Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

TRACE ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

September 08, 2021

Jordan Currie
Albion, City of
112 West Cass Street
Albion, MI 49224

Phone: (517) 629-5535

RE: Trace Project 21H0443
Client Project AMR

Enclosed are your analytical results. The results of this report relate only to the samples listed in the body of this report.

All reports were examined through Trace's validation process to ensure that requirements for quality and completeness were satisfied. All reported analytical results were obtained in accordance with the methods referenced on the reports. Every practical effort was made to meet the reporting limit specifications for this work, however, some results may have raised reporting limits to correct for percent solids.

For clients that require NELAP Accreditation, Trace certifies that these test results meet all requirements of the NELAP Standard, except for those analytes with a "N" notation. These analytes have not been evaluated by NELAP at Trace's discretion and will not be reported unless requested by client.

If you have questions concerning this report, please contact me at 231.773.5998 or by email at tbrewer@trace-labs.com.

Sincerely,

Tim Brewer
Project Manager
Enclosures

NELAP ACCREDITED TNI LABORATORY

NJDEP Accreditation No. MI008

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SAMPLE SUMMARY

Trace Project ID: 21H0443
Client Project ID: AMR

Trace ID	Sample ID	Matrix	Collected By	Date Collected	Date Received
21H0443-01	Effluent Composite	Wastewater	Client	08/11/21	08/11/21 11:50
21H0443-02	Effluent Grab	Wastewater	Client	08/11/21	08/11/21 11:50
21H0443-03	North Tank	Non-aqueous Liquid	Client	08/11/21	08/11/21 11:50
21H0443-04	Middle Tank	Non-aqueous Liquid	Client	08/11/21	08/11/21 11:50
21H0443-05	South Tank	Non-aqueous Liquid	Client	08/11/21	08/11/21 11:50

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AN EXPLANATION OF TERMS AND SYMBOLS WHICH MAY OCCUR IN THIS REPORT

DEFINITIONS

LCS	Laboratory Control Sample
LCSD	Laboratory Control Sample Duplicate
MS	Matrix Spike
MSD	Matrix Spike Duplicate
RPD	Relative Percent Difference
DUP	Matrix Duplicate
RDL	Reporting Detection Limit
MCL	Maximum Contamination Limit
TIC	Tentatively Identified Compound
<, ND or U	Indicates the compound was analyzed for but not detected
*	Indicates a result that exceeds its associated MCL or Surrogate control limits
N	Indicates that the laboratory is not accredited by NELAP for this compound
NA	Indicates that the compound is not available.

NOTE: Samples for volatiles that have been extracted with a water miscible solvent were corrected for the total volume of the solvent/water mixture.
Solid matrices Method Blanks are at 100% solids as such results are the same wet or dry.

DATA QUALIFIERS

Trace ID: 21H0443-01

Analysis: EPA 625.1 SIM

Terphenyl-d14	Note 802 : One of the base/neutral surrogate recoveries was outside the control limits. Since the other two base/neutral surrogates were within the control limits, no data require qualification.

Trace ID: T113277-BS1

Analysis: EPA 624.1

Tetrachloroethene	Note 112 : The LCS recovery was out of control high. Because there were no positive results for this analyte in this QC batch, no data require qualification.

Trace ID: T113393-BS1

Analysis: EPA 625.1 SIM

Benzidine	Note 112 : The LCS recovery was out of control high. Because there were no positive results for this analyte in this QC batch, no data require qualification.

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ANALYTICAL RESULTS

Trace Project ID: 21H0443
Client Project ID: AMR

Trace ID: 21H0443-01 Matrix: Wastewater Date Collected: 08/11/21
Sample ID: Effluent Composite Date Received: 08/11/21 11:50

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
METALS, TOTAL										
Analysis Method: EPA 200.7 Rev. 4.4										
Batch: T113376										
Beryllium	<1.0	ug/L	1.0	1	08/16/21	mrh	08/17/21	dc		
Boron	**110**	**ug/L**	**35**	**1**	**08/16/21**	**mrh**	**08/17/21**	**dc**		
Calcium	**140000**	**ug/L**	**1000**	**1**	**08/16/21**	**mrh**	**08/17/21**	**dc**		
Magnesium	**37000**	**ug/L**	**1000**	**1**	**08/16/21**	**mrh**	**08/17/21**	**dc**		
Analysis Method: EPA 200.8 Rev. 5.4										
Batch: T113376										
Antimony	<1.0	ug/L	1.0	1	08/16/21	mrh	08/17/21	acs		
Arsenic	<2.0	ug/L	2.0	1	08/16/21	mrh	08/17/21	acs		
Barium	**130**	**ug/L**	**10**	**1**	**08/16/21**	**mrh**	**08/17/21**	**acs**		
Cadmium	<0.80	ug/L	0.80	1	08/16/21	mrh	08/17/21	acs		
Chromium	<5.0	ug/L	5.0	1	08/16/21	mrh	08/17/21	acs		
Copper	**3.3**	**ug/L**	**1.0**	**1**	**08/16/21**	**mrh**	**08/17/21**	**acs**		
Lead	<1.0	ug/L	1.0	1	08/16/21	mrh	08/17/21	acs		
Nickel	<5.0	ug/L	5.0	1	08/16/21	mrh	08/17/21	acs		
Selenium	<2.0	ug/L	2.0	1	08/16/21	mrh	08/17/21	acs		
Silver	<0.50	ug/L	0.50	1	08/16/21	mrh	08/17/21	acs		
Thallium	<1.5	ug/L	1.5	1	08/16/21	mrh	08/17/21	acs		
Zinc	**15**	**ug/L**	**10**	**1**	**08/16/21**	**mrh**	**08/17/21**	**acs**		
Analysis Method: SM 2340B-11										
Batch: [CALC]										
Hardness as CaCO3	**500**	**mg/L**	**6.7**	**1**	**08/16/21**		**08/17/21**	**dc**	**N**	
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 625.1										
Batch: T113389										
N-Nitrosodimethylamine	<4.8	ug/L	4.8	1	08/16/21	kbc	08/17/21	avl		
Bis(2-chloroethyl)ether	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
2-Chlorophenol	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Phenol	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Bis(2-chloroisopropyl)ether	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21H0443
Client Project ID: AMR

Trace ID: 21H0443-01 Matrix: Wastewater Date Collected: 08/11/21
Sample ID: Effluent Composite Date Received: 08/11/21 11:50

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
N-Nitrosodi-n-propylamine	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Hexachloroethane	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Nitrobenzene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
Isophorone	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
2-Nitrophenol	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
2,4-Dimethylphenol	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Bis(2-chloroethoxy)methane	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
1,2,4-Trichlorobenzene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
2,4-Dichlorophenol	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Naphthalene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Hexachlorobutadiene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
4-Chloro-3-methylphenol	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Hexachlorocyclopentadiene	<4.8	ug/L	4.8	1	08/16/21	kbc	08/17/21	avl		
2,4,6-Trichlorophenol	<4.8	ug/L	4.8	1	08/16/21	kbc	08/17/21	avl		
2-Chloronaphthalene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Dimethyl phthalate	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Acenaphthylene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
2,6-Dinitrotoluene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Acenaphthene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
2,4-Dinitrotoluene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
4-Nitrophenol	<19	ug/L	19	1	08/16/21	kbc	08/17/21	avl		
2,4-Dinitrophenol	<18	ug/L	18	1	08/16/21	kbc	08/17/21	avl		
Diethyl phthalate	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Fluorene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
4-Chlorophenyl phenyl ether	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
4,6-Dinitro-2-methylphenol	<4.8	ug/L	4.8	1	08/16/21	kbc	08/17/21	avl		
N-Nitrosodiphenylamine	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
1,2-Diphenylhydrazine	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
4-Bromophenyl phenyl ether	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Hexachlorobenzene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Pentachlorophenol	<1.7	ug/L	1.7	1	08/16/21	kbc	08/17/21	avl		
Phenanthrene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
Anthracene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		

