Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

May 24, 2022

Rich Ellman
Full Service Organics Management LLC
3631 County Road C
Oconto Falls, WI 54154

RE: Project: NEWBERRY, MI - PFAS
Pace Project No.: 40243700

Dear Rich Ellman:

Enclosed are the analytical results for sample(s) received by the laboratory on April 20, 2022. 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,

Christopher Hyska

Christopher Hyska
christopher.hyska@pacelabs.com
(920)469-2436
Project Manager

Enclosures

Pace Analytical Services, LLC
1241 Bellevue Street - Suite 9
Green Bay, WI 54302
(920)469-2436

CERTIFICATIONS

Project: NEWBERRY, MI - PFAS
Pace Project No.: 40243700

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 (A2LA) #: R-036
North Dakota Certification (MN) #: 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 SUMMARY

Project: NEWBERRY, MI - PFAS
Pace Project No.: 40243700

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40243700001	**NEWBERRY BIOSOLIDS**	Solid	04/19/22 18:15	04/20/22 14:15

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SAMPLE ANALYTE COUNT

Project: NEWBERRY, MI - PFAS
Pace Project No.: 40243700

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40243700001	**NEWBERRY BIOSOLIDS**	ASTM D2974	JDL	1	PASI-M

PASI-M = Pace Analytical Services - Minneapolis

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ANALYTICAL RESULTS

Project: NEWBERRY, MI - PFAS
Pace Project No.: 40243700

Sample: NEWBERRY BIOSOLIDS **Lab ID: 40243700001** Collected: 04/19/22 18:15 Received: 04/20/22 14:15 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Dry Weight / %M by ASTM D2974	Analytical Method: ASTM D2974 Pace Analytical Services - Minneapolis								
Percent Moisture	**97.9**	%	0.10	0.10	1		04/26/22 12:05		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA

Project: NEWBERRY, MI - PFAS
Pace Project No.: 40243700

QC Batch: 811324
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight / %M by ASTM D2974
Laboratory: Pace Analytical Services - Minneapolis

Associated Lab Samples: 40243700001

SAMPLE DUPLICATE: 4303855

Parameter	Units	10605480002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	15.4	15.6	1	30	N2

SAMPLE DUPLICATE: 4303856

Parameter	Units	10605460010 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.6	14.5	6	30	N2

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALIFIERS

Project: NEWBERRY, MI - PFAS
Pace Project No.: 40243700

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.

ANALYTE QUALIFIERS

N2	The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, LLC
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: NEWBERRY, MI - PFAS
Pace Project No.: 40243700

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40243700001	**NEWBERRY BIOSOLIDS**	ASTM D2974	811324		

UPPER MIDWEST REGION
MN: 612-607-1700 WI: 920-469-2436

COC No. W0243700

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www.pacelabs.com

CHAIN OF CUSTODY

*Preservation Codes
A=None B=HCL C=H2SO4 D=HNO3 E=DI Water F=Methanol G=NaOH
H=Sodium Bisulfate Solution I=Sodium Thiosulfate J=Other

(Please Print Clearly)	
Company Name:	FSO Management
Branch/Location:	-
Project Contact:	Rich Ellman
Phone:	920-373-6704
Project Number:	-
Project Name:	Newberry, MI - PFAS
Project State:	MI
Sampled By (Print):	Rich Ellman
Sampled By (Sign):	
PO #:	-
Regulatory Program:	MI EGLE

Quote #:	N/A
Mail To Contact:	Rich Ellman
Mail To Company:	FSO Management LLC.
Mail To Address:	3631 County Rd C Oconto Falls, WI 54154
Invoice To Contact:	Rich Ellman
Invoice To Company:	FSO Management LLC.
Invoice To Address:	3631 County Rd C Oconto Falls, WI 54154
Invoice To Phone:	920-373-6704

Data Package Options (billable)
- ☐ EPA Level III
- ☐ EPA Level IV

MS/MSD
- ☐ On your sample (billable)
- ☐ NOT needed on your sample

Matrix Codes
A = Air, B = Biota, C = Charcoal, O = Oil, S = Soil, SI = Sludge, W = Water, DW = Drinking Water, GW = Ground Water, SW = Surface Water, WW = Waste Water, WP = Wipe

PACE LAB #	CLIENT FIELD ID	COLLECTION DATE	COLLECTION TIME	MATRIX	FILTERED? (YES/NO) Y/N	PRESERVATION (CODE)* Pick Letter	Analyses Requested: PFAS 537- MI EGLE 28 lis	CLIENT COMMENTS	LAB COMMENTS (Lab Use Only)	Profile # 6784
001	Newberry Biosolids	4-19	6:15p	SL	N	A	X			

Rush Turnaround Time Requested - Prelims
(Rush TAT subject to approval/surcharge)
Date Needed:

Transmit Prelim Rush Results by (complete what you want):

Email #1:	rellman@fsomanagement.com
Email #2:	
Telephone:	
Fax:	

Samples on HOLD are subject to special pricing and release of liability

Relinquished By:	Date/Time:	Received By:	Date/Time:
Rich Ellman	4-20 - 7:15P	Nathan Wenkel	4/20/22 1415

PACE Project No. W0243700

Receipt Temp = 2.8 °C

Sample Receipt pH OK / Adjusted

Cooler Custody Seal Present / (Not Present)

Intact / Not Intact

Version 6.0 06/14/06

C019a(27Jun2006)

Sample Preservation Receipt Form

Client Name: FSO management Project # UD243700

All containers needing preservation have been checked and noted below: ~~4/12/23~~ MS (N/A)

Lab Lot# of pH paper: Lab Std #ID of preservation (if pH adjusted): Initial when completed: Date/ Time:

Pace Lab #	Glass: AG1U	BG1U	AG1H	AG4S	AG4U	AG5U	AG2S	BG3U	Plastic: BP1U	BP3U	BP3B	BP3N	BP3S	Vials: VG9A	DG9T	VG9U	VG9H	VG9M	VG9D	Jars: JGFU	JG9U	WGFU	WPFU	General: SP5T	ZPLC	GN	VOA Vials (>6mm) *	H2SO4 pH ≤2	NaOH+Zn Act pH ≥9	NaOH pH ≥12	HNO3 pH ≤2	pH after adjusted	Volume (mL)
001																										1							2.5 / 5 / 10
002																																	2.5 / 5 / 10
003																																	2.5 / 5 / 10
004																																	2.5 / 5 / 10
005																																	2.5 / 5 / 10
006																																	2.5 / 5 / 10
007																																	2.5 / 5 / 10
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018																																	2.5 / 5 / 10
019																																	2.5 / 5 / 10
020																																	2.5 / 5 / 10

4/12/23 MS

Exceptions to preservation check: VOA, Coliform, TOC, TOX, TOH, O&G, WI DRO, Phenolics, Other: _____ Headspace in VOA Vials (>6mm): ☐Yes ☐No ☒N/A *If yes look in headspace column

