

September 09, 2021

Jarrett Butchino
Hannibal CSD
928 Cayuga St
Hannibal, NY 13074

RE: Project: 08214434
Pace Project No.: 70185206

Dear Jarrett Butchino:

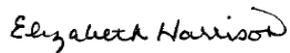
Enclosed are the analytical results for sample(s) received by the laboratory on August 25, 2021. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Minneapolis

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Elizabeth Harrison
betty.harrison@pacelabs.com
(631)694-3040
Project Manager

Enclosures

cc: Nancy Henner, Hannibal CSD



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 08214434

Pace Project No.: 70185206

Pace Analytical Services, LLC - Minneapolis MN

1700 Elm Street SE, Minneapolis, MN 55414

A2LA Certification #: 2926.01*

1800 Elm Street SE, Minneapolis, MN 55414--Satellite Air Lab

Alabama Certification #: 40770

Alaska Contaminated Sites Certification #: 17-009*

Alaska DW Certification #: MN00064

Arizona Certification #: AZ0014*

Arkansas DW Certification #: MN00064

Arkansas WW Certification #: 88-0680

California Certification #: 2929

Colorado Certification #: MN00064

Connecticut Certification #: PH-0256

EPA Region 8 Tribal Water Systems+Wyoming DW Certification #: via MN 027-053-137

Florida Certification #: E87605*

Georgia Certification #: 959

Hawaii Certification #: MN00064

Idaho Certification #: MN00064

Illinois Certification #: 200011

Indiana Certification #: C-MN-01

Iowa Certification #: 368

Kansas Certification #: E-10167

Kentucky DW Certification #: 90062

Kentucky WW Certification #: 90062

Louisiana DEQ Certification #: AI-03086*

Louisiana DW Certification #: MN00064

Maine Certification #: MN00064*

Maryland Certification #: 322

Michigan Certification #: 9909

Minnesota Certification #: 027-053-137*

Minnesota Dept of Ag Approval: via MN 027-053-137

Minnesota Petrofund Registration #: 1240*

Mississippi Certification #: MN00064

Missouri Certification #: 10100

Montana Certification #: CERT0092

Nebraska Certification #: NE-OS-18-06

Nevada Certification #: MN00064

New Hampshire Certification #: 2081*

New Jersey Certification #: MN002

New York Certification #: 11647*

North Carolina DW Certification #: 27700

North Carolina WW Certification #: 530

North Dakota Certification #: R-036

Ohio DW Certification #: 41244

Ohio VAP Certification (1700) #: CL101

Ohio VAP Certification (1800) #: CL110*

Oklahoma Certification #: 9507*

Oregon Primary Certification #: MN300001

Oregon Secondary Certification #: MN200001*

Pennsylvania Certification #: 68-00563*

Puerto Rico Certification #: MN00064

South Carolina Certification #:74003001

Tennessee Certification #: TN02818

Texas Certification #: T104704192*

Utah Certification #: MN00064*

Vermont Certification #: VT-027053137

Virginia Certification #: 460163*

Washington Certification #: C486*

West Virginia DEP Certification #: 382

West Virginia DW Certification #: 9952 C

Wisconsin Certification #: 999407970

Wyoming UST Certification #: via A2LA 2926.01

USDA Permit #: P330-19-00208

Please Note: Applicable air certifications are denoted with an asterisk ().

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SAMPLE ANALYTE COUNT

Project: 08214434
Pace Project No.: 70185206

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
70185206001	HFFS51	EPA 200.8	PW1	1	PASI-M
70185206002	HFFS52	EPA 200.8	PW1	1	PASI-M
70185206003	HFFS53	EPA 200.8	PW1	1	PASI-M
70185206004	HFFS55	EPA 200.8	PW1	1	PASI-M
70185206005	HFFS57	EPA 200.8	PW1	1	PASI-M
70185206006	HFFS58	EPA 200.8	PW1	1	PASI-M
70185206007	HFFS59	EPA 200.8	PW1	1	PASI-M
70185206008	HFFS63	EPA 200.8	PW1	1	PASI-M
70185206009	HFFS64	EPA 200.8	PW1	1	PASI-M
70185206010	HFFS110	EPA 200.8	PW1	1	PASI-M
70185206011	HFFS162	EPA 200.8	PW1	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: 08214434

Pace Project No.: 70185206

Sample: HFFS51		Lab ID: 70185206001	Collected: 08/20/21 09:25	Received: 08/25/21 10:45	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8 Pace Analytical Services - Minneapolis						
Lead	6.6	ug/L	0.10	1		09/07/21 20:32	7439-92-1	

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ANALYTICAL RESULTS

Project: 08214434

Pace Project No.: 70185206

Sample: HFFS52		Lab ID: 70185206002	Collected: 08/20/21 09:26	Received: 08/25/21 10:45	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8 Pace Analytical Services - Minneapolis						
Lead	12.9	ug/L	0.10	1		09/07/21 20:34	7439-92-1	