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ANALYTICAL RESULTS

Trace Project ID: 21H0443
Client Project ID: AMR

Trace ID: 21H0443-01 Matrix: Wastewater Date Collected: 08/11/21
Sample ID: Effluent Composite Date Received: 08/11/21 11:50

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
SEMI-VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Di-n-butyl phthalate	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Fluoranthene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
Benzidine	<48	ug/L	48	1	08/16/21	kbc	08/17/21	avl	N	
Pyrene	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Butyl benzyl phthalate	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl	N	
Benzo (a) anthracene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
Chrysene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
3,3'-Dichlorobenzidine	<4.8	ug/L	4.8	1	08/16/21	kbc	08/17/21	avl	N	
Bis(2-ethylhexyl)phthalate	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Di-n-octyl phthalate	<2.4	ug/L	2.4	1	08/16/21	kbc	08/17/21	avl		
Benzo (b) fluoranthene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
Benzo (k) fluoranthene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
Benzo (a) pyrene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
Indeno (1,2,3-cd) pyrene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
Dibenz (a,h) anthracene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
Benzo (g,h,i) perylene	<0.95	ug/L	0.95	1	08/16/21	kbc	08/17/21	avl		
Surrogates:										
2-Fluorophenol	23	%	20-53	1	08/16/21	kbc	08/17/21	avl		
Phenol-d5	12	%	11-40	1	08/16/21	kbc	08/17/21	avl		
Nitrobenzene-d5	65	%	36-103	1	08/16/21	kbc	08/17/21	avl		
2-Fluorobiphenyl	66	%	36-119	1	08/16/21	kbc	08/17/21	avl		
2,4,6-Tribromophenol	79	%	30-105	1	08/16/21	kbc	08/17/21	avl		
Terphenyl-d14	65	%	37-109	1	08/16/21	kbc	08/17/21	avl		
Analysis Method: EPA 625.1 SIM										
Batch: T113393										
Benzidine	<0.10	ug/L	0.10	1	08/16/21	av	08/16/21	av	N	
3,3´-Dichlorobenzidine	<1.0	ug/L	1.0	1	08/16/21	av	08/16/21	av	N	
Surrogates:										
Nitrobenzene-d5	66	%	50-150	1	08/16/21	av	08/16/21	av		
2-Fluorobiphenyl	62	%	50-150	1	08/16/21	av	08/16/21	av		
Terphenyl-d14 *	**46**	%	50-150	1	08/16/21	av	08/16/21	av	802	

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ANALYTICAL RESULTS

Trace Project ID: 21H0443
Client Project ID: AMR

Trace ID: 21H0443-01 Matrix: Wastewater Date Collected: 08/11/21
Sample ID: Effluent Composite Date Received: 08/11/21 11:50

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
PESTICIDES/PCBS										
Analysis Method: EPA 612										
Batch: T113334										
Hexachlorobenzene	<0.0095	ug/L	0.0095	1	08/13/21	kbc	08/16/21	tml	N	
Hexachlorobutadiene	<0.0095	ug/L	0.0095	1	08/13/21	kbc	08/16/21	tml	N	
Hexachlorocyclopentadiene	<0.0095	ug/L	0.0095	1	08/13/21	kbc	08/16/21	tml	N	
Hexachloroethane	<0.0095	ug/L	0.0095	1	08/13/21	kbc	08/16/21	tml	N	
Surrogates:										
Decachlorobiphenyl	35	%	27-95	1	08/13/21	kbc	08/16/21	tml	N	
Tetrachloro-m-xylene	74	%	38-94	1	08/13/21	kbc	08/17/21	tml	N	

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ANALYTICAL RESULTS

Trace Project ID: 21H0443
Client Project ID: AMR

Trace ID: 21H0443-02 Matrix: Wastewater Date Collected: 08/11/21
Sample ID: Effluent Grab Date Received: 08/11/21 11:50

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Analysis Method: EPA 624.1										
Batch: T113277										
Chloromethane	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Vinyl chloride	<0.25	ug/L	0.25	1	08/11/21	nw	08/12/21	bag		
Bromomethane	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Chloroethane	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Acrolein	<10	ug/L	10	1	08/11/21	nw	08/12/21	bag		
1,1-Dichloroethene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Methylene chloride	<5.0	ug/L	5.0	1	08/11/21	nw	08/12/21	bag		
Acrylonitrile	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
trans-1,2-Dichloroethene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
1,1-Dichloroethane	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Chloroform	**2.0**	**ug/L**	**1.0**	**1**	**08/11/21**	**nw**	**08/12/21**	**bag**		
1,1,1-Trichloroethane	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Carbon tetrachloride	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Benzene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
1,2-Dichloroethane	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Trichloroethene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
1,2-Dichloropropane	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Bromodichloromethane	**2.3**	**ug/L**	**1.0**	**1**	**08/11/21**	**nw**	**08/12/21**	**bag**		
2-Chloroethylvinyl ether	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
cis-1,3-Dichloropropene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Toluene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
trans-1,3-Dichloropropene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
1,1,2-Trichloroethane	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Tetrachloroethene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Dibromochloromethane	**1.3**	**ug/L**	**1.0**	**1**	**08/11/21**	**nw**	**08/12/21**	**bag**		
Chlorobenzene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Ethylbenzene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
Bromoform	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
1,1,2,2-Tetrachloroethane	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
1,3-Dichlorobenzene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
1,4-Dichlorobenzene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		
1,2-Dichlorobenzene	<1.0	ug/L	1.0	1	08/11/21	nw	08/12/21	bag		

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ANALYTICAL RESULTS

Trace Project ID: 21H0443
Client Project ID: AMR

Trace ID: 21H0443-02 Matrix: Wastewater Date Collected: 08/11/21
Sample ID: Effluent Grab Date Received: 08/11/21 11:50

PARAMETERS	RESULTS	UNITS	RDL	DILUTION	PREPARED	BY	ANALYZED	BY	NOTES	MCL
VOLATILE ORGANIC COMPOUNDS BY GC-MS										
Surrogates:										
1,2-Dichloroethane-d4	101	%	68-133	1	08/11/21	nw	08/12/21	bag		
Toluene-d8	108	%	75-120	1	08/11/21	nw	08/12/21	bag	N	
4-Bromofluorobenzene	104	%	69-119	1	08/11/21	nw	08/12/21	bag	N	
1,2-Dichlorobenzene-d4	101	%	72-127	1	08/11/21	nw	08/12/21	bag	N	
WET CHEMISTRY										
Analysis Method: EPA OIA1677										
Batch: T113291										
Cyanide (Available)	<2.0	ug/L	2.0	1	08/12/21	ans	08/12/21	ans/jma	N	

CERTIFICATE OF ANALYSIS

Analytical Laboratory Report

Report ID: S27281.01(01)
Generated on 09/08/2021

Report to

Attention: Tim Brewer
Trace Analytical Laboratories
2241 Black Creek Rd.
Muskegon, MI 49444

Phone: O: 231-773-5998 x238 FAX:
Email: TBrewer@trace-labs.com

Addtional Contacts: Jon Mink

Report produced by

Merit Laboratories, Inc.
2680 East Lansing Drive
East Lansing, MI 48823

Phone: (517) 332-0167 FAX: (517) 332-6333

Contacts for report questions:
John Laverty (johnlaverty@meritlabs.com)
Barbara Ball (bball@meritlabs.com)

Report Summary

Lab Sample ID(s): S27281.01-S27281.03
Project: 21H0443
Collected Date(s): 08/11/2021
Submitted Date/Time: 08/18/2021 09:40
Sampled by: Unknown
P.O. #: 21H0443

Table of Contents

Maya Murshak
Technical Director

General Report Notes

Analytical results relate only to the samples tested, in the condition received by the laboratory.
Methods may be modified for improved performance.
Results reported on a dry weight basis where applicable.
'Not detected' indicates that parameter was not found at a level equal to or greater than the reporting limit (RL).
40 CFR Part 136 Table II Required Containers, Preservation Techniques and Holding Times for the Clean Water Act specify that samples for acrolein and acrylonitrile need to be preserved at a pH in the range of 4 to 5 or if not preserved, analyzed within 3 days of sampling.
QA/QC corresponding to this analytical report is a separate document with the same Merit ID reference and is available upon request.
Full accreditation certificates are available upon request. Starred (*) analytes are not NELAP accredited.
Samples are held by the lab for 30 days from the final report date unless a written request to hold longer is provided by the client.

