8:58													
4	BH 16						9:00													
5	BH 17						9:00													
6	BH 18						9:02													
7	BH 19						9:02													
8	BH 20						9:03													
9	BH 21						9:03													
10	BH 22						9:03													
11	BH 23						9:05													
12	BH 24						9:06													

ADDITIONAL COMMENTS		RELINQUISHED BY / AFFILIATION		DATE		TIME		ACCEPTED BY / AFFILIATION		DATE		TIME		SAMPLE CONDITIONS	
		Justin Murray		9-27-17		8:00		Justin Murray		9-27-17		0800			
ORIGINAL															
SAMPLER NAME AND SIGNATURE				PRINT Name of SAMPLER:				DATE Signed (MM/DD/YY):				Temp in °C			
Justin Murray				Justin Rehkopf				9-27-17							
SIGNATURE of SAMPLER:				DATE Signed (MM/DD/YY):				Temp in °C				Received on Ice (Y/N)			
Justin Murray				9-27-17											
SIGNATURE of SAMPLER:				DATE Signed (MM/DD/YY):				Temp in °C				Custody Sealed Cooler (Y/N)			
Justin Murray				9-27-17											
SIGNATURE of SAMPLER:				DATE Signed (MM/DD/YY):				Temp in °C				Samples Intact (Y/N)			
Justin Murray				9-27-17											

\*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.  
F-ALL-Q-020rev.07, 15-May-2007

**CHAIN-OF-CUSTODY / Analytical Request Document**  
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

# 468077

**Section A** Required Client Information: Company: see page 1 Address: see page 1 Report To: see page 1 Copy To: see page 1

**Section B** Required Project Information: Project Name: Benton Harbor Charter Project Number: see page 1 Purchase Order No.: see page 1

**Section C** Invoice Information: Attention: see page 1 Company Name: see page 1 Address: see page 1 Rate Quote Reference: see page 1 Pace Project Manager: see page 1 Pace Profile #: see page 1

**REGULATORY AGENCY**  
 NPDES  GROUND WATER  DRINKING WATER  
 UST  RCRA  
 Site Location STATE: MI

ITEM #	Section D Required Client Information <b>SAMPLE ID</b> (A-Z, 0-9 / -) Sample IDs MUST BE UNIQUE	Matrix Codes MATRIX / CODE Drinking Water DW Water WWT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Tissue TS Other OT	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives						Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					DATE	TIME			DATE	TIME	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HCl	NaOH				
1	BH 25		DW	G	9-27-17	9:09		1										
2	BH 26																	
3	BH 27																	
4	BH 28																	
5	BH 29																	
6	BH 30																	
7	BH 31																	
8	BH 32																	
9	BH 33																	
10	BH 34																	
11	BH 35																	
12	BH 36																	

**ADDITIONAL COMMENTS**  
 RELINQUISHED BY / AFFILIATION: Justin McKinney DATE: 9-27-17 TIME: 8:00am  
 ACCEPTED BY / AFFILIATION: Justin McKinney DATE: 9/27/17 TIME: 0800

**ORIGINAL**

**SAMPLER NAME AND SIGNATURE**  
 PRINT Name of SAMPLER: Justin McKinney  
 SIGNATURE of SAMPLER: Justin McKinney

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

**CHAIN-OF-CUSTODY / Analytical Request Document**  
The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

244628877

<b>Section A</b> Required Client Information:		<b>Section B</b> Required Project Information:		<b>Section C</b> Invoice Information:	
Company: <i>See page 1</i>	Report To:	Report To:	Company Name:	Attention:	REGULATORY AGENCY
Address:	Copy To:	Purchase Order No.:	Address:	Company Name:	<input type="checkbox"/> NPDES <input type="checkbox"/> GROUND WATER <input checked="" type="checkbox"/> DRINKING WATER
Email To:		Project Name: <i>Benton Harbor Charter</i>	Face Quote Reference:	Face Project Manager:	<input type="checkbox"/> UST <input type="checkbox"/> RCRA
Phone:	Fax:	Project Number:	Face Quote Reference:	Face Project Manager:	Site Location STATE: <i>MI</i>
Requested Due Date/TAT:			Face Profile #:		

ITEM #	Section D Required Client Information	Matrix Codes MATRIX / CODE	Matrix Code (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives							Analysis Test	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
					COMPOSITE START	COMPOSITE END/GRAB			DATE	TIME	DATE	TIME	Unpreserved	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>				
1	<i>BH 37</i>							1											
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

**ADDITIONAL COMMENTS**

REINQUISHED BY / AFFILIATION: *Justin Wilmsy* DATE: *9-27-17* TIME: *8:00am*

ACCEPTED BY / AFFILIATION: *Justin Wilmsy* DATE: *9/27/17* TIME: *0800*

**SAMPLER NAME AND SIGNATURE**

PRINT Name of SAMPLER: *Justin Wilmsy* SIGNATURE of SAMPLER: *Justin Wilmsy*

DATE signed (MM/DD/YY): *9-27-17*

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 (or any invoices not paid within 30 days). F-ALL-Q-020rev.07, 15-May-2007

