

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 Benton Harbor Charter School Academy Water Quality Testing Project No. 170248 September 26, 2017

The following is a summary of our findings:

	g is a summary of our findings:	Copper	Lead
		Concentration	Concentration
Sample ID	Location	(mg/L)	(mg/L)
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

Choice Schools Associates Benton Harbor Charter School Academy Water Quality Testing Project No. 170248 September 26, 2017

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 retesting needed. Please do not hesitate to contact me with any questions.

Sincerely

John J. Rehkopf President

<sup>\*</sup> exceeds the PQL for lead or copper.

<sup>\*\*</sup>exceeds the action level for lead or copper.





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

Composition

Project Manager

Enclosures







#### **CERTIFICATIONS**

Project: Benton Harbor Charter

Pace Project No.: 462877

#### **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



### **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	ВН3	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	ВН6	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	ВН8	Drinking Water	09/22/17 08:54	09/27/17 08:00
462877009	ВН9	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	ВН33	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

# **REPORT OF LABORATORY ANALYSIS**

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



# **SAMPLE ANALYTE COUNT**

Project: Benton Harbor Charter

Pace Project No.: 462877

Lab ID	Sample ID	Method	Analysts	Analytes Reported
462877001	— <u>————</u> ВН1	EPA 200.8	CKD	2
462877002	BH2	EPA 200.8	CKD	2
462877003	ВН3	EPA 200.8	CKD	2
462877004	BH4	EPA 200.8	CKD	2
462877005	BH5	EPA 200.8	CKD	2
462877006	ВН6	EPA 200.8	CKD	2
462877007	ВН7	EPA 200.8	CKD	2
462877008	ВН8	EPA 200.8	CKD	2
462877009	ВН9	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



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH1	Lab ID: 462	2877001	Collected: 09/22/1	7 08:44	Received: 09	9/27/17 08:00	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200	.8					
Copper Lead	<b>0.019</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 18:48 10/02/17 18:48		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

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
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200.8	8					
Copper Lead	<b>0.019</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 18:49 10/02/17 18:49		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH3	Lab ID: 462	877003	Collected: 09/22/1	7 08:47	Received: 09	9/27/17 08:00 I	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200	.8					
Copper Lead	<b>0.034</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 18:50 10/02/17 18:50		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH4	Lab ID: 462	2877004	Collected: 09/22/1	17 08:49	Received: 0	9/27/17 08:00 I	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	thod: EPA 200	.8					
Copper Lead	<b>0.079</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 18:52 10/02/17 18:52		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

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
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200.	8					
Copper Lead	<b>0.023</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 18:53 10/02/17 18:53		



Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH6	Lab ID: 462877006		Collected: 09/22/1	Collected: 09/22/17 08:50		9/27/17 08:00	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	nod: EPA 200	0.8					
Copper Lead	<b>0.023</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 18:59 10/02/17 18:59		



Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH7	Lab ID: 462877007		Collected: 09/22/17 08:53		Received: 09	9/27/17 08:00	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200	.8					
Copper Lead	<b>0.032</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:0° 10/02/17 19:0°		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH8	Lab ID: 462	2877008	Collected: 09/22/1	7 08:54	Received: 09	9/27/17 08:00	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200	.8					
Copper Lead	<b>0.059</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:02 10/02/17 19:02		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH9	Lab ID: 462	2877009	Collected: 09/22/1	17 08:55	Received: 09	9/27/17 08:00 I	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200	.8					
Copper Lead	<b>0.0039</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:03 10/02/17 19:03		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

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
200.8 MET ICPMS Drinking Water	Analytical Meth	nod: EPA 200	.8					
Copper Lead	<b>0.012</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:07 10/02/17 19:07		



Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH11	pple: BH11 Lab ID: 462877011		Collected: 09/22/1	7 08:57	Received: 09/27/17 08:00 Matrix: Drinkin			Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 ICPMS Metals, Total	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Copper	0.080	mg/L	0.0010	1	10/03/17 07:50	10/03/17 15:3	1 7440-50-8		
Lead	ND	mg/L	0.0010	1	10/03/17 07:50	10/03/17 15:3	7439-92-1		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH12	Lab ID: 462877012		Collected: 09/22/1	collected: 09/22/17 08:57		9/27/17 08:00	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Me	thod: EPA 200	.8					
Copper Lead	<b>0.064</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:14 10/02/17 19:14		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

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
200.8 MET ICPMS Drinking Water	Analytical Met	nod: EPA 200	.8					
Copper Lead	<b>0.0064</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:19 10/02/17 19:19		



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
200.8 MET ICPMS Drinking Water	Analytical Met	:hod: EPA 200.8	3					
Copper Lead	<b>0.0066</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:20 10/02/17 19:20		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

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
200.8 MET ICPMS Drinking Water	Analytical Met	nod: EPA 200	.8					
Copper Lead	<b>0.022</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:2 10/02/17 19:2		



Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH16	Lab ID: 462877016		Collected: 09/22/1	ollected: 09/22/17 09:00		9/27/17 08:00	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200.	8					
Copper Lead	<b>0.014</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:22 10/02/17 19:22		



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
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200.	8					
Copper Lead	<b>0.021</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:24 10/02/17 19:24		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH18	Lab ID: 462877018		Collected: 09/22/1	collected: 09/22/17 09:02		9/27/17 08:00 I	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200	.8					
Copper Lead	<b>0.097</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:25 10/02/17 19:25		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH19	Lab ID: 462877019		Collected: 09/22/1	ollected: 09/22/17 09:02		9/27/17 08:00 I	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Me	thod: EPA 200.	8					
Copper Lead	<b>0.037</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:30 10/02/17 19:30		



Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH20	Lab ID: 462877020		Collected: 09/22/1	Collected: 09/22/17 09:03		9/27/17 08:00	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 20	0.8					
Copper Lead	<b>0.083</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:3 10/02/17 19:3		



Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH21	Lab ID: 462877021		Collected: 09/22/1	lected: 09/22/17 09:03		9/27/17 08:00	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200.	3					
Copper Lead	<b>0.093</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:32 10/02/17 19:32		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH22	Lab ID: 462877022		Collected: 09/22/1	17 09:03	Received: 09	9/27/17 08:00	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	nod: EPA 200	.8					
Copper Lead	<b>0.039</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:34 10/02/17 19:34		



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
200.8 MET ICPMS Drinking Water	Analytical Me	thod: EPA 200	.8					
Copper	0.026	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	



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH24	Lab ID: 462	2877024	Collected: 09/22/1	17 09:06	Received: 0	9/27/17 08:00 I	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200.	8					
Copper Lead	<b>0.025</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:36 10/02/17 19:36		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

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
200.8 MET ICPMS Drinking Water	Analytical Met	nod: EPA 200.	8					
Copper Lead	0.38 0.0014	mg/L mg/L	0.0050 0.0010	5 1		10/03/17 14:42 10/02/17 19:37		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

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
200.8 MET ICPMS Drinking Water	Analytical Met	nod: EPA 200	.8					
Copper Lead	<b>0.093</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:38 10/02/17 19:38		



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH27	Lab ID: 46	2877027	Collected: 09/22/1	17 09:12	Received: 09	9/27/17 08:00	Matrix: Drinking	Water
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS Drinking Water	Analytical Me	thod: EPA 200.	8					
Copper Lead	0.28 0.0042	mg/L mg/L	0.0050 0.0010	5 1		10/03/17 18:38 10/02/17 19:40		



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
200.8 MET ICPMS Drinking Water	Analytical Metl	nod: EPA 200.8	8					
Copper Lead	<b>0.073</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:4 <sup>-</sup> 10/02/17 19:4 <sup>-</sup>		



Project: Benton Harbor Charter

Pace Project No.: 462877

Sample: BH29	Lab ID: 462877029		Collected: 09/22/17 09:14		Received: 09	9/27/17 08:00	Matrix: Drinking Water	
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 ICPMS Metals, Total	Analytical Me	thod: EPA 200	0.8 Preparation Met	hod: EP/	A 200.8			
Copper	0.0076	mg/L	0.0010	1	10/03/17 07:50	10/03/17 15:3	2 7440-50-8	