Limits for drinking water samples, are listed as the MCL Limits (Maximum Contaminant Level Concentrations)
PFAS requirement: Section 9.3.8 of U.S. EPA Method 537.1 states "If the method analyte(s) found in the Field Sample is present in the FRB at a concentration greater than 1/3 the MRL, then all samples collected with that FRB are invalid and must be recollected and reanalyzed."
Samples submitted without an accompanying FRB may not be acceptable for compliance purposes.

Report Narrative

There is no additional narrative for this analytical report

Laboratory Certifications

Authority	Certification ID
Michigan DEQ	#9956
DOD ELAP/ISO 17025	#69699
WBENC	#2005110032
Ohio VAP	#CL0002
Indiana DOH	#C-MI-07
New York NELAC	#11814
North Carolina DENR	#680
North Carolina DOH	#26702
Alaska CSLAP	#17-001
Pennsylvania DEP	#68-05884

Qualifier Descriptions

Qualifier	Description
!	Result is outside of stated limit criteria
B	Compound also found in associated method blank
E	Concentration exceeds calibration range
F	Analysis run outside of holding time
G	Estimated result due to extraction run outside of holding time
H	Sample submitted and run outside of holding time
I	Matrix interference with internal standard
J	Estimated value less than reporting limit, but greater than MDL
L	Elevated reporting limit due to low sample amount
M	Result reported to MDL not RDL
O	Analysis performed by outside laboratory. See attached report.
R	Preliminary result
S	Surrogate recovery outside of control limits
T	No correction for total solids
X	Elevated reporting limit due to matrix interference
Y	Elevated reporting limit due to high target concentration
b	Value detected less than reporting limit, but greater than MDL
e	Reported value estimated due to interference
j	Analyte also found in associated method blank
p	Benzo(b)Fluoranthene and Benzo(k)Fluoranthene integrated as one peak.
x	Preserved from bulk sample

Glossary of Abbreviations

Abbreviation	Description
RL/RDL	Reporting Limit
MDL	Method Detection Limit
MS	Matrix Spike
MSD	Matrix Spike Duplicate
SW	EPA SW 846 (Soil and Wastewater) Methods
E	EPA Methods
SM	Standard Methods
LN	Linear
BR	Branched

Method Summary

Method	Version
ASTM D7968-17M	ASTM Method D7968 - 17 Modified (Isotopic Dilution)
SM2540B	Standard Method 2540 B 2011

Parameter Summary

Parameter	Synonym	Cas #
PFBA	Perfluorobutanoic Acid	375-22-4
PFPeA	Perfluoropentanoic Acid	2706-90-3
4:2 FTSA	4:2 Fluorotelomer Sulfonic Acid	757124-72-4
PFHxA	Perfluorohexanoic Acid	307-24-4
PFBS	Perfluorobutane sulfonic Acid	375-73-5
PFHpA	Perfluoroheptanoic Acid	375-85-9
PFPeS	Perfluoropentane Sulfonic Acid	2706-91-4
6:2 FTSA	6:2 Fluorotelomer Sulfonic Acid	27619-97-2
PFOA	Perfluorooctanoic Acid	335-67-1
PFHxS	Perfluorohexane Sulfonic Acid	355-46-4
PFHxS-LN	Perfluorohexane Sulfonic Acid - LN	355-46-4-LN
PFHxS-BR	Perfluorohexane Sulfonic Acid - BR	355-46-4-BR
PFNA	Perfluorononanoic Acid	375-95-1
8:2 FTSA	8:2 Fluorotelomer Sulfonic Acid	39108-34-4
PFHpS	Perfluoroheptane Sulfonic Acid	375-92-8
PFDA	Perfluorodecanoic Acid	335-76-2
N-MeFOSAA	N-methyl perfluorooctanesulfonamidoacetic acid	2355-31-9
EtFOSAA	N-Ethyl Perfluorooctane Sulfonamidoacetic Acid	2991-50-6
PFOS	Perfluorooctane Sulfonic Acid	1763-23-1
PFOS-LN	Perfluorooctane Sulfonic Acid - LN	1763-23-1-LN
PFOS-BR	Perfluorooctane Sulfonic Acid - BR	1763-23-1-BR
PFUnDA	Perfluoroundecanoic Acid	2058-94-8
PFNS	Perfluorononane Sulfonic Acid	68259-12-1
PFDoDA	Perfluorododecanoic Acid	307-55-1
PFDS	Perfluorodecane Sulfonic Acid	335-77-3
PFTrDA	Perfluorotridecanoic Acid	72629-94-8
FOSA	Perfluorooctane Sulfonamide	754-91-6
PFTeDA	Perfluorotetradecanoic Acid	376-06-7
11Cl-PF3OUdS	11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid	763051-92-9
9Cl-PF3ONS	9-chlorohexadecafluoro-3-oxanone1-sulfonic acid	756426-58-1
ADONA	4,8-dioxa-3H-perfluorononanoic acid	919005-14-4
HFPO-DA	Hexafluoropropylene oxide dimer	13252-13-6

Analytical Laboratory Report

Sample Summary (3 samples)

Sample ID	Sample Tag	Matrix	Collected Date/Time
S27281.01	North Tank 21H0443-03	Sludge	08/11/21 00:00
S27281.02	Middle Tank 21H0443-04	Sludge	08/11/21 00:00
S27281.03	South Tank 21H0443-05	Sludge	08/11/21 00:00

Lab Sample ID: S27281.01
Sample Tag: North Tank 21H0443-03
Collected Date/Time: 08/11/2021 00:00
Matrix: Sludge
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	250ml Plastic	None	Yes	8.3	IR
1	15ml Centrifuge Tube	None	Yes	8.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	8.65/7.04/10	ASTM D7968-17M	09/02/21 14:00	KCV	

Inorganics

Method: SM2540B, Run Date: 08/19/21 15:50, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	1.3	1		%	1		

Organics

28 PFAs, Method: ASTM D7968-17M, Run Date: 09/03/21 02:28, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	4.8		ug/kg	478	375-22-4	
PFPeA*	Not detected	2.4		ug/kg	478	2706-90-3	
4:2 FTSA*	Not detected	2.4		ug/kg	478	757124-72-4	I
PFHxA*	2.9	2.4		ug/kg	478	307-24-4	
PFBS*	Not detected	2.4		ug/kg	478	375-73-5	
PFHpA*	Not detected	2.4		ug/kg	478	375-85-9	
PFPeS*	Not detected	2.4		ug/kg	478	2706-91-4	
6:2 FTSA*	Not detected	2.4		ug/kg	478	27619-97-2	I
PFOA*	Not detected	2.4		ug/kg	478	335-67-1	
PFHxS*	Not detected	2.4		ug/kg	478	355-46-4	
PFHxS-LN*	Not detected	2.4		ug/kg	478	355-46-4-LN	
PFHxS-BR*	Not detected	2.4		ug/kg	478	355-46-4-BR	
PFNA*	Not detected	2.4		ug/kg	478	375-95-1	
8:2 FTSA*	Not detected	2.4		ug/kg	478	39108-34-4	I
PFHpS*	Not detected	2.4		ug/kg	478	375-92-8	
PFDA*	Not detected	2.4		ug/kg	478	335-76-2	
N-MeFOSAA*	33	2.4		ug/kg	478	2355-31-9	
EtFOSAA*	11	2.4		ug/kg	478	2991-50-6	
PFOS*	10	2.4		ug/kg	478	1763-23-1	
PFOS-LN*	8.5	2.4		ug/kg	478	1763-23-1-LN	
PFOS-BR*	Not detected	2.4		ug/kg	478	1763-23-1-BR	
PFUnDA*	Not detected	2.4		ug/kg	478	2058-94-8	
PFNS*	Not detected	2.4		ug/kg	478	68259-12-1	
PFDoDA*	Not detected	2.4		ug/kg	478	307-55-1	I
PFDS*	3.7	2.4		ug/kg	478	335-77-3	
PFTrDA*	2.5	2.4		ug/kg	478	72629-94-8	I
FOSA*	Not detected	2.4		ug/kg	478	754-91-6	
PFTeDA*	Not detected	2.4		ug/kg	478	376-06-7	
11Cl-PF3OUdS*	Not detected	2.4		ug/kg	478	763051-92-9	
9Cl-PF3ONS*	Not detected	2.4		ug/kg	478	756426-58-1	