# SAMPLE RECEIVING / LOG-IN CHECKLIST

**Pace Analytical**®

Client <i>Northern Nevada</i>	Work Order # <i>462877</i>
Receipt Record Page/Line # <i>43/20</i>	Project/Chemist <i>[Signature]</i>
Sample #s	

Recorded by (initials/date) <i>JN 9-27-17</i>	<input type="checkbox"/> Cooler	Qty Received <i>1</i>	<input type="checkbox"/> IR Gun (#202)	<input type="checkbox"/> See Additional Cooler Information Form
	<input type="checkbox"/> Box		Thermometer Used <input type="checkbox"/> Digital Thermometer (#54)	
	<input type="checkbox"/> Other		<input type="checkbox"/> Other (# _____)	

Cooler #	Time	Cooler #	Time	Cooler #	Time	Cooler #	Time	
<i>TA K4501870</i>								
Custody Seals: <input checked="" type="checkbox"/> None <input type="checkbox"/> Present / Intact <input type="checkbox"/> Present / Not Intact		Custody Seals: <input type="checkbox"/> None <input type="checkbox"/> Present / Intact <input type="checkbox"/> Present / Not Intact		Custody Seals: <input type="checkbox"/> None <input type="checkbox"/> Present / Intact <input type="checkbox"/> Present / Not Intact		Custody Seals: <input type="checkbox"/> None <input type="checkbox"/> Present / Intact <input type="checkbox"/> Present / Not Intact		
Coolant Type: <input type="checkbox"/> Loose Ice <input type="checkbox"/> Bagged Ice <input type="checkbox"/> Blue Ice <input checked="" type="checkbox"/> None		Coolant Type: <input type="checkbox"/> Loose Ice <input type="checkbox"/> Bagged Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> None		Coolant Type: <input type="checkbox"/> Loose Ice <input type="checkbox"/> Bagged Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> None		Coolant Type: <input type="checkbox"/> Loose Ice <input type="checkbox"/> Bagged Ice <input type="checkbox"/> Blue Ice <input type="checkbox"/> None		
Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		Coolant Location: Dispersed / Top / Middle / Bottom		
Temp Blank Present: <input type="checkbox"/> Yes <input type="checkbox"/> No		Temp Blank Present: <input type="checkbox"/> Yes <input type="checkbox"/> No		Temp Blank Present: <input type="checkbox"/> Yes <input type="checkbox"/> No		Temp Blank Present: <input type="checkbox"/> Yes <input type="checkbox"/> No		
If Present, Temperature Blank Location is: <input type="checkbox"/> Representative <input type="checkbox"/> Not Representative		If Present, Temperature Blank Location is: <input type="checkbox"/> Representative <input type="checkbox"/> Not Representative		If Present, Temperature Blank Location is: <input type="checkbox"/> Representative <input type="checkbox"/> Not Representative		If Present, Temperature Blank Location is: <input type="checkbox"/> Representative <input type="checkbox"/> Not Representative		
Observed °C	Correction Factor °C	Actual °C	Observed °C	Correction Factor °C	Actual °C	Observed °C	Correction Factor °C	
Temp Blank:			Temp Blank:			Temp Blank:		
Sample 1: <i>23.2</i>	<i>0</i>	<i>23.2</i>	Sample 1:			Sample 1:		
Sample 2: <i>23.3</i>	<i>0</i>	<i>23.3</i>	Sample 2:			Sample 2:		
Sample 3: <i>23.2</i>	<i>0</i>	<i>23.2</i>	Sample 3:			Sample 3:		
3 Sample Average °C: <i>23.2</i>			3 Sample Average °C:			3 Sample Average °C:		
<input type="checkbox"/> Cooler ID on COC?		<input type="checkbox"/> Cooler ID on COC?		<input type="checkbox"/> Cooler ID on COC?		<input type="checkbox"/> Cooler ID on COC?		
<input type="checkbox"/> VOC Trip Blank received?		<input type="checkbox"/> VOC Trip Blank received?		<input type="checkbox"/> VOC Trip Blank received?		<input type="checkbox"/> VOC Trip Blank received?		

**If any shaded areas checked, complete Sample Receiving Non-Conformance and/or Inventory Form**

**Paperwork Received**

Yes  No  Chain of Custody record(s)? If No, Initiated By \_\_\_\_\_

Received for Lab Signed/Date/Time?

Shipping document?