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH30	Lab ID: 462	2877030	Collected: 09/22/1	17 09:15	Received: 0	9/27/17 08:00 I	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS Drinking Water	Analytical Met	thod: EPA 200.	8						
Copper Lead	<b>0.0066</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:47 10/02/17 19:47		M1	



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH31	Lab ID: 462	877031	Collected: 09/22/1	17 09:15	Received: 09	9/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS Drinking Water	Analytical Met	nod: EPA 200.	8						
Copper Lead	<b>0.024</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:52 10/02/17 19:52			



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH32	Lab ID: 46	2877032	Collected: 09/22/	17 09:15	Received: 09	9/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS Drinking Water	Analytical Me	thod: EPA 200	.8						
Copper Lead	<b>0.022</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:53 10/02/17 19:53			



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH33	Lab ID: 462	2877033	Collected: 09/22/1	17 09:18	Received: 09	9/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS Drinking Water	Analytical Met	hod: EPA 200.	8						
Copper Lead	<b>0.082</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:55 10/02/17 19:55			



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH34	Lab ID: 462	877034	Collected: 09/22/1	17 09:18	Received: 09	9/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS Drinking Water	Analytical Met	nod: EPA 200	.8						
Copper Lead	<b>0.040</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 19:56 10/02/17 19:56			



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH35	Lab ID: 462	877035	Collected: 09/22/1	17 09:18	Received: 09	9/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS Drinking Water	Analytical Met	nod: EPA 200	8						
Copper Lead	<b>0.0091</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 20:00 10/02/17 20:00			



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH36	Lab ID: 462	877036	Collected: 09/22/1	17 09:21	Received: 0	9/27/17 08:00	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS Drinking Water	Analytical Met	nod: EPA 200	.8						
Copper Lead	<b>0.083</b> ND	mg/L mg/L	0.0010 0.0010	1 1		10/02/17 20:0° 10/02/17 20:0°			



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Sample: BH37	Lab ID: 462	2877037	Collected: 09/22/1	17 09:21	Received: 09	9/27/17 08:00 <b>I</b>	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual	
200.8 MET ICPMS Drinking Water	Analytical Me	thod: EPA 200.	8						
Copper Lead	0.13 0.0018	mg/L mg/L	0.0050 0.0010	5 1		10/03/17 14:44 10/02/17 20:02			



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Copper

Lead

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

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

LABORATORY CONTROL SAMPLE: 24234 Spike LCS LCS % Rec Parameter Units Conc. Result % Rec Limits Qualifiers Copper .02 0.020 101 85-115 mg/L Lead .02 0.020 102 85-115 mg/L

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24235 24236 MSD MS 462876009 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** 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: 24239 24238 MS MSD 462876010 MS MSD MS Spike Spike MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Copper 0.30 0.41 0.42 111 70-130 20 mg/L .1 .1 117 Lead ND .02 .02 0.025 0.024 123 70-130 2 20 mg/L 120

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.



Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

QC Batch: 5901 Analysis Method: EPA 200.8

QC Batch Method: EPA 200.8 Analysis Description: ICPMS Metals, No Prep

462877010, 462877012, 462877013, 462877014, 462877015, 462877016, 462877017, 462877018, 462877019, Associated Lab Samples:

 $462877020,\ 462877021,\ 462877022,\ 462877023,\ 462877024,\ 462877025,\ 462877026,\ 462877027,\ 462877028,\ 462877028,\ 462877029,\ 4628$ 

METHOD BLANK: 24241 Matrix: Water

Associated Lab Samples: 462877010, 462877012, 462877013, 462877014, 462877015, 462877016, 462877017, 462877018, 462877019,

 $462877020,\,462877021,\,462877022,\,462877023,\,462877024,\,462877025,\,462877026,\,462877027,\,462877028,\,462877029$ 