AG1U	1 liter amber glass
BG1U	1 liter clear glass
AG1H	1 liter amber glass HCL
AG4S	125 mL amber glass H2SO4
AG4U	120 mL amber glass unpres
AG5U	100 mL amber glass unpres
AG2S	500 mL amber glass H2SO4
BG3U	250 mL clear glass unpres

BP1U	1 liter plastic unpres
BP3U	250 mL plastic unpres
BP3B	250 mL plastic NaOH
BP3N	250 mL plastic HNO3
BP3S	250 mL plastic H2SO4

VG9A	40 mL clear ascorbic
DG9T	40 mL amber Na Thio
VG9U	40 mL clear vial unpres
VG9H	40 mL clear vial HCL
VG9M	40 mL clear vial MeOH
VG9D	40 mL clear vial DI

JGFU	4 oz amber jar unpres
JG9U	9 oz amber jar unpres
WGFU	4 oz clear jar unpres
WPFU	4 oz plastic jar unpres
SP5T	120 mL plastic Na Thiosulfate
ZPLC	ziploc bag
GN	125mL poly unpres

Page 1 of 2

Sample Condition Upon Receipt Form (SCUR)

Client Name: FSO Management Project #:

WO# : 40243700

40243700

Courier: ☐ CS Logistics ☐ Fed Ex ☐ Speedee ☐ UPS ☐ Waltco
☒ Client ☐ Pace Other:

Tracking #:

Custody Seal on Cooler/Box Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other

Thermometer Used SR - 107 **Type of Ice:** (Wet) Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 2.53 Corr: 2.8

Temp Blank Present: ☒ yes ☐ no 4/20/22 aw **Biological Tissue is Frozen:** ☐ yes ☐ no

Person examining contents:
Date: 4/20/22 /Initials: MP
Labeled By Initials: aw

Temp should be above freezing to 6°C.
Biota Samples may be received at ≤ 0°C if shipped on Dry Ice.

Chain of Custody Present:	☒Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☒Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☒Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☒Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☒Yes ☐No	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☐Yes ☒No	6.
Rush Turn Around Time Requested:	☐Yes ☒No	7.
Sufficient Volume: For Analysis: ☒Yes ☐No MS/MSD: ☐Yes ☒No ☐N/A		8.
Correct Containers Used:	☒Yes ☐No	9.
-Pace Containers Used: 4/20/22 aw	☒Yes ☒No ☐N/A	
-Pace IR Containers Used:	☐Yes ☐No ☒N/A	
Containers Intact:	☒Yes ☐No	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☒N/A	11.
Sample Labels match COC: 4/20/22 MP	☒Yes ☒No ☐N/A	12. 001 "600" 4/20/22 MP
-Includes date/time/ID/Analysis Matrix: 5		
Trip Blank Present:	☐Yes ☐No ☒N/A	13.
Trip Blank Custody Seals Present	☐Yes ☐No ☒N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐
Person Contacted: Date/Time:
Comments/ Resolution:

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample login

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, LLC.
1700 Elm Street
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

Report Prepared for:

Christopher Hyska
PACE Wisconsin
1241 Bellevue Street
Green Bay WI 54302

REPORT OF LABORATORY ANALYSIS FOR PFAAs

Report Information:

Pace Project #: 10605592
Sample Receipt Date: 04/22/2022
Client Project #: 40243700 Full Service Organics
Client Sub PO #: N/A
State Cert #: 9909

Invoicing & Reporting Options:

The report provided has been invoiced as a Level 2 PFAA Report. If an upgrade of this report package is requested, an additional charge may be applied.

Please review the attached invoice for accuracy and forward any questions to Scott Unze, your Pace Project Manager.

This report has been reviewed by:

May 24, 2022

Scott Unze, Project Manager
(612) 607-6383
(612) 607-6444 (fax)
scott.unze@pacelabs.com

Report Prepared Date:
May 24, 2022

Report of Laboratory Analysis

DISCUSSION

This report presents the results from the analyses performed on one sample submitted by a representative of PACE Wisconsin. The samples were analyzed for twenty-eight perfluorinated compounds using DOD QSM 5.3. Reporting limits were set to quantification limits.

A laboratory method blank was prepared and analyzed with the sample batch as part of our routine quality control procedures. The results show the blank was free of the target perfluorinated compounds at the reporting limits. This indicates that the sample processing procedures did not significantly contribute to the analyte content determined for the sample material.

A laboratory spike sample was also prepared with the sample batch using clean reference matrix that had been fortified with native standards. The recovery results were within the method limits. This spike indicates that extraction performed as expected. Matrix spikes were prepared with the sample batch using sample material from a separate project; results from that analysis will be provided upon request.

Elevated extracted internal standard (EIS) recovery ("R" flagged) were present in the continue calibration verfication, however, the use of the isotope dilution method generally precludes any adverse impact on those individual native compounds that have a directly associated standard.

Sample has elevated EIS recoveries ("R" flagged) for FTS. While the use of the isotope dilution method generally precludes any adverse impact on those individual native compounds that have a directly associated standard, in the case of the FTS compounds, the recoveries are anomalously high, and are adversely impacted by matrix. The results for these native compounds should be considered estimated.

The four injection internal standards (13C4 PFOA, 13C4 PFOS, 13C2_PFDA, and 13C2_PFHxA) pass for each analysis in the batch verifying that the instrument detector is working as expected.

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Minnesota Laboratory Certifications

Authority	Certificate #	Authority	Certificate #
		Mississippi	MN00064
		Missouri	10100
A2LA	2926.01	Montana	CERT0092
Alabama	40770	Nebraska	NE-OS-18-06
Alaska-DW	MN00064	Nevada	MN00064
Alaska-UST	17-009	New Hampshire	2081
Arizona	AZ0014	New Jersey	MN002
Arkansas - WW	88-0680	New York	11647
Arkansas-DW	MN00064	North Carolina-	27700
California	2929	North Carolina-	530
Colorado	MN00064	North Dakota	R-036
Connecticut	PH-0256	Ohio-DW	41244
Florida	E87605	Ohio-VAP (170	CL101
Georgia	959	Ohio-VAP (180	CL110
Hawaii	MN00064	Oklahoma	9507
Idaho	MN00064	Oregon- rimary	MN300001
Illinois	200011	Oregon-Second	MN200001
Indiana	C-MN-01	Pennsylvania	68-00563
Iowa	368	Puerto Rico	MN00064
Kansas	E-10167	South Carolina	74003
Kentucky-DW	90062	Tennessee	TN02818
Kentucky-WW	90062	Texas	T104704192
Louisiana-DEQ	AI-84596	Utah	MN00064
Louisiana-DW	MN00064	Vermont	VT-027053137
Maine	MN00064	Virginia	460163
Maryland	322	Washington	C486
Michigan	9909	West Virginia-D	382
Minnesota	027-053-137	West Virginia-D	9952C
Minnesota-Ag	via MN 027-053	Wisconsin	999407970
Minnesota-Petr	1240	Wyoming-UST	via A2LA 2926.