I-Matrix interference with internal standard

Lab Sample ID: S27281.01 (continued)
Sample Tag: North Tank 21H0443-03

28 PFAs, Method: ASTM D7968-17M, Run Date: 09/03/21 02:28, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
ADONA*	Not detected	2.4		ug/kg	478	919005-14-4	
HFPO-DA*	Not detected	2.4		ug/kg	478	13252-13-6	I

I-Matrix interference with internal standard

Lab Sample ID: S27281.02
Sample Tag: Middle Tank 21H0443-04
Collected Date/Time: 08/11/2021 00:00
Matrix: Sludge
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	250ml Plastic	None	Yes	8.3	IR
1	15ml Centrifuge Tube	None	Yes	8.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	8.75/7.05/10	ASTM D7968-17M	09/02/21 14:00	KCV	

Inorganics

Method: SM2540B, Run Date: 08/19/21 15:50, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	2.2	1		%	1		

Organics

28 PFAs, Method: ASTM D7968-17M, Run Date: 09/03/21 02:48, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	2.7		ug/kg	267	375-22-4	
PFPeA*	Not detected	1.3		ug/kg	267	2706-90-3	
4:2 FTSA*	Not detected	1.3		ug/kg	267	757124-72-4	I
PFHxA*	2.2	1.3		ug/kg	267	307-24-4	
PFBS*	Not detected	1.3		ug/kg	267	375-73-5	
PFHpA*	Not detected	1.3		ug/kg	267	375-85-9	
PFPeS*	Not detected	1.3		ug/kg	267	2706-91-4	
6:2 FTSA*	Not detected	1.3		ug/kg	267	27619-97-2	I
PFOA*	Not detected	1.3		ug/kg	267	335-67-1	
PFHxS*	Not detected	1.3		ug/kg	267	355-46-4	
PFHxS-LN*	Not detected	1.3		ug/kg	267	355-46-4-LN	
PFHxS-BR*	Not detected	1.3		ug/kg	267	355-46-4-BR	
PFNA*	Not detected	1.3		ug/kg	267	375-95-1	
8:2 FTSA*	Not detected	1.3		ug/kg	267	39108-34-4	I
PFHpS*	Not detected	1.3		ug/kg	267	375-92-8	
PFDA*	1.6	1.3		ug/kg	267	335-76-2	
N-MeFOSAA*	18	1.3		ug/kg	267	2355-31-9	
EtFOSAA*	7.4	1.3		ug/kg	267	2991-50-6	
PFOS*	7.3	1.3		ug/kg	267	1763-23-1	
PFOS-LN*	6.2	1.3		ug/kg	267	1763-23-1-LN	
PFOS-BR*	Not detected	1.3		ug/kg	267	1763-23-1-BR	
PFUnDA*	Not detected	1.3		ug/kg	267	2058-94-8	
PFNS*	Not detected	1.3		ug/kg	267	68259-12-1	
PFDoDA*	1.7	1.3		ug/kg	267	307-55-1	I
PFDS*	2.3	1.3		ug/kg	267	335-77-3	
PFTrDA*	1.6	1.3		ug/kg	267	72629-94-8	I
FOSA*	1.4	1.3		ug/kg	267	754-91-6	
PFTeDA*	Not detected	1.3		ug/kg	267	376-06-7	
11Cl-PF3OUdS*	Not detected	1.3		ug/kg	267	763051-92-9	
9Cl-PF3ONS*	Not detected	1.3		ug/kg	267	756426-58-1	

I-Matrix interference with internal standard

Lab Sample ID: S27281.02 (continued)
Sample Tag: Middle Tank 21H0443-04

28 PFAs, Method: ASTM D7968-17M, Run Date: 09/03/21 02:48, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
ADONA*	Not detected	1.3		ug/kg	267	919005-14-4	
HFPO-DA*	Not detected	1.3		ug/kg	267	13252-13-6	I

I-Matrix interference with internal standard

Lab Sample ID: S27281.03
Sample Tag: South Tank 21H0443-05
Collected Date/Time: 08/11/2021 00:00
Matrix: Sludge
COC Reference:

Sample Containers

#	Type	Preservative(s)	Refrigerated?	Arrival Temp. (C)	Thermometer #
1	250ml Plastic	None	Yes	8.3	IR
1	15ml Centrifuge Tube	None	Yes	8.3	IR

Extraction / Prep.

Parameter	Result	Method	Run Date	Analyst	Flags
Initial wt. (g) / Final wt. (g) / Volume (ml)*	8.91/7.04/10	ASTM D7968-17M	09/02/21 14:00	KCV	

Inorganics

Method: SM2540B, Run Date: 08/19/21 15:50, Analyst: ELR

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
Total Solids*	1.9	1		%	1		

Organics

28 PFAs, Method: ASTM D7968-17M, Run Date: 09/03/21 03:07, Analyst: KCV

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
PFBA*	Not detected	2.8		ug/kg	281	375-22-4	
PFPeA*	Not detected	1.4		ug/kg	281	2706-90-3	
4:2 FTSA*	Not detected	1.4		ug/kg	281	757124-72-4	I
PFHxA*	1.6	1.4		ug/kg	281	307-24-4	
PFBS*	Not detected	1.4		ug/kg	281	375-73-5	
PFHpA*	Not detected	1.4		ug/kg	281	375-85-9	
PFPeS*	Not detected	1.4		ug/kg	281	2706-91-4	
6:2 FTSA*	Not detected	1.4		ug/kg	281	27619-97-2	I
PFOA*	Not detected	1.4		ug/kg	281	335-67-1	
PFHxS*	Not detected	1.4		ug/kg	281	355-46-4	
PFHxS-LN*	Not detected	1.4		ug/kg	281	355-46-4-LN	
PFHxS-BR*	Not detected	1.4		ug/kg	281	355-46-4-BR	
PFNA*	Not detected	1.4		ug/kg	281	375-95-1	
8:2 FTSA*	Not detected	1.4		ug/kg	281	39108-34-4	I
PFHpS*	Not detected	1.4		ug/kg	281	375-92-8	
PFDA*	Not detected	1.4		ug/kg	281	335-76-2	
N-MeFOSAA*	6.7	1.4		ug/kg	281	2355-31-9	
EtFOSAA*	3	1.4		ug/kg	281	2991-50-6	
PFOS*	4.6	1.4		ug/kg	281	1763-23-1	
PFOS-LN*	3.9	1.4		ug/kg	281	1763-23-1-LN	
PFOS-BR*	Not detected	1.4		ug/kg	281	1763-23-1-BR	
PFUnDA*	Not detected	1.4		ug/kg	281	2058-94-8	
PFNS*	Not detected	1.4		ug/kg	281	68259-12-1	
PFDoDA*	Not detected	1.4		ug/kg	281	307-55-1	
PFDS*	Not detected	1.4		ug/kg	281	335-77-3	
PFTrDA*	Not detected	1.4		ug/kg	281	72629-94-8	
FOSA*	Not detected	1.4		ug/kg	281	754-91-6	
PFTeDA*	Not detected	1.4		ug/kg	281	376-06-7	
11Cl-PF3OUdS*	Not detected	1.4		ug/kg	281	763051-92-9	
9Cl-PF3ONS*	Not detected	1.4		ug/kg	281	756426-58-1	

I-Matrix interference with internal standard

Lab Sample ID: S27281.03 (continued)
Sample Tag: South Tank 21H0443-05

28 PFAs, Method: ASTM D7968-17M, Run Date: 09/03/21 03:07, Analyst: KCV (continued)

Parameter	Result	RL	MDL	Units	Dilution	CAS#	Flags
ADONA*	Not detected	1.4		ug/kg	281	919005-14-4	
HFPO-DA*	Not detected	1.4		ug/kg	281	13252-13-6	I