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: 24	242										
			Spike	LCS	;	LCS	% Red	;				
Parameter		Units	Conc.	Resu	lt	% Rec	Limits	Qı	ualifiers			
Copper		mg/L	.02		0.020	100	85	 5-115				
Lead		mg/L	.02		0.021	104	85	5-115				
MATRIX SPIKE & MATRIX	SPIKE DUPLIC	ATE: 24243			24244							
			MS	MSD								
		462877010	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	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 DUPLIC	ATE: 24246			24247							
			MS	MSD								
		462877012	Spike	Spike	MS	MSD	MS	MSD	% Rec		Max	
Parameter	Units	Result	Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD	RPD	Qual
Copper	mg/L	0.064	.02	.02	0.084	0.082	99	92	70-130	2	20	
ead mg/L		ND	.02	.02	0.025	0.025	123	122	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**



Project: Benton Harbor Charter

Pace Project No.: 462877

Lead

Date: 10/04/2017 04:33 PM

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

> Blank Reporting

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

LABORATORY CONTROL SAMPLE: 24250

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 24251 24252 MSD MS 462877030 Spike Spike MS MSD MS MSD % Rec Max Parameter Units Result Conc. Conc. Result Result % Rec % Rec Limits **RPD** RPD Qual Copper mg/L 0.0066 .02 .02 0.025 0.027 92 101 70-130 20 Lead mg/L ND .02 .02 0.024 0.027 122 132 70-130 8 20 M1

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.



Project: Benton Harbor Charter

Pace Project No.: 462877

QC Batch:

5904

QC Batch Method: EPA 200.8 Analysis Method:

EPA 200.8

Analysis Description:

200.8 MET

Associated Lab Samples: 462877011, 462877029

METHOD BLANK: 24254

Matrix: Water

Associated Lab Samples:

Copper

Copper

Lead

Copper

Date: 10/04/2017 04:33 PM

Lead

Lead

462877011, 462877029

Blank

Reporting

Parameter Units mg/L Result ND ND Limit Analyzed 0.0010 10/03/17 15:13 0.0010 10/03/17 15:13

LABORATORY CONTROL SAMPLE:

Parameter

24255

mg/L

Units

mg/L

mg/L

Spike Conc. .05

LCS Result 0.047 0.047

24257

LCS % Rec 93

94

Limits Qualifiers 85-115

% Rec

MS

Qualifiers

24256

ND

MSD

Spike Conc.

MSD Result

MSD % Rec % Rec

85-115

Limits

% Rec Max **RPD** RPD

MATRIX SPIKE & MATRIX SPIKE DUPLICATE:

MS 462875009 Spike Parameter Units Result Conc. mg/L 0.12 .05

mg/L

.05 .05 .05

.05

MS Result 0.16 0.16 0.053 0.052

95 97 106 104

70-130 70-130 2

20 20

Qual

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.