REPORT OF LABORATORY ANALYSIS

Appendix A

Sample Management

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Sample ID Cross Reference

Client Sample ID	Pace Sample ID	Date Received	Sample Type
NEWBERRY BIOSOLIDS	40243700001	04/22/2022	Solid

REPORT OF LABORATORY ANALYSIS

Internal Transfer Chain of Custody

[X] Samples Pre-Logged into eCOC.

State Of Origin: MI
Cert. Needed: [X] Yes [ ] No
Owner Received Date: 4/20/2022 **Results Requested By:** 5/12/2022

Pace Analytical® www.pacelabs.com

Workorder: 40243700 **Workorder Name:** NEWBERRY, MI - PFAS

Report To	Subcontract To
Christopher Hyska Pace Analytical Green Bay 1241 Bellevue Street Suite 9 Green Bay, WI 54302 Phone (920)469-2436	Pace Analytical Minnesota 1700 Elm Street SE Suite 200 Minneapolis, MN 55414 Phone (612)607-1700

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Unpreserved						Requested Analysis: MI EGLE (28) PFAS by ID
1	NEWBERRY BIOSOLIDS	PS	4/19/2022 18:15	40243700001	Solid	1						X
2												
3												
4												
5												

WO# : 10605592

10605592

ONLY

Transfers	Released By	Date/Time	Received By	Date/Time
1	John P. Clatt Pace	4.21.22 1600	MW MKE	04/21/22 12:30
2				
3				

Comments: %M in MN

Cooler Temperature on Receipt 1.9, 1.9, 1.6°C | Custody Seal (Y) or N | Received on Ice (Y) or N | Samples Intact (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document. This chain of custody is considered complete as is since this information is available in the owner laboratory.*

PFAS (analyte)	Cas#
9-chlorohexadecafluoro-3-oxanone-1-sulfonic acid (9Cl-PF3ONS)	756426-58-1
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	763051-92-9
1H, 1H, 2H, 2H-perfluorodecane sulfonic acid (8:2 FTS)	39108-34-4
1H, 1H, 2H, 2H-perfluorooctane sulfonic acid (6:2 FTS)	27619-97-2
1H,1H,2H,2H-perfluorohexane sulfonic acid (4:2 FTS)	757124-72-4
Hexafluoropropylene oxide dimer acid (GenX)	13252-13-6
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	919005-14-4
N-ethylperfluoro-1-octanesulfonamidoacetic acid (EtFOSAA)	2991-50-6
N-methylperfluoro-1-octanesulfonamidoacetic acid (MeFOSAA)	2355-31-9
Perfluoro-1-butanesulfonic acid (PFBS)	375-73-5
Perfluoro-1-decanesulfonic acid (PFDS)	335-77-3
Perfluoro-1-heptanesulfonic acid (PFHpS)	375-92-8
Perfluoro-1-nonanesulfonic acid (PFNS)	68259-12-1
Perfluoro-1-octanesulfonamide (PFOSA)	754-91-6
Perfluoro-1-pentanesulfonic acid (PFPeS)	2706-91-4
Perfluorohexanesulfonic acid (PFHxS)	355-46-4
Perfluoro-n-butanoic acid (PFBA)	375-22-4
Perfluoro-n-decanoic acid (PFDA)	335-76-2
Perfluoro-n-dodecanoic acid (PFDoA)	307-55-1
Perfluoro-n-heptanoic acid (PFHpA)	375-85-9
Perfluoro-n-hexanoic acid (PFHxA)	307-24-4
Perfluoro-n-nonanoic acid (PFNA)	375-95-1
Perfluoro-n-octanoic acid (PFOA)	335-67-1
Perfluoro-n-pentanoic acid (PFPeA)	2706-90-3
Perfluoro-n-tetradecanoic acid (PFTeDA)	376-06-7
Perfluoro-n-tridecanoic acid (PFTrDA)	72629-94-8
Perfluoro-n-undecanoic acid (PFUdA)	2058-94-8
Perfluorooctanesulfonic acid (PFOS)	1763-23-1

DC#_Title: ENV-FRM-MIN4-0150 v05_Sample Condition Upon Receipt (SCUR)

Effective Date: 04/12/2022

Sample Condition Upon Receipt

Client Name: Pace Analytical Green Bay

Project #: **WO#: 10605592**

PM: SCU Due Date: 05/13/22

CLIENT: PASI-WI

Courier: ☐Fed Ex ☐UPS ☐USPS ☐Client ☑Pace ☐SpeeDee ☐Commercial

See Exceptions ☐ENV-FRM-MIN 0142

Tracking Number: _____

Custody Seal on Cooler/Box Present? ☑Yes ☐No Seals Intact? ☑Yes ☐No Biological Tissue Frozen? ☐Yes ☐No ☑N/A

Packing Material: ☐Bubble Wrap ☑Bubble Bags ☐None ☑Other: Plastic Bags Temp Blank? ☑Yes ☐No

Thermometer: ☐T1(0461) ☐T2(1336) ☐T3(0459) ☐T4(0254) ☐T5(0489) ☑T6(0235) ☐T7(0042) ☐01339252/1710 ☐122639816 ☐140792808

Type of Ice: ☑Wet ☐Blue ☐None ☐Dry ☐Melted

Did Samples Originate in West Virginia? ☐Yes ☑No Were All Container Temps Taken? ☐Yes ☐No ☑N/A

Temp should be above freezing to 6°C Cooler Temp Read w/temp blank: 4.7, 4.7, 3.6 °C

Correction Factor: True Cooler Temp Corrected w/temp blank: 4.7, 4.7 3.6 °C

Average Corrected Temp (no temp blank only): _____ °C ☐See Exceptions ENV-FRM-MIN4-0142 ☐1 Container

USDA Regulated Soil: (☑N/A, water sample/Other: _____)

Date/Initials of Person Examining Contents: KN 04/22/22

Did 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 maps)? ☐Yes ☐No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐Yes ☐No

If Yes to either question, fill out a Regulated Soil Checklist ENV-FRM-MIN4-0154 and include with SCUR/COC paperwork.