I-Matrix interference with internal standard

Merit Laboratories Login Checklist

Lab Set ID: S27281
Client: TRACE (Trace Analytical Laboratories)
Project: 21H0443
Submitted: 08/18/2021 09:40 Login User: PFD

Attention: Tim Brewer
Address: Trace Analytical Laboratories
2241 Black Creek Rd.
Muskegon, MI 49444

Phone: O: 231-773-5998 FAX:
Email: TBrewer@trace-labs.com

Selection				Description	Note
Sample Receiving					
01.	☐ Yes	☒ No	☐ N/A	Samples are received at 4C +/- 2C Thermometer #	IR 8.3
02.	☒ Yes	☐ No	☐ N/A	Received on ice/ cooling process begun	
03.	☐ Yes	☒ No	☐ N/A	Samples shipped	
04.	☐ Yes	☒ No	☐ N/A	Samples left in 24 hr. drop box	
05.	☐ Yes	☐ No	☒ N/A	Are there custody seals/tape or is the drop box locked	
Chain of Custody					
06.	☒ Yes	☐ No	☐ N/A	COC adequately filled out	
07.	☒ Yes	☐ No	☐ N/A	COC signed and relinquished to the lab	
08.	☒ Yes	☐ No	☐ N/A	Sample tag on bottles match COC	
09.	☐ Yes	☒ No	☐ N/A	Subcontracting needed? Subcontacted to:	
Preservation					
10.	☒ Yes	☐ No	☐ N/A	Do sample have correct chemical preservation	
11.	☐ Yes	☐ No	☒ N/A	Completed pH checks on preserved samples? (no VOAs)	
12.	☐ Yes	☒ No	☐ N/A	Did any samples need to be preserved in the lab?	
Bottle Conditions					
13.	☒ Yes	☐ No	☐ N/A	All bottles intact	
14.	☒ Yes	☐ No	☐ N/A	Appropriate analytical bottles are used	
15.	☒ Yes	☐ No	☐ N/A	Merit bottles used	
16.	☒ Yes	☐ No	☐ N/A	Sufficient sample volume received	
17.	☐ Yes	☒ No	☐ N/A	Samples require laboratory filtration	
18.	☒ Yes	☐ No	☐ N/A	Samples submitted within holding time	
19.	☐ Yes	☐ No	☒ N/A	Do water VOC or TOX bottles contain headspace	

Corrective action for all exceptions is to call the client and to notify the project manager.

Client Review By: _____ Date: _____

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

TRACE ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

SUBCONTRACT ORDER

21H0443

SENDING LABORATORY:

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444
Phone: 231.773.5998

RECEIVING LABORATORY:

Merit Laboratories, Inc
2680 East Lansing Dr.
East Lansing, MI 48823
Phone :(517) 332-0167

Project Manager:Tim Brewer

PO # 21H0443

Matrix: Non-aqueous Li Sampled: 08/11/21 00:00 TAT: Standard

Sample ID: North Tank 21H0443-03

27281.01

Analysis Needed:

PFAS- Biosolids- EGLE List

Matrix: Non-aqueous Li Sampled: 08/11/21 00:00 TAT: Standard

Sample ID: Middle Tank 21H0443-04

,02

Analysis Needed:

PFAS- Biosolids- EGLE List

Matrix: Non-aqueous Li Sampled: 08/11/21 00:00 TAT: Standard

Sample ID: South Tank 21H0443-05

,03

Analysis Needed:

PFAS- Biosolids- EGLE List

Released By	Date	Received By	Date
	8/11/21		8/18/21 IR 8,3 0940
Released By	Date	Received By	Date

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

QUALITY CONTROL RESULTS

Trace Project ID: 21H0443
Client Project ID: AMR

QC Batch: T113376
QC Batch Method: EPA 200.2
Analysis Description: Calcium, Total
Analysis Method: EPA 200.7 Rev. 4.4

METHOD BLANK: T113376-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Boron	ug/L	<20	20	
Beryllium	ug/L	<1.0	1.0	
Calcium	ug/L	<1000	1000	
Magnesium	ug/L	<1000	1000	

LABORATORY CONTROL SAMPLE: T113376-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Boron	ug/L	1600	1460	92	85-115	
Beryllium	ug/L	200	204	102	85-115	
Calcium	ug/L	16000	16300	102	85-115	
Magnesium	ug/L	16000	16300	102	85-115	

Trace Project ID: 21H0443
Client Project ID: AMR

QC Batch: T113376
QC Batch Method: EPA 200.2
Analysis Description: Selenium, Total
Analysis Method: EPA 200.8 Rev. 5.4

METHOD BLANK: T113376-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Silver	ug/L	<0.50	0.50	
Arsenic	ug/L	<1.0	1.0	
Barium	ug/L	<5.0	5.0	
Cadmium	ug/L	<0.20	0.20	
Chromium	ug/L	<5.0	5.0	
Copper	ug/L	<1.0	1.0	
Nickel	ug/L	<5.0	5.0	
Lead	ug/L	<1.0	1.0	
Antimony	ug/L	<1.0	1.0	
Selenium	ug/L	<1.0	1.0	
Thallium	ug/L	<1.0	1.0	
Zinc	ug/L	<10	10	

CERTIFICATE OF ANALYSIS

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

LABORATORY CONTROL SAMPLE: T113376-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Silver	ug/L	50.0	55.0	110	85-115	
Arsenic	ug/L	100	99.6	100	85-115	
Barium	ug/L	1600	1760	110	85-115	
Cadmium	ug/L	50.0	55.2	110	85-115	
Chromium	ug/L	50.0	48.8	98	85-115	
Copper	ug/L	1600	1490	93	85-115	
Nickel	ug/L	1600	1540	97	85-115	
Lead	ug/L	100	102	102	85-115	
Antimony	ug/L	100	112	112	85-115	
Selenium	ug/L	100	96.2	96	85-115	
Thallium	ug/L	100	103	103	85-115	
Zinc	ug/L	1600	1560	98	85-115	

Trace Project ID: 21H0443
Client Project ID: AMR

QC Batch: [CALC]
QC Batch Method:
Analysis Description: Hardness (Metals)
Analysis Method: SM 2340B-11

Trace Project ID: 21H0443
Client Project ID: AMR

QC Batch: T113389
QC Batch Method: EPA 625 Extraction for BNAs
Analysis Description: TTO Semi-Volatiles
Analysis Method: EPA 625.1

METHOD BLANK: T113389-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
N-Nitrosodimethylamine	ug/L	<5.0	5.0	
Bis(2-chloroethyl)ether	ug/L	<1.0	1.0	
2-Chlorophenol	ug/L	<2.5	2.5	
Phenol	ug/L	<2.5	2.5	
Bis(2-chloroisopropyl)ether	ug/L	<2.5	2.5	
N-Nitrosodi-n-propylamine	ug/L	<2.5	2.5	
Hexachloroethane	ug/L	<2.5	2.5	
Nitrobenzene	ug/L	<1.0	1.0	
Isophorone	ug/L	<2.5	2.5	
2-Nitrophenol	ug/L	<2.5	2.5	
2,4-Dimethylphenol	ug/L	<2.5	2.5	
Bis(2-chloroethoxy)methane	ug/L	<2.5	2.5	
1,2,4-Trichlorobenzene	ug/L	<2.5	2.5	