### **QUALIFIERS**

Project: Benton Harbor Charter

Pace Project No.: 462877

### **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**

Date: 10/04/2017 04:33 PM

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



# **QUALITY CONTROL DATA CROSS REFERENCE TABLE**

Project: Benton Harbor Charter

Pace Project No.: 462877

Date: 10/04/2017 04:33 PM

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytica Batch
462877001	BH1	EPA 200.8	5900		
462877002	BH2	EPA 200.8	5900		
162877003	внз	EPA 200.8	5900		
162877004	BH4	EPA 200.8	5900		
162877005	BH5	EPA 200.8	5900		
62877006	BH6	EPA 200.8	5900		
62877007	BH7	EPA 200.8	5900		
62877008	BH8	EPA 200.8	5900		
62877009	ВН9	EPA 200.8	5900		
62877010	BH10	EPA 200.8	5901		
62877012	BH12	EPA 200.8	5901		
62877013	BH13	EPA 200.8	5901		
62877014	BH14	EPA 200.8	5901		
62877015	BH15	EPA 200.8	5901		
62877016	BH16	EPA 200.8	5901		
62877017	BH17	EPA 200.8	5901		
62877018	BH18	EPA 200.8	5901		
62877019	BH19	EPA 200.8	5901		
62877020	BH20	EPA 200.8	5901		
62877021	BH21	EPA 200.8	5901		
62877022	BH22	EPA 200.8	5901		
62877023	BH23	EPA 200.8	5901		
62877024	BH24	EPA 200.8	5901		
62877025	BH25	EPA 200.8	5901		
62877026	BH26	EPA 200.8	5901		
62877027	BH27	EPA 200.8	5901		
62877028	BH28	EPA 200.8	5901		
62877030	BH30	EPA 200.8	5902		
62877031	BH31	EPA 200.8	5902		
62877032	BH32	EPA 200.8	5902		
62877033	BH33	EPA 200.8	5902		
62877034	ВН34	EPA 200.8	5902		
62877035	BH35	EPA 200.8	5902		
62877036	BH36	EPA 200.8	5902		
62877037	BH37	EPA 200.8	5902		
62877011	BH11	EPA 200.8	5904	EPA 200.8	6008
62877029	BH29	EPA 200.8	5904	EPA 200.8	6008

# **CHAIN-OF-CUSTODY / Analytical Request Document**

"Important Note: By signing this form you are accept			QF.				ADDITIONAL COMMENTS	21 BH 12	1 BH 11	* BH 10		3 7 8			s BH S		* BH 3	. 87 /	Waste Water Product Soll/Solid Oil Oil Wipe (A-Z, 0-9 / -) Air Sample IDs MUST BE UNIQUE Tissue Other	Required Client Information MATRIX / CODE  Drinking Water D  Water		Requested Due Date/TAT:		ernu	words,		Novelhern Analytical	Section A Required Client Information:	Pace Ani
iting Pace's NET 30 day payment terms and agreeing to late charges of 1.5%	SIGNATURE OF SAMPLER: Mitheliann	PRINT Name of SAMPLER:	ORIGINAL SAMPLER NAME AND SIGNATURE			puto hellum 9-3	RELINQUISHED BY / AFFILIATION D	1 (S:8) A MA	8:57	8:57	8:55	45.8	8.53	8:50	8:50	87:14	6.47		MATRIX CODE (See valid of START)  SAMPLE TYPE (G=GRAB OF START)  SAMPLE TYPE (G=GRAB OF START)  DATE TIME DATE TIME	CODE S			Project Name: Benton Harbor	Purchase Order No.:	7		Report Tohn Kehkopt	Required Project Information:	
	MPLER: Mitheliam   DATE Signed (MM/DD/YY):	1	NATURE			9-27-17 8 boundly threed Take	DATE TIME AGGEFTED BY I AFRILIATION												# OF CONTAINERS Unpreserved H <sub>2</sub> SO <sub>4</sub> HNO <sub>3</sub> - RO 3N/ HCI NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub> Methanol Other  I Analysis Test I	O Preservatives			Charley Pace Project Manager:	Pace Quote Reference:	Address:		Attention: See Section A	Section C Invoice Information:	The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.
	9-27-17					Ø	DATE / TIME														Requested Analysis Filtered (Y/N)	STATE: MI	Site Location	7	NPDES T GROUN	REGULATORY AGENCY		Page:	bleted accurately.
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A Section B Section C Required Project Information: Invoice Information:  See page 1 Report To: Attention: Attention: Company Name: REGULATORY AGENCY  Address: Address: GROUND WATER X		CRA	٦ ي	UST	-						Quote	Pace Refe						er No.	rchase Or	2 2				8	mall mall
A Section B Section C Page: 2 Client Information: Required Project Information: Attention: Attention: Company Name: REGULATORY AGENCY	Ň	ROUND WAT	ិ ត	NPDES	Name of the last						ress:	Add					-							'i : 	
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# **CHAIN-OF-CUSTODY / Analytical Request Document**

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ENCY	REGULATORY AGENCY	Company Name:	COPY TO	
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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.