Location (check one): ☐Duluth ☑Minneapolis ☐Virginia

				COMMENTS:
Chain of Custody Present and Filled Out?	☑Yes	☐No		1.
Chain of Custody Relinquished?	☑Yes	☐No		2.
Sampler Name and/or Signature on COC?	☐Yes	☐No	☑N/A	3.
Samples Arrived within Hold Time?	☑Yes	☐No		4. If Fecal: ☐<8 hrs ☐>8hr, <24 hrs, ☐>24 hrs
Short Hold Time Analysis (<72 hr)?	☐Yes	☑No		5. ☐Fecal Coliform ☐HPC ☐Total Coliform/E coli ☐BOD/cBOD ☐Hex Chrome ☐Turbidity ☐Nitrate ☐Nitrite ☐Orthophos ☐Other
Rush Turn Around Time Requested?	☐Yes	☑No		6.
Sufficient Volume?	☑Yes	☐No		7.
Correct Containers Used?	☑Yes	☐No		8.
-Pace Containers Used?	☑Yes	☐No		
Containers Intact?	☑Yes	☐No		9.
Field Filtered Volume Received for Dissolved Tests?	☐Yes	☐No	☑N/A	10. Is sediment visible in the dissolved container? ☐Yes ☐No
Is sufficient information available to reconcile the samples to the COC? Matrix: ☑Water ☐Soil ☐Oil ☐Other-	☑Yes	☐No		11. If no, write ID/ Date/Time on Container Below: ☐See Exception ENV-FRM-MIN4-0142
All containers needing acid/base preservation have been checked?	☐Yes	☐No	☑N/A	12. Sample #
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, <2pH, NaOH >9 Sulfide, NaOH>10 Cyanide)	☐Yes	☐No	☑N/A	☐NaOH ☐HNO_3 ☐H_2SO_4 ☐Zinc Acetate
Exceptions: VOA, Coliform, TOC/DOC Oil and Grease, DRO/8015 (water) and Dioxin/PFAS	☑Yes	☐No	☐N/A	Positive for Res. Chlorine? ☐Yes ☐No pH Paper Lot# ☐See Exception ENV-FRM-MIN4-0142
				Res. Chlorine | 0-6 Roll | 0-6 Strip | 0-14 Strip
Headspace in Methyl Mercury Container?	☐Yes	☐No	☑N/A	
Extra labels present on soil VOA or WIDRO containers?	☐Yes	☐No	☑N/A	13. ☐See Exception ENV-FRM-MIN4-0140
Headspace in VOA Vials (greater than 6mm)?	☐Yes	☐No	☑N/A	
Trip Blank Present?	☐Yes	☐No	☑N/A	14.
Trip Blank Custody Seals Present?	☐Yes	☐No	☑N/A	Pace Trip Blank Lot # (if purchased): _____

CLIENT NOTIFICATION/RESOLUTION

Person Contacted: _____ Date/Time: _____ Field Data Required? ☐Yes ☐No

Comments/Resolution: _____

Project Manager Review: _____ Date: 04/22/22

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e., out of hold, incorrect preservative, out of temp, incorrect containers).

Labeled by: _____

Qualtrax ID: 52742

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40243700001	NEWBERRY BIOSOLIDS	SW3535	33020	PFAS-36	B220519D_00

Pace Analytical Services, LLC
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612- 607-6444

Reporting Flags

A = Reporting Limit based on signal to noise (EDL)

B = Less than 10x higher than method blank level

C = Result obtained from confirmation analysis

D = Result obtained from analysis of diluted sample

E = Exceeds calibration range

I = Interferencepresent

J = Estimated value

L = Suppressive interference, analyte may be biased low

Nn = Value obtained from additional analysis

P = PCDEInterference

R = Recovery outside target range

S = Peak saturated

U = Analyte not detected

V = Result verified by confirmation analysis

X = %D Exceeds limits

Y = Calculated using average of daily RFs

* = SeeDiscussion

REPORT OF LABORATORY ANALYSIS

Appendix B

Sample Analysis Summary

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Sample Analysis Summary

PFAS by Isotope Dilution

Client Sample ID	NEWBERRY BIOSOLIDS	Extraction Date	05/12/2022 09:29
Lab Sample ID	40243700001	Total Amount Extracted	2.25g
Lab File ID	B220519D_005	Percent Moisture	97.9282%
Matrix	Solid	Ical ID	220517A02
Collected	04/19/2022 18:15	CCal File	B220519D_001
Received	04/22/2022 12:30	Ending CCal File	B220519D_007
		Blank File	A220516B_007

Compound	Concentration (ug/Kg)	QL (ug/Kg)	RL (ug/Kg)	MDL (ug/Kg)	Dil.	CAS No.	Qual.	Analyzed
PFBA	ND	11	11	2.5	1	375-22-4		05/20/2022 04:31
PFPeA	ND	11	11	2.8	1	2706-90-3		05/20/2022 04:31
HFPO-DA	ND	11	11	3.2	1	13252-13-6		05/20/2022 04:31
PFBS	ND	9.5	9.5	2.4	1	375-73-5		05/20/2022 04:31
PFHxA	12	11	11	3.2	1	307-24-4		05/20/2022 04:31
4:2 FTS	ND	10	10	3.4	1	757124-72-4		05/20/2022 04:31
PFPeS	ND	10	10	2.0	1	2706-91-4		05/20/2022 04:31
PFHpA	ND	11	11	2.4	1	375-85-9		05/20/2022 04:31
DONA	ND	10	10	4.1	1	919005-14-4		05/20/2022 04:31
PFHxS	ND	9.8	9.8	2.4	1	355-46-4		05/20/2022 04:31
PFOA	ND	11	11	2.4	1	335-67-1		05/20/2022 04:31
6:2 FTS	ND	10	10	3.4	1	27619-97-2		05/20/2022 04:31
PFHpS	ND	10	10	2.7	1	375-92-8		05/20/2022 04:31
PFNA	ND	11	11	3.1	1	375-95-1		05/20/2022 04:31
PFOSAm	ND	11	11	2.5	1	754-91-6		05/20/2022 04:31
PFOS	12	9.9	9.9	3.0	1	1763-23-1		05/20/2022 04:31
PFDA	ND	11	11	2.3	1	335-76-2		05/20/2022 04:31
8:2 FTS	ND	10	10	2.8	1	39108-34-4		05/20/2022 04:31
9-Cl-PF3ON	ND	10	10	1.6	1	756426-58-1		05/20/2022 04:31
PFNS	ND	10	10	1.9	1	68259-12-1		05/20/2022 04:31
PFUnDA	ND	11	11	3.0	1	2058-94-8		05/20/2022 04:31
NMeFOSAA	71	11	11	2.5	1	2355-31-9		05/20/2022 04:31
NEtFOSAA	35	11	11	2.7	1	2991-50-6		05/20/2022 04:31
PFDS	ND	10	10	2.7	1	335-77-3		05/20/2022 04:31
PFDOA	ND	11	11	2.9	1	307-55-1		05/20/2022 04:31
11-Cl-PF3OUdS	ND	10	10	1.7	1	763051-92-9		05/20/2022 04:31
PFTrDA	ND	11	11	2.3	1	72629-94-8		05/20/2022 04:31
PFTDA	ND	11	11	3.5	1	376-06-7		05/20/2022 04:31

Injection Internal Standards

Compound	Known Conc.	Conc. Found	%Recovery	Recovery Limits	Qualifiers	Analyzed
13C2_PFHxA	110	120	112	50-150		05/20/2022 04:31
13C4_PFOA	110	95	88	50-150		05/20/2022 04:31
13C2_PFDA	110	90	83	50-150		05/20/2022 04:31
13C4_PFOS	100	79	77	50-150		05/20/2022 04:31