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METHOD BLANK: T113389-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
2,4-Dichlorophenol	ug/L	<2.5	2.5	
Naphthalene	ug/L	<2.5	2.5	
Hexachlorobutadiene	ug/L	<2.5	2.5	
4-Chloro-3-methylphenol	ug/L	<2.5	2.5	
Hexachlorocyclopentadiene	ug/L	<5.0	5.0	
2,4,6-Trichlorophenol	ug/L	<5.0	5.0	
2-Chloronaphthalene	ug/L	<2.5	2.5	
Dimethyl phthalate	ug/L	<2.5	2.5	
Acenaphthylene	ug/L	<2.5	2.5	
2,6-Dinitrotoluene	ug/L	<2.5	2.5	
Acenaphthene	ug/L	<2.5	2.5	
2,4-Dinitrotoluene	ug/L	<2.5	2.5	
4-Nitrophenol	ug/L	<20	20	
2,4-Dinitrophenol	ug/L	<19	19	
Diethyl phthalate	ug/L	<2.5	2.5	
Fluorene	ug/L	<2.5	2.5	
4-Chlorophenyl phenyl ether	ug/L	<2.5	2.5	
4,6-Dinitro-2-methylphenol	ug/L	<5.0	5.0	
N-Nitrosodiphenylamine	ug/L	<2.5	2.5	
1,2-Diphenylhydrazine	ug/L	<2.5	2.5	
4-Bromophenyl phenyl ether	ug/L	<2.5	2.5	
Hexachlorobenzene	ug/L	<2.5	2.5	
Pentachlorophenol	ug/L	<1.8	1.8	
Phenanthrene	ug/L	<1.0	1.0	
Anthracene	ug/L	<2.5	2.5	
Di-n-butyl phthalate	ug/L	<2.5	2.5	
Fluoranthene	ug/L	<1.0	1.0	
Benzidine	ug/L	<50	50	
Pyrene	ug/L	<2.5	2.5	
Butyl benzyl phthalate	ug/L	<2.5	2.5	
Benzo (a) anthracene	ug/L	<1.0	1.0	
Chrysene	ug/L	<1.0	1.0	
3,3'-Dichlorobenzidine	ug/L	<5.0	5.0	
Bis(2-ethylhexyl)phthalate	ug/L	<2.5	2.5	
Di-n-octyl phthalate	ug/L	<2.5	2.5	
Benzo (b) fluoranthene	ug/L	<1.0	1.0	
Benzo (k) fluoranthene	ug/L	<1.0	1.0	
Benzo (a) pyrene	ug/L	<1.0	1.0	
Indeno (1,2,3-cd) pyrene	ug/L	<1.0	1.0	
Dibenz (a,h) anthracene	ug/L	<1.0	1.0	
Benzo (g,h,i) perylene	ug/L	<1.0	1.0	
2-Fluorophenol (S)	%	27	20-53	
Phenol-d5 (S)	%	13	11-40	
Nitrobenzene-d5 (S)	%	64	36-103	

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METHOD BLANK: T113389-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
2-Fluorobiphenyl (S)	%	65	36-119	
2,4,6-Tribromophenol (S)	%	72	30-105	
Terphenyl-d14 (S)	%	65	37-109	

LABORATORY CONTROL SAMPLE: T113389-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Bis(2-chloroethyl)ether	ug/L	100	59.3	59	48-96	
2-Chlorophenol	ug/L	100	51.9	52	41-89	
Phenol	ug/L	100	16.5	17	13-39	
Bis(2-chloroisopropyl)ether	ug/L	100	67.0	67	34-110	
N-Nitrosodi-n-propylamine	ug/L	100	64.3	64	45-101	
Hexachloroethane	ug/L	100	54.3	54	38-85	
Nitrobenzene	ug/L	100	60.2	60	47-99	
Isophorone	ug/L	100	52.7	53	34-96	
2-Nitrophenol	ug/L	100	65.2	65	47-98	
2,4-Dimethylphenol	ug/L	100	44.0	44	39-86	
Bis(2-chloroethoxy)methane	ug/L	100	59.2	59	49-101	
1,2,4-Trichlorobenzene	ug/L	100	56.2	56	34-94	
2,4-Dichlorophenol	ug/L	100	54.4	54	48-97	
Naphthalene	ug/L	100	57.8	58	46-94	
Hexachlorobutadiene	ug/L	100	59.5	59	36-93	
4-Chloro-3-methylphenol	ug/L	100	54.4	54	45-93	
Hexachlorocyclopentadiene	ug/L	100	32.5	33	25-69	
2,4,6-Trichlorophenol	ug/L	100	56.2	56	48-106	
2-Chloronaphthalene	ug/L	100	57.9	58	48-97	
Dimethyl phthalate	ug/L	100	58.8	59	53-101	
Acenaphthylene	ug/L	100	56.7	57	48-94	
2,6-Dinitrotoluene	ug/L	100	71.5	72	50-114	
Acenaphthene	ug/L	100	56.4	56	42-105	
2,4-Dinitrotoluene	ug/L	100	70.5	70	39-105	
4-Nitrophenol	ug/L	100	22.0	22	11-40	
2,4-Dinitrophenol	ug/L	100	79.7	80	30-110	
Diethyl phthalate	ug/L	100	57.6	58	53-106	
Fluorene	ug/L	100	60.2	60	53-105	
4-Chlorophenyl phenyl ether	ug/L	100	59.7	60	51-102	
4,6-Dinitro-2-methylphenol	ug/L	100	84.0	84	54-114	
1,2-Diphenylhydrazine	ug/L	100	65.0	65	0-200	
4-Bromophenyl phenyl ether	ug/L	100	60.3	60	45-111	
Hexachlorobenzene	ug/L	100	64.0	64	52-106	
Pentachlorophenol	ug/L	100	58.5	58	51-123	

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LABORATORY CONTROL SAMPLE: T113389-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Phenanthrene	ug/L	100	66.1	66	58-104	
Anthracene	ug/L	100	60.1	60	55-109	
Di-n-butyl phthalate	ug/L	100	61.8	62	54-101	
Fluoranthene	ug/L	100	59.4	59	53-116	
Pyrene	ug/L	100	62.5	63	47-116	
Butyl benzyl phthalate	ug/L	100	59.8	60	53-110	
Benzo (a) anthracene	ug/L	100	58.2	58	53-110	
Chrysene	ug/L	100	56.9	57	50-116	
Bis(2-ethylhexyl)phthalate	ug/L	100	59.4	59	57-107	
Di-n-octyl phthalate	ug/L	100	61.9	62	54-120	
Benzo (b) fluoranthene	ug/L	100	57.6	58	49-118	
Benzo (k) fluoranthene	ug/L	100	60.4	60	38-131	
Benzo (a) pyrene	ug/L	100	62.6	63	51-111	
Indeno (1,2,3-cd) pyrene	ug/L	100	59.9	60	38-112	
Dibenz (a,h) anthracene	ug/L	100	53.6	54	42-108	
Benzo (g,h,i) perylene	ug/L	100	62.3	62	32-105	
2-Fluorophenol (S)	%	100	26.1	26	20-53	
Phenol-d5 (S)	%	100	15.2	15	11-40	
Nitrobenzene-d5 (S)	%	100	65.5	66	36-103	
2-Fluorobiphenyl (S)	%	101	58.6	58	36-119	
2,4,6-Tribromophenol (S)	%	100	73.8	74	30-105	
Terphenyl-d14 (S)	%	100	60.2	60	37-109	

LABORATORY CONTROL SAMPLE: T113389-BS2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Bis(2-chloroethyl)ether	ug/L	100	63.3	63	48-96	
2-Chlorophenol	ug/L	100	55.9	56	41-89	
Phenol	ug/L	100	17.6	18	13-39	
Bis(2-chloroisopropyl)ether	ug/L	100	73.2	73	34-110	
N-Nitrosodi-n-propylamine	ug/L	100	70.1	70	45-101	
Hexachloroethane	ug/L	100	58.5	59	38-85	
Nitrobenzene	ug/L	100	68.2	68	47-99	
Isophorone	ug/L	100	58.4	58	34-96	
2-Nitrophenol	ug/L	100	73.8	74	47-98	
2,4-Dimethylphenol	ug/L	100	51.0	51	39-86	
Bis(2-chloroethoxy)methane	ug/L	100	65.6	66	49-101	
1,2,4-Trichlorobenzene	ug/L	100	59.5	60	34-94	
2,4-Dichlorophenol	ug/L	100	61.8	62	48-97	
Naphthalene	ug/L	100	60.0	60	46-94	
Hexachlorobutadiene	ug/L	100	63.7	64	36-93	