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Se	_	1-11-1	(MM/DD/YY): 4	1	2	1/2	when								30 42		Oll are acceptiv	anina this form v	"Important Note: By s	
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Residual Chlorine (Y/N)				Methanol Other Analysis Test	NaOH Na <sub>2</sub> S <sub>2</sub> O <sub>3</sub>	HCI	H <sub>2</sub> SO <sub>4</sub>	# OF CONTAINERS Unpreserved	SAMPLE TEMP AT COLLECTION	RAB	COMPOSITE END/GRAB	TIME	COMPOSITE START	SAMPLE TYPE (G=GRAB C=C	MATRIX CODE (see valid codes		Water Water Water Waste Water Product Soil/Soild Oil Wipe Air Tissue Other		SAMPLE ID (A-Z, 0-9 / , -) Sample IDs MUST BE UNIQUE	ITEM#
				Y/ N ]	Preservatives	resen	20	Г			COLLECTED	COLL		OMP)	to left)	[2] 등	Matrix Codes  MATRIX / CODE		Section D  Required Client Information	Required CI
	(Y/N)	Analysis Filtered (Y/N)	Requested A					-	1										,	
	MH	STATE					file #:	Pace Profile #:							mber:	Project Nu			Requested Due Date/TAT:	Requester
		Site Location	lis-viser i				ject	Pace Project Manager:	2 10	ter	charter	bor	Harbor	2	Z me	Project Name:		Fax:		Phone:
7	RCRA	T UST T					e. Se	Pace Quote Reference:	77.77					ō.:	Order	Purchase Order No.:				Email To:
WATER X DRINKING WATER	GROUND WATER	NPDES					,	Address:					-							
1	AGENCY	REGULATORY AGENCY					Company Name:	Compar								Сору То:			-	Address:
2183149					I	i	Attention:	Attentio	_							Report To:		e  -	See puee	
or $\mathcal{A}$	Page:					tion:	n C Informa	Section C	_ : _ :				nation:	t Inforr	<b>B</b> Projec	Section B Required Project Information:			Section A Required Client Information:	Section / Required