REPORT OF LABORATORY ANALYSIS

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Sample Analysis Summary

PFAS by Isotope Dilution

Client Sample ID	NEWBERRY BIOSOLIDS	Extraction Date	05/12/2022 09:29
Lab Sample ID	40243700001	Total Amount Extracted	2.25g
Lab File ID	B220519D_005	Percent Moisture	97.9282%
Matrix	Solid	Ical ID	220517A02
Collected	04/19/2022 18:15	CCal File	B220519D_001
Received	04/22/2022 12:30	Ending CCal File	B220519D_007
		Blank File	A220516B_007

Extracted Internal Standards

Compound	Known Conc.	Conc. Found	%Recovery	Recovery Limits	Qualifiers	Analyzed
13C4_PFBA	110	76	70	50-150		05/20/2022 04:31
13C5_PFPeA	110	96	89	50-150		05/20/2022 04:31
13C3_PFBS	100	100	104	50-150		05/20/2022 04:31
13C2_4:2FTS	100	430	**432**	50-150	R	05/20/2022 04:31
13C5_PFHxA	110	110	99	50-150		05/20/2022 04:31
13C4_PFHpA	110	110	102	50-150		05/20/2022 04:31
13C3_PFHxS	100	100	102	50-150		05/20/2022 04:31
13C2_6:2FTS	100	340	**331**	50-150	R	05/20/2022 04:31
13C8_PFOA	110	95	89	50-150		05/20/2022 04:31
13C9_PFNA	110	100	93	50-150		05/20/2022 04:31
13C8_PFOS	100	80	78	50-150		05/20/2022 04:31
13C2_8:2FTS	100	380	**369**	50-150	R	05/20/2022 04:31
13C6_PFDA	110	91	85	50-150		05/20/2022 04:31
d3-MeFOSAA	110	79	73	50-150		05/20/2022 04:31
13C8_PFOSA	110	71	66	50-150		05/20/2022 04:31
d5-EtFOSAA	110	100	97	50-150		05/20/2022 04:31
13C7_PFUdA	110	69	64	50-150		05/20/2022 04:31
13C2_PFDoA	110	59	55	50-150		05/20/2022 04:31
13C2_PFTeDA	110	65	60	50-150		05/20/2022 04:31
13C3_HFPO-DA	110	95	88	50-150		05/20/2022 04:31

Injection Internal Standards

Compound	Ion Abund. Ratio	Reference Ratio	Retention Time	Reference Time	Signal to Noise	Qualifiers	Analyzed
13C2_PFHxA	N/A	N/A	5.79	5.82	14		05/20/2022 04:31
13C4_PFOA	N/A	N/A	7.17	7.15	19		05/20/2022 04:31
13C2_PFDA	N/A	N/A	8.51	8.57	14		05/20/2022 04:31
13C4_PFOS	N/A	N/A	8.91	9.07	36		05/20/2022 04:31

REPORT OF LABORATORY ANALYSIS

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Sample Analysis Summary

PFAS by Isotope Dilution

Client Sample ID	NEWBERRY BIOSOLIDS	Extraction Date	05/12/2022 09:29
Lab Sample ID	40243700001	Total Amount Extracted	2.25g
Lab File ID	B220519D_005	Percent Moisture	97.9282%
Matrix	Solid	Ical ID	220517A02
Collected	04/19/2022 18:15	CCal File	B220519D_001
Received	04/22/2022 12:30	Ending CCal File	B220519D_007
		Blank File	A220516B_007

Extracted Internal Standards

Compound	Ion Abund. Ratio	Reference Ratio	Retention Time	Reference Time	Signal to Noise	Qualifiers	Analyzed
13C4_PFBA	N/A	N/A	4.36	4.40	22		05/20/2022 04:31
13C5_PFPeA	N/A	N/A	5.12	5.16	13		05/20/2022 04:31
13C3_PFBS	N/A	N/A	6.07	6.08	41		05/20/2022 04:31
13C2_4:2FTS	N/A	N/A	5.50	5.55	47	R	05/20/2022 04:31
13C5_PFHxA	N/A	N/A	5.79	5.82	15		05/20/2022 04:31
13C4_PFHpA	N/A	N/A	6.49	6.50	19		05/20/2022 04:31
13C3_PFHxS	N/A	N/A	7.61	7.64	44		05/20/2022 04:31
13C2_6:2FTS	N/A	N/A	6.81	6.79	34	R	05/20/2022 04:31
13C8_PFOA	N/A	N/A	7.17	7.16	17		05/20/2022 04:31
13C9_PFNA	N/A	N/A	7.85	7.83	20		05/20/2022 04:31
13C8_PFOS	N/A	N/A	8.92	9.06	25		05/20/2022 04:31
13C2_8:2FTS	N/A	N/A	8.14	8.14	47	R	05/20/2022 04:31
13C6_PFDA	N/A	N/A	8.52	8.55	67		05/20/2022 04:31
d3-MeFOSAA	N/A	N/A	8.37	8.38	93		05/20/2022 04:31
13C8_PFOSA	N/A	N/A	10.76	10.63	16		05/20/2022 04:31
d5-EtFOSAA	N/A	N/A	8.67	8.69	31		05/20/2022 04:31
13C7_PFUdA	N/A	N/A	9.13	9.27	20		05/20/2022 04:31
13C2_PFDoA	N/A	N/A	9.84	9.98	68		05/20/2022 04:31
13C2_PFTeDA	N/A	N/A	11.35	11.36	15		05/20/2022 04:31
13C3_HFPO-DA	N/A	N/A	6.08	6.11	14		05/20/2022 04:31

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Sample Analysis Summary

PFAS by Isotope Dilution

Client Sample ID	NEWBERRY BIOSOLIDS	Extraction Date	05/12/2022 09:29
Lab Sample ID	40243700001	Total Amount Extracted	2.25g
Lab File ID	B220519D_005	Percent Moisture	97.9282%
Matrix	Solid	Ical ID	220517A02
Collected	04/19/2022 18:15	CCal File	B220519D_001
Received	04/22/2022 12:30	Ending CCal File	B220519D_007
		Blank File	A220516B_007