Other \_\_\_\_\_

**COC Information**

Pace COC  Other \_\_\_\_\_

COC ID Numbers: *2183151, 2183150, 2183149, 2183148*

**Check COC for Accuracy**

Yes  No  Analysis Requested?

Sample ID matches COC?

Sample Date and Time matches COC?

Container type completed on COC?

All container types 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 / TOX containers 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 either is ≥6° C, was thermal preservation required?  
If "Yes", Project Chemist Approval Initials: \_\_\_\_\_

If "Yes" Completed Non Con Cooler - Cont Inventory Form?

Completed Sample Preservation Verification Form?

Samples chemically preserved correctly?  
If "No", added orange tag?

Received pre-preserved VOC soils?  
 MeOH  Na<sub>2</sub>SO<sub>4</sub>

**Check for Short Hold-Time Prep/Analyses**

Bacteriological

Air Bags

EnCores / Methanol Pre-Preserved

Formaldehyde/Aldehyde

Green-tagged containers

Yellow/White-tagged 1 L ambers (SV Prep-Lab)

**AFTER HOURS ONLY:**

COPIES OF COC TO LAB AREA(S)

NONE RECEIVED

RECEIVED, COCs TO LAB(S)

**Notes**

Trip Blank received  Trip Blank not listed on COC

Cooler Received (Date/Time) <i>JN 9-27-17</i>	Paperwork Delivered (Date/Time) <i>9-22-17</i>	≤1 Hour Goal Met? <i>Yes / No</i>
--	---	--------------------------------------

# SAMPLE PRESERVATION VERIFICATION FORM

**Pace Analytical**

page 1 of 2

Client <i>Pace Analytical</i>	Work Order # <i>462877</i>
Receipt Log # <i>43-18</i>	Completed By (initials/date) <i>[Signature] 9-27-17</i>
Project Chemist <i>[Signature]</i>	

COC ID # <i>2183151</i>				Adjusted by: _____ Date: _____				DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13	6	15						
Tag Color	Lt. Blue	Blue	Brown	Red	Red Stripe						
Preservative	NaOH	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HNO <sub>3</sub>						
Expected pH	>12	<2	<2	<2	<2						
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 # / Lot #
<input checked="" type="checkbox"/> <b>HC601354</b>
<input type="checkbox"/> <b>Other</b>

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

Comments

COC ID # <i>2183150</i>				Adjusted by: _____ Date: _____				DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13	6	15						
Tag Color	Lt. Blue	Blue	Brown	Red	Red Stripe						
Preservative	NaOH	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HNO <sub>3</sub>						
Expected pH	>12	<2	<2	<2	<2						
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)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H <sub>2</sub> SO <sub>4</sub>
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H <sub>2</sub> SO <sub>4</sub>
500	2.5

Comments





# SAMPLE PRESERVATION VERIFICATION FORM

page 2 of 2

Client <i>Northern Analytical</i>	Work Order # <i>46287M</i>
Receipt Log # <i>43-18</i>	Completed By (initials/date) <i>JM 9-27-17</i>
Project Chemist <i>(Signature)</i>	

COC ID # <i>2183148</i>				Adjusted by: _____ Date: _____				DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13	6	15						
Tag Color	Lt. Blue	Blue	Brown	Red	Red Stripe						
Preservative	NaOH	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HNO <sub>3</sub>						
Expected pH	>12	<2	<2	<2	<2						
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 # / Lot #
<input checked="" type="checkbox"/> <b>HC601354</b>
<input type="checkbox"/> <b>Other</b>

Aqueous Samples: For each sample and container type, check the box if pH is acceptable. If pH is not acceptable for any sample container, record pH in box, and note on Sample Receiving Checklist and on Sample Receiving Non-Conformance Form. If approved by Project Chemist, add acid or base to the sample to achieve the correct pH. Add up to, but do not exceed 2x the volume initially added at container prep (see table below for initial volumes used). Add orange pH tag to sample container and record information requested. Record adjusted pH on this form. Do not adjust pH for container types 6 and 15.

Comments

COC ID # <i>2183149</i>				Adjusted by: _____ Date: _____				DO NOT ADJUST pH FOR THESE CONTAINER TYPES			
Container Type	5 / 23	4	13	6	15						
Tag Color	Lt. Blue	Blue	Brown	Red	Red Stripe						
Preservative	NaOH	H <sub>2</sub> SO <sub>4</sub>	H <sub>2</sub> SO <sub>4</sub>	HNO <sub>3</sub>	HNO <sub>3</sub>						
Expected pH	>12	<2	<2	<2	<2						
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)	Original Vol. of Preservative (mL)
Container Type 5	NaOH
500	2.5
1000	5.0
Container Type 4	H <sub>2</sub> SO <sub>4</sub>
125	0.5
250	1.0
500	2.0
1000	4.0
Container Type 13	H <sub>2</sub> SO <sub>4</sub>
500	2.5

Comments