	SAMPLE RECEIVING	6 / LOG-IN CHECKLIS	ST
Pace Analytic	al Client Dorth	RN CINCOLAND VACOTO	Order #: 4/6 2877
/	Receipt Record PagerLine #	5-50 Project Chemist Sample	e #s
Recorded by (initials/date)	Cooler Qty Receiv	ed IR Gun (#202)	
JN 9-27-1	7	Thermometer Used Digital Thermometer Used Other (#	eter (#54) See Additional Cooler Information Form
Cooling 1/7 K450 Time 810	Cooler # Time	Cooler # Time	Cooler # Time
Custody Seals:	Custody Seals:	Custody Seals:	Custody Seals:
None Present / Intact	☐ None ☐ Present / Intact	☐ None	None
☐ Present / Not Intact	Present / Not Intact	Present / Intact Present / Not Intact	Present / Intact Present / Not Intact
Coolant Type:	Coolant Type:	Coolant Type:	Coolant Type:
☐ Loose Ice	Loose Ice	☐ Loose Ice	☐ Loose Ice
☐ Bagged ice ☐ Blue Ice	☐ Bagged Ice	☐ Bagged Ice	☐ Bagged Ice
None	☐ Blue Ice ☐ None	Blue ice	Blue Ice
Coolant Location:	Coolant Location:	☐ None Coolant Location:	□ None
Dispersed / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom	Dispersed / Top / Middle / Bottom	Coolant Location: Dispersed / Top / Middle / Bottom
Temp Blank Present: Yes No	Temp Blank Present: ☐ Yes ☐ No	Temp Blank Present: Yes No	Temp Blank Present: Yes No
If Present, Temperature Blank Location is:	If Present, Temperature Blank Location is:	If Present, Temperature Blank Location is:	If Present, Temperature Blank Location is:
☐ Representative ☐ Not Representative	☐ Representative ☐ Not Representative	Representative Not Representative	☐ Representative ☐ Not Representative
Observed Correction Factor °C Actual °C	Observed Correction Factor °C Actual °C	Observed Correction Factor °C Actual °C	Observed Correction oC Factor oC Actual oC
Temp Blank:	Temp Blank:	Temp Blank:	Temp Blank:
Sample 1: 23:2 / 23.2	Sample 1:	Sample 1:	Sample 1:
Sample 2: 23. 7 0 23. 3	Sample 2:	Sample 2:	Sample 2:
Sample 3: 22 5 (2) 22 5	Sample 2.		
35.4	Sample 3:	Sample 3:	Sample 3:
3 Sample Average °C:	3 Sample Average °C:	3 Sample Average °C:	3 Sample Average °C:
☐ Cooler ID on COC? ☐ VOC Trip Blank received?	☐ Cooler ID on COC? ☐ VOC Trip Blank received?	Cooler ID on COC?  VOC Trip Blank received?	☐ Cooler ID on COC? ☐ VOC Trip Blank received?
If <u>any</u> shaded ar	eas checked, complete Sample F	Receiving Non-Conformance and/or	
Paperwork Received		Check Sample Preservation	
Yes. No		N/A Yes No	
Chain of Custody record(s)?	· - · · · · · · · · · · · · · · · · · ·		nk <b>OR</b> average sample temperature, ≥6° C?
Received for Lab Signed/Dat	e/Time?	,	was thermal preservation required?
Shipping document?		/ <del></del>	t Chemist Approval Initials:
COC Information			eted Non Con Cooler - Cont Inventory Form?
Pace COC Other			le Preservation Verification Form?
7 <u>——</u>	1 2102124	If "No", added ora	lly preserved correctly?
2/83/6	1, 2/83/50, 19, 5/834/8		served VOC soils?
318314	9, 215,348	☐ MeOH	□ Na₂SO₄
Check COC for Accuracy		Check for Short Hold-Time Prep/Ar	nalyses
Yes No		☐ Bacteriological	
Analysis Requested?		☐ Air Bags	AFTER HOURS ONLY:
Sample ID matches COC?		☐ EnCores / Methanol Pre-Preserved	COPIES OF COC TO LAB AREA(S)
Sample Date and Time match	1	Formaldehyde/Aldehyde	NONE RECEIVED
Container type completed on  All container types indicated a	•	☐ Green-tagged containers	RECEIVED, COCs TO LAB(S)
Sample Condition Summary		Yellow/White-tagged 1 L ambers (SV P	rep-Lab)
N/A Yes No		Notes	
Broken containers/	lide?		
Missing or incomple			
□ ☑ Illegible information	T T T T T T T T T T T T T T T T T T T		
Low valume receive		☐ Trip Blank received ☐ Trip Bla	ank not listed on COC
l	n-Pace containers received?		Delivered (Date/Time)
	ontainers have headspace?		
□    □	ons / containers not listed on COC?	JA1 4.2211 O.	Yes / No