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ANALYTICAL RESULTS

Project: 08214434

Pace Project No.: 70185206

Sample: HFFS53		Lab ID: 70185206003		Collected: 08/20/21 09:28	Received: 08/25/21 10:45	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8 Pace Analytical Services - Minneapolis						
Lead	17.4	ug/L	0.10	1		09/07/21 20:36	7439-92-1	

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ANALYTICAL RESULTS

Project: 08214434
Pace Project No.: 70185206

Sample: HFFS55		Lab ID: 70185206004		Collected: 08/20/21 09:32	Received: 08/25/21 10:45	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8 Pace Analytical Services - Minneapolis						
Lead	73.6	ug/L	0.10	1		09/07/21 20:38	7439-92-1	

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ANALYTICAL RESULTS

Project: 08214434

Pace Project No.: 70185206

Sample: HFFS57		Lab ID: 70185206005		Collected: 08/20/21 09:33	Received: 08/25/21 10:45	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8 Pace Analytical Services - Minneapolis						
Lead	458	ug/L	2.0	20		09/08/21 10:49	7439-92-1	

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ANALYTICAL RESULTS

Project: 08214434

Pace Project No.: 70185206

Sample: HFFS58		Lab ID: 70185206006	Collected: 08/20/21 09:34	Received: 08/25/21 10:45	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8 Pace Analytical Services - Minneapolis						
Lead	4.3	ug/L	0.10	1		09/07/21 20:43	7439-92-1	

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ANALYTICAL RESULTS

Project: 08214434

Pace Project No.: 70185206

Sample: HFFS59		Lab ID: 70185206007		Collected: 08/20/21 09:35	Received: 08/25/21 10:45	Matrix: Drinking Water		
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8 Pace Analytical Services - Minneapolis						
Lead	274	ug/L	0.10	1		09/07/21 20:50	7439-92-1	

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ANALYTICAL RESULTS

Project: 08214434

Pace Project No.: 70185206

Sample: HFFS63		Lab ID: 70185206008	Collected: 08/20/21 09:39	Received: 08/25/21 10:45	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8 Pace Analytical Services - Minneapolis						
Lead	198	ug/L	0.10	1		09/07/21 20:54	7439-92-1	

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ANALYTICAL RESULTS

Project: 08214434

Pace Project No.: 70185206

Sample: HFFS64		Lab ID: 70185206009	Collected: 08/20/21 09:40	Received: 08/25/21 10:45	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8 Pace Analytical Services - Minneapolis						
Lead	5.0	ug/L	0.10	1		09/07/21 20:56	7439-92-1	

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ANALYTICAL RESULTS

Project: 08214434
Pace Project No.: 70185206

Sample: HFFS110		Lab ID: 70185206010	Collected: 08/20/21 04:43	Received: 08/25/21 10:45	Matrix: Drinking Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, DW		Analytical Method: EPA 200.8 Pace Analytical Services - Minneapolis						
Lead	2.8	ug/L	0.10	1		09/07/21 20:23	7439-92-1	

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ANALYTICAL RESULTS

Project: 08214434

Pace Project No.: 70185206

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
Sample: HFFS162								
Lab ID: 70185206011								
Collected: 08/20/21 04:45 Received: 08/25/21 10:45 Matrix: Drinking Water								
200.8 MET ICPMS, DW								
Analytical Method: EPA 200.8								
Pace Analytical Services - Minneapolis								
Lead	1.1	ug/L	0.10	1		09/07/21 20:30	7439-92-1	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 08214434
Pace Project No.: 70185206

QC Batch:	768430	Analysis Method:	EPA 200.8
QC Batch Method:	EPA 200.8	Analysis Description:	ICPMS Metals, Drinking Water
		Laboratory:	Pace Analytical Services - Minneapolis

Associated Lab Samples: 70185206001, 70185206002, 70185206003, 70185206004, 70185206005, 70185206006, 70185206007, 70185206008, 70185206009, 70185206010, 70185206011

METHOD BLANK: 4094999 Matrix: Water
Associated Lab Samples: 70185206001, 70185206002, 70185206003, 70185206004, 70185206005, 70185206006, 70185206007, 70185206008, 70185206009, 70185206010, 70185206011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Lead	ug/L	<0.10	0.10	09/07/21 20:07	

LABORATORY CONTROL SAMPLE: 4095831

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	100	106	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 4095833 4095834

Parameter	70184469001 Units	70184469001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Lead	ug/L	0.48	100	100	118	112	118	111	70-130	5	

MATRIX SPIKE SAMPLE: 4095835

Parameter	Units	70185206007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	274	100	371	97	70-130	

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.

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QUALIFIERS

Project: 08214434

Pace Project No.: 70185206

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

Reported results are not rounded until the final step prior to reporting. Therefore, calculated parameters that are typically reported as "Total" may vary slightly from the sum of the reported component parameters.