Native Analytes

Compound	Ion Abund. Ratio	Reference Ratio	Retention Time	Reference Time	Signal to Noise	Qualifiers	Analyzed
PFBA	N/A	N/A	4.45	4.42	ND		05/20/2022 04:31
PFPeA	N/A	N/A	5.13	5.18	ND		05/20/2022 04:31
HFPO-DA	0.00	0.25	0.00	6.11	ND		05/20/2022 04:31
PFBS	0.02	0.41	6.03	6.11	ND		05/20/2022 04:31
PFHxA	0.08	0.08	5.80	5.84	13		05/20/2022 04:31
4:2 FTS	0.00	0.80	0.00	5.56	ND		05/20/2022 04:31
PFPeS	0.00	0.37	0.00	6.89	ND		05/20/2022 04:31
PFHpA	0.31	0.30	6.50	6.49	ND		05/20/2022 04:31
DONA	0.63	0.62	6.74	6.76	ND		05/20/2022 04:31
PFHxS	0.12	0.35	7.63	7.63	ND		05/20/2022 04:31
PFOA	0.54	0.37	7.18	7.08	ND		05/20/2022 04:31
6:2 FTS	1.00	0.84	6.82	6.83	ND		05/20/2022 04:31
PFHpS	0.00	0.41	0.00	8.28	ND		05/20/2022 04:31
PFNA	0.13	0.13	7.86	7.87	ND		05/20/2022 04:31
PFOSAm	N/A	N/A	10.76	10.76	ND		05/20/2022 04:31
PFOS	0.32	0.37	8.92	9.11	15		05/20/2022 04:31
PFDA	0.20	0.20	8.52	8.60	ND		05/20/2022 04:31
8:2 FTS	0.86	0.89	8.14	8.19	ND		05/20/2022 04:31
9-Cl-PF3ON	0.00	0.05	0.00	9.64	ND		05/20/2022 04:31
PFNS	0.00	0.53	0.00	9.83	ND		05/20/2022 04:31
PFUnDA	0.14	0.14	9.14	9.31	ND		05/20/2022 04:31
NMeFOSAA	0.78	0.83	8.38	8.42	87		05/20/2022 04:31
NEtFOSAA	0.63	0.60	8.68	8.74	45		05/20/2022 04:31
PFDS	0.46	0.36	10.33	10.33	ND		05/20/2022 04:31
PFDOA	0.18	0.18	9.84	10.02	ND		05/20/2022 04:31
11-Cl-PF3OUdS	0.00	0.02	0.00	11.06	ND		05/20/2022 04:31
PFTrDA	0.15	0.17	10.63	10.75	ND		05/20/2022 04:31
PFTDA	0.25	0.25	11.35	11.43	ND		05/20/2022 04:31

REPORT OF LABORATORY ANALYSIS

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Method Blank Analysis Summary

PFAS by Isotope Dilution

Client Sample ID	BLKSM	Extraction Date	05/12/2022 09:29
Lab Sample ID	BLANK-98541	Total Amount Extracted	5.06g
Lab File ID	A220516B_007	Percent Moisture	100%
Matrix	Soil	Ical ID	220510A03
Collected	05/03/2022 10:36	CCal File	A220516B_005
Received	05/03/2022 10:36	Ending CCal File	A220516B_017
		Blank File	

Compound	Concentration (ug/Kg)	QL (ug/Kg)	RL (ug/Kg)	MDL (ug/Kg)	Dil.	CAS No.	Qual.	Analyzed
PFBA	ND	0.09	0.09	0.02	1	375-22-4		05/16/2022 14:33
PFPeA	ND	0.09	0.09	0.02	1	2706-90-3		05/16/2022 14:33
HFPO-DA	ND	0.09	0.09	0.02	1	13252-13-6		05/16/2022 14:33
PFBS	ND	0.08	0.08	0.02	1	375-73-5		05/16/2022 14:33
PFHxA	ND	0.09	0.09	0.03	1	307-24-4		05/16/2022 14:33
4:2 FTS	ND	0.09	0.09	0.03	1	757124-72-4		05/16/2022 14:33
PFPeS	ND	0.09	0.09	0.01	1	2706-91-4		05/16/2022 14:33
PFHpA	ND	0.09	0.09	0.02	1	375-85-9		05/16/2022 14:33
DONA	ND	0.09	0.09	0.03	1	919005-14-4		05/16/2022 14:33
PFHxS	ND	0.09	0.09	0.02	1	355-46-4		05/16/2022 14:33
PFOA	ND	0.09	0.09	0.02	1	335-67-1		05/16/2022 14:33
6:2 FTS	ND	0.09	0.09	0.03	1	27619-97-2		05/16/2022 14:33
PFHpS	ND	0.09	0.09	0.02	1	375-92-8		05/16/2022 14:33
PFNA	ND	0.09	0.09	0.02	1	375-95-1		05/16/2022 14:33
PFOSAm	ND	0.09	0.09	0.02	1	754-91-6		05/16/2022 14:33
PFOS	ND	0.09	0.09	0.02	1	1763-23-1		05/16/2022 14:33
PFDA	ND	0.09	0.09	0.02	1	335-76-2		05/16/2022 14:33
8:2 FTS	ND	0.09	0.09	0.02	1	39108-34-4		05/16/2022 14:33
9-Cl-PF3ON	ND	0.09	0.09	0.01	1	756426-58-1		05/16/2022 14:33
PFNS	ND	0.09	0.09	0.01	1	68259-12-1		05/16/2022 14:33
PFUnDA	ND	0.09	0.09	0.02	1	2058-94-8		05/16/2022 14:33
NMeFOSAA	ND	0.09	0.09	0.02	1	2355-31-9		05/16/2022 14:33
NEtFOSAA	ND	0.09	0.09	0.02	1	2991-50-6		05/16/2022 14:33
PFDS	ND	0.09	0.09	0.02	1	335-77-3		05/16/2022 14:33
PFDOA	ND	0.09	0.09	0.02	1	307-55-1		05/16/2022 14:33
11-Cl-PF3OUdS	ND	0.09	0.09	0.01	1	763051-92-9		05/16/2022 14:33
PFTrDA	ND	0.09	0.09	0.02	1	72629-94-8		05/16/2022 14:33
PFTDA	ND	0.09	0.09	0.03	1	376-06-7		05/16/2022 14:33

Injection Internal Standards

Compound	Known Conc.	Conc. Found	%Recovery	Recovery Limits	Qualifiers	Analyzed
13C2_PFHxA	0.99	0.92	93	50-150		05/16/2022 14:33
13C4_PFOA	0.99	0.92	93	50-150		05/16/2022 14:33
13C2_PFDA	0.99	0.95	96	50-150		05/16/2022 14:33
13C4_PFOS	0.95	0.93	98	50-150		05/16/2022 14:33

REPORT OF LABORATORY ANALYSIS

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Method Blank Analysis Summary

PFAS by Isotope Dilution

Client Sample ID	BLKSM	Extraction Date	05/12/2022 09:29
Lab Sample ID	BLANK-98541	Total Amount Extracted	5.06g
Lab File ID	A220516B_007	Percent Moisture	100%
Matrix	Soil	Ical ID	220510A03
Collected	05/03/2022 10:36	CCal File	A220516B_005
Received	05/03/2022 10:36	Ending CCal File	A220516B_017
		Blank File	