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LABORATORY CONTROL SAMPLE: T113389-BS2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
4-Chloro-3-methylphenol	ug/L	100	62.4	62	45-93	
Hexachlorocyclopentadiene	ug/L	100	36.9	37	25-69	
2,4,6-Trichlorophenol	ug/L	100	63.0	63	48-106	
2-Chloronaphthalene	ug/L	100	64.0	64	48-97	
Dimethyl phthalate	ug/L	100	64.5	65	53-101	
Acenaphthylene	ug/L	100	63.8	64	48-94	
2,6-Dinitrotoluene	ug/L	100	84.1	84	50-114	
Acenaphthene	ug/L	100	62.5	62	42-105	
2,4-Dinitrotoluene	ug/L	100	77.4	77	39-105	
4-Nitrophenol	ug/L	100	22.6	23	11-40	
2,4-Dinitrophenol	ug/L	100	89.2	89	30-110	
Diethyl phthalate	ug/L	100	64.0	64	53-106	
Fluorene	ug/L	100	65.0	65	53-105	
4-Chlorophenyl phenyl ether	ug/L	100	63.6	64	51-102	
4,6-Dinitro-2-methylphenol	ug/L	100	88.5	88	54-114	
1,2-Diphenylhydrazine	ug/L	100	74.6	75	0-200	
4-Bromophenyl phenyl ether	ug/L	100	65.7	66	45-111	
Hexachlorobenzene	ug/L	100	69.7	70	52-106	
Pentachlorophenol	ug/L	100	65.2	65	51-123	
Phenanthrene	ug/L	100	69.0	69	58-104	
Anthracene	ug/L	100	67.1	67	55-109	
Di-n-butyl phthalate	ug/L	100	70.0	70	54-101	
Fluoranthene	ug/L	100	66.6	67	53-116	
Pyrene	ug/L	100	68.1	68	47-116	
Butyl benzyl phthalate	ug/L	100	65.3	65	53-110	
Benzo (a) anthracene	ug/L	100	62.4	62	53-110	
Chrysene	ug/L	100	65.2	65	50-116	
Bis(2-ethylhexyl)phthalate	ug/L	100	66.6	67	57-107	
Di-n-octyl phthalate	ug/L	100	67.6	68	54-120	
Benzo (b) fluoranthene	ug/L	100	65.2	65	49-118	
Benzo (k) fluoranthene	ug/L	100	66.3	66	38-131	
Benzo (a) pyrene	ug/L	100	68.0	68	51-111	
Indeno (1,2,3-cd) pyrene	ug/L	100	64.6	65	38-112	
Dibenz (a,h) anthracene	ug/L	100	57.4	57	42-108	
Benzo (g,h,i) perylene	ug/L	100	67.5	67	32-105	
2-Fluorophenol (S)	%	100	25.6	26	20-53	
Phenol-d5 (S)	%	100	14.4	14	11-40	
Nitrobenzene-d5 (S)	%	100	66.8	67	36-103	
2-Fluorobiphenyl (S)	%	101	62.6	62	36-119	
2,4,6-Tribromophenol (S)	%	100	70.4	70	30-105	
Terphenyl-d14 (S)	%	100	64.1	64	37-109	

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Trace Project ID: 21H0443
Client Project ID: AMR

QC Batch: T113334
QC Batch Method: EPA 3510C Separatory Funnel Liquid-Liquid Extr.
Analysis Description: 612 Chlorinated Hydrocarbons
Analysis Method: EPA 612

METHOD BLANK: T113334-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Hexachlorobenzene	ug/L	<0.010	0.010	
Hexachlorobutadiene	ug/L	<0.010	0.010	
Hexachlorocyclopentadiene	ug/L	<0.010	0.010	
Hexachloroethane	ug/L	<0.010	0.010	
Decachlorobiphenyl (S)	%	38	27-95	
Tetrachloro-m-xylene (S)	%	51	38-94	

LABORATORY CONTROL SAMPLE: T113334-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Hexachlorobenzene	ug/L	0.0500	0.0257	51	26-128	
Hexachlorobutadiene	ug/L	0.0500	0.0206	41	26-107	
Hexachlorocyclopentadiene	ug/L	0.0500	0.0234	47	25-105	
Hexachloroethane	ug/L	0.0500	0.0187	37	26-87	
Decachlorobiphenyl (S)	%	0.0600	0.0303	50	27-95	
Tetrachloro-m-xylene (S)	%	0.0600	0.0486	81	38-94	

Trace Project ID: 21H0443
Client Project ID: AMR

QC Batch: T113393
QC Batch Method: Solid Phase Extraction
Analysis Description: 625 Benzidines SIM
Analysis Method: EPA 625.1 SIM

METHOD BLANK: T113393-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Benzidine	ug/L	<0.10	0.10	
3,3´-Dichlorobenzidine	ug/L	<1.0	1.0	
Nitrobenzene-d5 (S)	%	78	50-150	
2-Fluorobiphenyl (S)	%	66	50-150	
Terphenyl-d14 (S)	%	61	50-150	

LABORATORY CONTROL SAMPLE: T113393-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Benzidine	**ug/L**	**2.00**	**1.55**	**77**	**5.7-62**	**112**

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LABORATORY CONTROL SAMPLE: T113393-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
3,3´-Dichlorobenzidine	ug/L	2.00	1.66	83	51-136	
Nitrobenzene-d5 (S)	%	1.00	0.716	72	50-150	
2-Fluorobiphenyl (S)	%	1.01	0.646	64	50-150	
Terphenyl-d14 (S)	%	1.00	0.577	58	50-150	

Trace Project ID: 21H0443
Client Project ID: AMR

QC Batch: T113277
QC Batch Method: EPA 624 Purge and Trap
Analysis Description: TTO Volatiles
Analysis Method: EPA 624.1

METHOD BLANK: T113277-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Chloromethane	ug/L	<1.0	1.0	
Vinyl chloride	ug/L	<0.25	0.25	
Bromomethane	ug/L	<1.0	1.0	
Chloroethane	ug/L	<1.0	1.0	
Acrolein	ug/L	<10	10	
1,1-Dichloroethene	ug/L	<1.0	1.0	
Methylene chloride	ug/L	<5.0	5.0	
Acrylonitrile	ug/L	<1.0	1.0	
trans-1,2-Dichloroethene	ug/L	<1.0	1.0	
1,1-Dichloroethane	ug/L	<1.0	1.0	
Chloroform	ug/L	<1.0	1.0	
1,1,1-Trichloroethane	ug/L	<1.0	1.0	
Carbon tetrachloride	ug/L	<1.0	1.0	
Benzene	ug/L	<1.0	1.0	
1,2-Dichloroethane	ug/L	<1.0	1.0	
Trichloroethene	ug/L	<1.0	1.0	
1,2-Dichloropropane	ug/L	<1.0	1.0	
Bromodichloromethane	ug/L	<1.0	1.0	
2-Chloroethylvinyl ether	ug/L	<1.0	1.0	
cis-1,3-Dichloropropene	ug/L	<1.0	1.0	
Toluene	ug/L	<1.0	1.0	
trans-1,3-Dichloropropene	ug/L	<1.0	1.0	
1,1,2-Trichloroethane	ug/L	<1.0	1.0	
Tetrachloroethene	ug/L	<1.0	1.0	
Dibromochloromethane	ug/L	<1.0	1.0	
Chlorobenzene	ug/L	<1.0	1.0	
Ethylbenzene	ug/L	<1.0	1.0	
Bromoform	ug/L	<1.0	1.0	
1,1,2,2-Tetrachloroethane	ug/L	<1.0	1.0	
1,3-Dichlorobenzene	ug/L	<1.0	1.0	

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METHOD BLANK: T113277-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
1,4-Dichlorobenzene	ug/L	<1.0	1.0	
1,2-Dichlorobenzene	ug/L	<1.0	1.0	
1,2-Dichloroethane-d4 (S)	%	99	68-133	
Toluene-d8 (S)	%	107	75-120	
4-Bromofluorobenzene (S)	%	102	69-119	
1,2-Dichlorobenzene-d4 (S)	%	102	72-127	