Pa	<b>)</b> ce <sub>l</sub> Anal	lvtical®	SA	MPLE	PRES			4	TION FO	RM
Chient	L //	yucai	$\sqrt{}$		/	Work Order #	age			
Receipt Log #	100 711	ERN C	1/10/10/1	100/		Project Chamist	1442	8/1		
Receipt Log #	43-1	8	Completed By (initia	Is/date)	7-17 1	Project Chemist				
COC ID#	183/2	5/	Adjusted by:		DO NOT AD	JUST pH FOR	THESE CONTA	NER TYPES	pH Strip Read	
Container Type	5 / 23	4	Date:	4000	6	15				601354
Tag Color	Lt. Blue	Blue	Brown	~~~~	Red	Red Stripe			Oth	er
Preservative	NaOH	H <sub>2</sub> SO <sub>4</sub>	H₂SO₄		HNO <sub>3</sub>	HNO <sub>3</sub>				
Expected pH	>12	<2	<2		<2	<2				
COC Line #1					-5/				Aqueous Samp	les: For each
COC Line #2									sample and cor	ıtainer type,
COC Line #3					1				check the box it acceptable. If p	
COC Line #4				-					acceptable for a	any sample
COC Line #5									container, recor and note on Sa	
COC Line #6									Receiving Chec	
COC Line #7									Sample Receivi Conformance F	
COC Line #8									approved by Pro add acid or bas	-
COC Line #9									sample to achie	ve the correct
COC Line #10									pH. Add up to, exceed 2x the v	
COC Line #11					1				added at contai	ner prep (see
COC Line #12					1				table below for i used). Add ora	
Comments			<u> </u>						sample containe	er and record
									information requ Record adjusted	
COC ID#									form. Do not ac	
2	18313	Ø	Adjusted by:		DO NOT AD	JUST pH FOR	THESE CONTAI	NER TYPES	container types	
Container Type	5 / 23	4	13	<del></del>	6	15				
Tag Color	Lt. Blue	Blue	Brown		Red	Red Stripe				Original Vol. of
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>			Container Size (mL)	Preservative
Expected pH  COC Line #1	>12	<2	<2		<2	<2				(mL)
COC Line #1					1				Container Type 5	NaOH
					1				500	2.5
COC Line #3				-	~				1000	5.0
COC Line #4				-	2				Container Type 4	H₂SO₄
COC Line #5			-		2/				125	0.5
COC Line #6									250	1.0
COC Line #7					1				500	2.0
COC Line #8					2/				1000	4.0
COC Line #9					V				Container Type 13	H <sub>2</sub> SO <sub>4</sub>
COC Line #10					4				500	2.5
COC Line #11		- 104			1					
COC Line #12					$\nu$					
Comments				······································						

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Pa	) ce Anal	lvtical <sup>°</sup>	SAN	IPLE PRES		ON VERIFICA	ATION FO	RM
	52th1		Compréted By (initials de	1CG/	Work Order # Project Chamist	44287	7	
COC ID#	1831	148	Adjusted by:	DO NOT AD	DJUST pH FOR TH	HESE CONTAINER TYPES		gent # / Lot #
Container Type	5 / 23	4	13	6	15		╢	C601354
Tag Color	Lt. Blue	Blue	Brown	Red	Red Stripe		the other of the other oth	ner
Preservative	NaOH	H <sub>2</sub> SO <sub>4</sub>	H₂SO₄	HNO <sub>3</sub>	HNO <sub>3</sub>			
Expected pH	>12	<2	<2	<2	<2		_	
COC Line #1							Aqueous Samp	oles: For eac
COC Line #2				\ \nu\			sample and co	ntainer type,
COC Line #3							acceptable. If	
COC Line #4							acceptable for container, reco	any sample
COC Line #5							and note on Sa	
COC Line #6							Receiving Chec Sample Receiv	klist and on
COC Line #7				2			Conformance F	orm. If
COC Line #8							approved by Pr add acid or bas	
COC Line #9							sample to achie	eve the correc
COC Line #10							pH. Add up to, exceed 2x the	
COC Line #11	-						added at contain	
COC Line #12				1			table below for used). Add ora	
COC ID #	18314	9	Adjusted by:	DO NOT AD	JUST pH FOR TH	IESE CONTAINER TYPES	sample contain information req Record adjuste form. Do not a container types	uested. d pH on this djust pH for
Container Type	5 / 23	4	13	6	15			
Tag Color	Lt. Blue	Blue	Brown	Red	Red Stripe			Original Vol. o
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>		Container Size (mL)	Preservative
Expected pH	>12	<2	<2	<2	<2			(mL)
COC Line #1							Container Type 5	NaOH
COC Line #3							500	2.5
COC Line #4							1000	5.0
COC Line #5							Container Type 4	H₂SO₄
COC Line #6							125	0.5
COC Line #7							250	1.0
COC Line #8						-	1000	2.0
COC Line #9							Container Type 13	4.0 H <sub>2</sub> SO <sub>4</sub>
COC Line #10							500	2.5
COC Line #11								2.0
COC Line #12								
Comments								

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