Extracted Internal Standards

Compound	Known Conc.	Conc. Found	%Recovery	Recovery Limits	Qualifiers	Analyzed
13C4_PFBA	0.99	0.83	84	50-150		05/16/2022 14:33
13C5_PFPeA	0.99	0.83	84	50-150		05/16/2022 14:33
13C3_PFBS	0.92	0.80	87	50-150		05/16/2022 14:33
13C2_4:2FTS	0.92	0.79	85	50-150		05/16/2022 14:33
13C5_PFHxA	0.99	0.83	84	50-150		05/16/2022 14:33
13C4_PFHpA	0.99	0.85	86	50-150		05/16/2022 14:33
13C3_PFHxS	0.94	0.81	86	50-150		05/16/2022 14:33
13C2_6:2FTS	0.94	0.88	94	50-150		05/16/2022 14:33
13C8_PFOA	0.99	0.86	87	50-150		05/16/2022 14:33
13C9_PFNA	0.99	0.83	84	50-150		05/16/2022 14:33
13C8_PFOS	0.95	0.79	84	50-150		05/16/2022 14:33
13C2_8:2FTS	0.95	0.86	91	50-150		05/16/2022 14:33
13C6_PFDA	0.99	0.89	90	50-150		05/16/2022 14:33
d3-MeFOSAA	0.99	0.87	88	50-150		05/16/2022 14:33
13C8_PFOSA	0.99	0.86	87	50-150		05/16/2022 14:33
d5-EtFOSAA	0.99	0.86	87	50-150		05/16/2022 14:33
13C7_PFUdA	0.99	0.87	88	50-150		05/16/2022 14:33
13C2_PFDoA	0.99	0.93	94	50-150		05/16/2022 14:33
13C2_PFTeDA	0.99	0.86	87	50-150		05/16/2022 14:33
13C3_HFPO-DA	0.99	0.86	87	50-150		05/16/2022 14:33

Injection Internal Standards

Compound	Ion Abund. Ratio	Reference Ratio	Retention Time	Reference Time	Signal to Noise	Qualifiers	Analyzed
13C2_PFHxA	N/A	N/A	4.95	4.94	32		05/16/2022 14:33
13C4_PFOA	N/A	N/A	5.92	5.92	42		05/16/2022 14:33
13C2_PFDA	N/A	N/A	6.79	6.79	84		05/16/2022 14:33
13C4_PFOS	N/A	N/A	7.08	7.06	20		05/16/2022 14:33

REPORT OF LABORATORY ANALYSIS

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Method Blank Analysis Summary

PFAS by Isotope Dilution

Client Sample ID	BLKSM	Extraction Date	05/12/2022 09:29
Lab Sample ID	BLANK-98541	Total Amount Extracted	5.06g
Lab File ID	A220516B_007	Percent Moisture	100%
Matrix	Soil	Ical ID	220510A03
Collected	05/03/2022 10:36	CCal File	A220516B_005
Received	05/03/2022 10:36	Ending CCal File	A220516B_017
		Blank File	

Extracted Internal Standards

Compound	Ion Abund. Ratio	Reference Ratio	Retention Time	Reference Time	Signal to Noise	Qualifiers	Analyzed
13C4_PFBA	N/A	N/A	3.49	3.48	61		05/16/2022 14:33
13C5_PFPeA	N/A	N/A	4.35	4.33	33		05/16/2022 14:33
13C3_PFBS	N/A	N/A	5.11	5.10	29		05/16/2022 14:33
13C2_4:2FTS	N/A	N/A	4.74	4.71	78		05/16/2022 14:33
13C5_PFHxA	N/A	N/A	4.95	4.93	36		05/16/2022 14:33
13C4_PFHpA	N/A	N/A	5.46	5.43	25		05/16/2022 14:33
13C3_PFHxS	N/A	N/A	6.18	6.15	29		05/16/2022 14:33
13C2_6:2FTS	N/A	N/A	5.69	5.66	13		05/16/2022 14:33
13C8_PFOA	N/A	N/A	5.92	5.89	83		05/16/2022 14:33
13C9_PFNA	N/A	N/A	6.36	6.33	46		05/16/2022 14:33
13C8_PFOS	N/A	N/A	7.08	7.06	35		05/16/2022 14:33
13C2_8:2FTS	N/A	N/A	6.56	6.52	59		05/16/2022 14:33
13C6_PFDA	N/A	N/A	6.80	6.76	77		05/16/2022 14:33
d3-MeFOSAA	N/A	N/A	6.75	6.72	31		05/16/2022 14:33
13C8_PFOSA	N/A	N/A	8.63	8.62	28		05/16/2022 14:33
d5-EtFOSAA	N/A	N/A	6.95	6.92	99		05/16/2022 14:33
13C7_PFUdA	N/A	N/A	7.22	7.19	47		05/16/2022 14:33
13C2_PFDoA	N/A	N/A	7.64	7.62	32		05/16/2022 14:33
13C2_PFTeDA	N/A	N/A	8.48	8.47	31		05/16/2022 14:33
13C3_HFPO-DA	N/A	N/A	5.16	5.14	25		05/16/2022 14:33

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Method Blank Analysis Summary

PFAS by Isotope Dilution

Client Sample ID	BLKSM	Extraction Date	05/12/2022 09:29
Lab Sample ID	BLANK-98541	Total Amount Extracted	5.06g
Lab File ID	A220516B_007	Percent Moisture	100%
Matrix	Soil	Ical ID	220510A03
Collected	05/03/2022 10:36	CCal File	A220516B_005
Received	05/03/2022 10:36	Ending CCal File	A220516B_017
		Blank File	

Native Analytes

Compound	Ion Abund. Ratio	Reference Ratio	Retention Time	Reference Time	Signal to Noise	Qualifiers	Analyzed
PFBA	N/A	N/A	0.00	3.50	ND		05/16/2022 14:33
PFPeA	N/A	N/A	0.00	4.36	ND		05/16/2022 14:33
HFPO-DA	0.00	0.46	0.00	5.17	ND		05/16/2022 14:33
PFBS	0.00	0.32	0.00	5.12	ND		05/16/2022 14:33
PFHxA	0.00	0.05	0.00	4.95	ND		05/16/2022 14:33
4:2 FTS	0.00	0.56	0.00	4.73	ND		05/16/2022 14:33
PFPeS	0.00	0.30	0.00	5.69	ND		05/16/2022 14:33
PFHpA	0.00	0.29	0.00	5.45	ND		05/16/2022 14:33
DONA	0.00	0.47	0.00	5.62	ND		05/16/2022 14:33
PFHxS	0.00	0.26	0.00	6.19	ND		05/16/2022 14:33
PFOA	0.00	0.36	0.00	5.92	ND		05/16/2022 14:33
6:2 FTS	0.00	0.51	0.00	5.69	ND		05/16/2022 14:33
PFHpS	0.00	0.24	0.00	6.64	ND		05/16/2022 14:33
PFNA	0.00	0.20	0.00	6.36	ND		05/16/2022 14:33
PFOSAm	N/A	N/A	8.63	8.64	ND		05/16/2022 14:33
PFOS	0.00	0.20	0.00	7.09	ND		05/16/2022 14:33
PFDA	0.00	0.07	0.00	6.79	ND		05/16/2022 14:33
8:2 FTS	0.00	0.64	0.00	6.55	ND		05/16/2022 14:33
9-Cl-PF3ON	0.00	0.02	0.00	7.40	ND		05/16/2022 14:33
PFNS	0.00	0.24	0.00	7.52	ND		05/16/2022 14:33
PFUnDA	0.00	0.08	0.00	7.22	ND		05/16/2022 14:33
NMeFOSAA	0.00	0.56	0.00	6.75	ND		05/16/2022 14:33
NEtFOSAA	0.00	0.67	0.00	6.96	ND		05/16/2022 14:33
PFDS	0.00	0.24	0.00	7.93	ND		05/16/2022 14:33
PFDOA	0.00	0.12	0.00	7.65	ND		05/16/2022 14:33
11-Cl-PF3OUdS	0.00	0.01	0.00	8.24	ND		05/16/2022 14:33
PFTrDA	0.00	0.15	0.00	8.07	ND		05/16/2022 14:33
PFTDA	0.00	0.14	0.00	8.51	ND		05/16/2022 14:33