LABORATORY CONTROL SAMPLE: T113277-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Chloromethane	ug/L	20.0	22.9	114	42-162	
Vinyl chloride	ug/L	20.0	19.7	99	47-184	
Bromomethane	ug/L	20.0	19.1	95	34-189	
Chloroethane	ug/L	20.0	17.5	88	74-151	
1,1-Dichloroethene	ug/L	20.0	21.0	105	64-156	
Methylene chloride	ug/L	20.0	21.2	106	38-167	
trans-1,2-Dichloroethene	ug/L	20.0	20.9	105	62-142	
1,1-Dichloroethane	ug/L	20.0	20.7	104	62-120	
Chloroform	ug/L	20.0	21.4	107	80-120	
1,1,1-Trichloroethane	ug/L	20.0	21.2	106	83-128	
Carbon tetrachloride	ug/L	20.0	20.8	104	79-141	
Benzene	ug/L	20.0	20.5	102	80-120	
1,2-Dichloroethane	ug/L	20.0	20.7	104	80-120	
Trichloroethene	ug/L	20.0	22.0	110	69-133	
1,2-Dichloropropane	ug/L	20.0	20.8	104	80-120	
Bromodichloromethane	ug/L	20.0	21.2	106	80-120	
cis-1,3-Dichloropropene	ug/L	20.0	21.2	106	73-121	
Toluene	ug/L	20.0	22.3	112	80-120	
trans-1,3-Dichloropropene	ug/L	20.0	21.2	106	73-118	
1,1,2-Trichloroethane	ug/L	20.0	22.4	112	80-120	
Tetrachloroethene	**ug/L**	**20.0**	**27.0**	**135**	**70-120**	**112**
Dibromochloromethane	ug/L	20.0	22.7	113	76-116	
Chlorobenzene	ug/L	20.0	22.1	111	80-120	
Ethylbenzene	ug/L	20.0	22.2	111	78-120	
Bromoform	ug/L	20.0	22.4	112	71-115	
1,1,2,2-Tetrachloroethane	ug/L	20.0	21.8	109	81-124	
1,3-Dichlorobenzene	ug/L	20.0	21.3	107	80-120	
1,4-Dichlorobenzene	ug/L	20.0	21.1	106	80-120	
1,2-Dichlorobenzene	ug/L	20.0	20.9	104	80-120	
1,2-Dichloroethane-d4 (S)	%	30.0	29.9	100	68-133	
Toluene-d8 (S)	%	30.0	32.6	109	75-120	

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LABORATORY CONTROL SAMPLE: T113277-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
4-Bromofluorobenzene (S)	%	30.0	30.9	103	69-119	
1,2-Dichlorobenzene-d4 (S)	%	30.0	28.2	94	72-127	

Trace Project ID: 21H0443
Client Project ID: AMR

QC Batch: T113291
QC Batch Method: EPA OIA1677
Analysis Description: Cyanide, Available
Analysis Method: EPA OIA1677

METHOD BLANK: T113291-BLK1

Parameter	Units	Blank Result	Reporting Limit	Notes
Cyanide (Available)	ug/L	<2.0	2.0	

LABORATORY CONTROL SAMPLE: T113291-BS1

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Cyanide (Available)	ug/L	15.0	15.6	104	86-118	

LABORATORY CONTROL SAMPLE: T113291-BS2

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Cyanide (Available)	ug/L	15.0	15.1	101	86-118	

LABORATORY CONTROL SAMPLE: T113291-BS3

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Cyanide (Available)	ug/L	15.0	15.2	101	86-118	

LABORATORY CONTROL SAMPLE: T113291-BS4

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Cyanide (Available)	ug/L	15.0	15.6	104	86-118	

LABORATORY CONTROL SAMPLE: T113291-BS5

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limit	Notes
Cyanide (Available)	ug/L	15.0	15.2	101	86-118	

CERTIFICATE OF ANALYSIS

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

TRACE ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

CHAIN-OF-CUSTODY RECORD

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

Phone 231.773.5998
Fax 888.979.4469
www.trace-labs.com

Page ____ of ____

Trace ID No. 21H0443

Report Results To:

Company Name:	City of Albion
Report To:	Michael Lemke & Jordan Currie
Mailing Address:	1000 Brownsword Rd.
City, State, Zip Code:	Albion, MI 49224
Office Phone: 517-630-1516	Cell Phone:
Email Address:	jcurrie@cityofalbion.com

Bill To:

PO #:	
Contact Name:	Same
Billing Address (if different):	
City, State, Zip Code:	
Phone Number:	
Billing Email Address:	

Turnaround Requirements:

☒ Standard, 5-10 Days
☐ 3 Day*
☐ 1 Day*

*Results provided end of business day, requires prior approval.

Matrix Key:

S = Soil / Solid
W = Water
SL = Sludge
Ol = Oil
WI = Wipes
LW = Liquid Waste
A = Air
D = Drinking Water

Trace Use:

Logged By: BJ
Checked By: BJ
Soil Volatiles Preserved (circle if applicable): MeOH Low Level Lab
Sampling Time:

Project Name: AMR
Sampled By:

Trace No.	Date Collected	Time Collected	Client Sample ID	Metals Field Filtered (Y / N)	Matrix	Number of Containers	Preservation: Cool	HCl	HNO_3	H_2SO_4	NaOH	Other	Analysis Requested	Remarks	Possible Health Hazards?
1			Effluent Composite		W	5	X						Metals, Hardness		
2			Effluent Grabs		W	5	X	X	X				SVOCs, 625.1 ims, 612		
													VOCs		
													Av. CN		
													PFAs Biosolids		
3			North Tank		SL	4	X							* Please	
4			Middle Tank		SL	4	X							Send results to	
5			South Tank		SL	4	X						X	to Jordan	
														Currie as	
													X	well.	

Please Sign	Released By	Received By	Date	Time	Released By	Received By	Date	Time
1)	Cold Storage		9/1/21	1150	2)			
3)					4)			

In executing this Chain of Custody, the client acknowledges the terms as set forth at www.trace-labs.com/terms-of-agreement.

☐ Check this box if you would not like your samples analyzed if received outside of the conditions outlined in the Trace Sample Acceptance Policy at www.trace-labs.com/downloads.

Form 70-Z.1

CERTIFICATE OF ANALYSIS

Trace Analytical Laboratories, Inc.
2241 Black Creek Road
Muskegon, MI 49444-2673

TRACE ANALYTICAL LABORATORIES, INC.

231-773-5998 Phone
888-979-4469 Fax
www.trace-labs.com

21H0443
Albion, City of
Project Manager: Tim Brewer

Sample Log In Checklist

	Original Observation	Corrected Temperature	IR-9 (CF: +0.1°C)	IR-10 (CF: +0.1°C)	20B12743 (CF: -0.3°C)	Temp Blank	Client Sample
Date: 8/11/21							
Time: 1652							
Logged by: BW							
Package Description: Cooler							
Package Temp °C	4.2	4.2		✓			
Representative Sample Temp °C	4.5	4.2				✓	

Sample Receipt

Yes / No

- [x] Received on ice or other coolant
- [x] Ice still present upon receipt
- [ ] Custodies seals present
- [ ] Yes [ ] No Custody seals intact (if applicable)
- [x] Trace Courier [ ] Client Drop-off [ ] UPS [ ] Fed Ex [ ] US Mail [ ] Other

Sample Condition

Yes / No / N/A

- [x] All sample containers arrived unbroken and labeled
- [x] Sufficient sample to run requested analyses
- [x] Correct chemical preservative added to samples
- [ ] Samples preserved at Trace _____
- [x] Chemical preservation verified, check EMD pH test strip used (if applicable)
  - [x] pH 0-2.5 (Lot: HC029115) [ ] pH 11.0-13.0 (Lot: HC022540) [ ] Other
- [x] Air bubbles absent from VOAs _____

Chain of Custody (COC)

Yes / No

- [x] All bottle labels agree with COC
- [x] COC filled out properly
- [x] COC signed by client

Notes:

Form 70-A.39
Effective 7/2/21

TRACE Analytical Laboratories, Inc.