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

TNI - The NELAC Institute.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 08214434

Pace Project No.: 70185206

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
70185206001	HFFS51	EPA 200.8	768430		
70185206002	HFFS52	EPA 200.8	768430		
70185206003	HFFS53	EPA 200.8	768430		
70185206004	HFFS55	EPA 200.8	768430		
70185206005	HFFS57	EPA 200.8	768430		
70185206006	HFFS58	EPA 200.8	768430		
70185206007	HFFS59	EPA 200.8	768430		
70185206008	HFFS63	EPA 200.8	768430		
70185206009	HFFS64	EPA 200.8	768430		
70185206010	HFFS110	EPA 200.8	768430		
70185206011	HFFS162	EPA 200.8	768430		

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WO#: 70185206



Page: 1 Of 1

CHAIN-OF-CUSTODY
The Chain-of-Custody

Section A
Required Client Information:
Company: Horizontal Family Filtration
Address: C/O PACE
Email: www.pace.com
Phone: _____ Fax: _____
Requested Due Date: _____

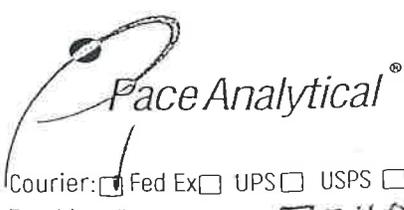
Section B
Required Project Information:
Report To: PE
Copy To: _____
Purchase Order #: _____
Project Name: _____
Project #: 08214434

Attention: _____
Company Name: It
Address: _____
Pace Quote: _____
Pace Project Manager: _____
Pace Profile #: _____
Regulatory Agency: _____
State / Location: NY

ITEM #	MATRIX Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G-RAB C-COMP)	COLLECTED		SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	Preservatives						Analyses Test Y/N	Requested Analysis Filtered (Y/N)	Residual Chlorine (Y/N)
					START DATE	END DATE				H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol			
			DW G		08/20	0925		1										
			DW G		0926			1										
			DW G		0928			1										
			DW G		0932			1										
			DW G		0933			1										
			DW G		0934			1										
			DW G		0935			1										
			DW G		0935			1										
			DW G		0940			1										
			DW G		0943			1										
			DW G		0945			1										

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
<u>ASB</u>	<u>8/24</u>	<u>1700</u>	<u>ASB</u>	<u>8-24</u>	<u>0800</u>	Received on Ice (Y/N) Sealed (Y/N) Custody (Y/N) Cooler (Y/N) Samples Intact (Y/N)
<u>ASB</u>	<u>8-24</u>	<u>1700</u>	<u>ASB</u>	<u>8/24</u>	<u>10:45</u>	TEMP in C

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Chris Putzer
SIGNATURE of SAMPLER: [Signature]
DATE Signed: 08-23



Sample Condition Upon Receipt

WO#: 70185206

Client Name: HMS

Project: _____

PM: EMH

Due Date: 09/09/21

CLIENT: HAN

Courier: Fed Ex UPS USPS Client Commercial Pace OtherTracking #: 7746 2289 1720Custody Seal on Cooler/Box Present: Yes No Seals intact: Yes NoPacking Material: Bubble Wrap Bubble Bags Ziploc None OtherThermometer Used: TH091 Correction Factor: +0.0Cooler Temperature (°C): 23.4 Cooler Temperature Corrected (°C): 23.4

Temp should be above freezing to 6.0°C

USDA Regulated Soil (N/A, water sample)Temperature Blank Present: Yes NoType of Ice: Wet Blue None Samples on ice, cooling process has begun

Date/Time 5035A kits placed in freezer _____

Date and Initials of person examining contents: JV 8/25/21Did samples originate in a quarantine zone within the United States: AL, AR, CA, FL, GA, ID, LA, MS, NC, NM, NY, OK, OR, SC, TN, TX, or VA (check map)? Yes NoDid samples originate from a foreign source including Hawaii and Puerto Rico)? Yes No

If Yes to either question, fill out a Regulated Soil Checklist (F-LI-C-010) and include with SCUR/COC paperwork.

		COMMENTS:
Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	3.
Sampler Name & Signature on COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume: (Triple volume provided for)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	8.
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
-Pace Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	11.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11. Note if sediment is visible in the dissolved container.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	12.
-Includes date/time/ID, Matrix: SL (WT OIL)		
All containers needing preservation have been checked?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	13. <input type="checkbox"/> HNO ₃ <input type="checkbox"/> H ₂ SO ₄ <input type="checkbox"/> NaOH <input type="checkbox"/> HCl
pH paper Lot # <u>4155468</u>		Sample #
All containers needing preservation are found to be in compliance with method recommendation? (HNO ₃ , H ₂ SO ₄ , HCl, NaOH>9 Sulfide, NAOH>12 Cyanide)	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	Initial when completed: _____ Lot # of added preservative: _____ Date/Time preservative added: _____
Exceptions: VOA, Coliform, TOC/DOC, Oil and Grease, DRO/8015 (water). Per Method, VOA pH is checked after analysis		
Samples checked for dechlorination:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	14. Positive for Res. Chlorine? Y N
KI starch test strips Lot #		
Residual chlorine strips Lot #		
SM 4500 CN samples checked for sulfide?	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	15.
Lead Acetate Strips Lot #		
Headspace in VOA Vials (>6mm):	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	16.
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	17.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if applicable): _____		

Client Notification/ Resolution: _____ Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____