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LCS Analysis Summary

PFAS by Isotope Dilution

Lab Sample ID	LCS-98542	Instrument ID	10LCMS02
Run File Name	B220517B_005	Column ID	125GA90033
Analyzed	05/17/2022 20:20	Ical ID	220517A02
Injected By	QL	Level	L

Injection Internal Standards

Compound	Known Conc.	Conc. Found	%Recovery	Recovery Limits	Qualifiers
13C2_PFHxA	0.99	1.1	107	50-150	
13C4_PFOA	0.99	0.99	100	50-150	
13C2_PFDA	0.99	1.0	106	50-150	
13C4_PFOS	0.95	1.1	114	50-150	

Extracted Internal Standards

Compound	Known Conc.	Conc. Found	%Recovery	Recovery Limits	Qualifiers
13C4_PFBA	0.99	0.97	97	50-150	
13C5_PFPeA	0.99	0.98	98	50-150	
13C3_PFBS	0.92	0.85	92	50-150	
13C2_4:2FTS	0.93	0.84	91	50-150	
13C5_PFHxA	0.99	0.97	98	50-150	
13C4_PFHpA	0.99	0.97	98	50-150	
13C3_PFHxS	0.94	0.85	90	50-150	
13C2_6:2FTS	0.94	1.00	106	50-150	
13C8_PFOA	0.99	0.96	97	50-150	
13C9_PFNA	0.99	1.0	102	50-150	
13C8_PFOS	0.95	0.97	103	50-150	
13C2_8:2FTS	0.95	1.1	116	50-150	
13C6_PFDA	0.99	0.93	93	50-150	
d3-MeFOSAA	0.99	1.0	101	50-150	
13C8_PFOSA	0.99	0.95	95	50-150	
d5-EtFOSAA	0.99	0.88	88	50-150	
13C7_PFUdA	0.99	1.0	106	50-150	
13C2_PFDoA	0.99	0.99	100	50-150	
13C2_PFTeDA	0.99	0.95	96	50-150	
13C3_HFPO-DA	0.99	0.94	95	50-150	

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LCS Analysis Summary

PFAS by Isotope Dilution

Lab Sample ID	LCS-98542	Instrument ID	10LCMS02
Run File Name	B220517B_005	Column ID	125GA90033
Analyzed	05/17/2022 20:20	Ical ID	220517A02
Injected By	QL	Level	L

Native Analytes

Compound	Known Conc.	Conc. Found	%Recovery	Recovery Limits	Qualifiers	CAS No.
PFBA	0.20	0.21	105	71-135		375-22-4
PFPeA	0.20	0.20	102	69-132		2706-90-3
HFPO-DA	0.20	0.21	103	70-140		13252-13-6
PFBS	0.18	0.18	101	72-128		375-73-5
PFHxA	0.20	0.20	100	70-132		307-24-4
4:2 FTS	0.19	0.18	99	62-145		757124-72-4
PFPeS	0.19	0.20	106	73-123		2706-91-4
PFHpA	0.20	0.20	101	71-131		375-85-9
DONA	0.19	0.20	109	70-140		919005-14-4
PFHxS	0.18	0.18	100	67-130		355-46-4
PFOA	0.20	0.21	106	69-133		335-67-1
6:2 FTS	0.19	0.19	102	64-140		27619-97-2
PFHpS	0.19	0.18	93	70-132		375-92-8
PFNA	0.20	0.20	102	72-129		375-95-1
PFOSAm	0.20	0.20	100	67-137		754-91-6
PFOS	0.18	0.18	96	68-136		1763-23-1
PFDA	0.20	0.21	106	69-133		335-76-2
8:2 FTS	0.19	0.19	97	65-137		39108-34-4
9-Cl-PF3ON	0.18	0.18	97	70-140		756426-58-1
PFNS	0.19	0.19	100	69-125		68259-12-1
PFUnDA	0.20	0.21	104	64-136		2058-94-8
NMeFOSAA	0.20	0.22	110	63-144		2355-31-9
NEtFOSAA	0.20	0.22	113	61-139		2991-50-6
PFDS	0.19	0.17	91	59-134		335-77-3
PFDOA	0.20	0.21	105	69-135		307-55-1
11-Cl-PF3OUdS	0.19	0.18	97	70-140		763051-92-9
PFTrDA	0.20	0.20	99	66-139		72629-94-8
PFTDA	0.20	0.21	105	69-133		376-06-7

Injection Internal Standards

Compound	Ion Abund. Ratio	Reference Ratio	Retention Time	Reference Time	Qualifiers
13C2_PFHxA	N/A	N/A	5.80	5.82	
13C4_PFOA	N/A	N/A	7.18	7.15	
13C2_PFDA	N/A	N/A	8.59	8.57	
13C4_PFOS	N/A	N/A	9.11	9.07	

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LCS Analysis Summary

PFAS by Isotope Dilution

Lab Sample ID	LCS-98542	Instrument ID	10LCMS02
Run File Name	B220517B_005	Column ID	125GA90033
Analyzed	05/17/2022 20:20	Ical ID	220517A02
Injected By	QL	Level	L

Extracted Internal Standards

Compound	Ion Abund. Ratio	Reference Ratio	Retention Time	Reference Time	Qualifiers
13C4_PFBA	N/A	N/A	4.39	4.40	
13C5_PFPeA	N/A	N/A	5.15	5.16	
13C3_PFBS	N/A	N/A	6.08	6.08	
13C2_4:2FTS	N/A	N/A	5.52	5.55	
13C5_PFHxA	N/A	N/A	5.80	5.82	
13C4_PFHpA	N/A	N/A	6.49	6.50	
13C3_PFHxS	N/A	N/A	7.64	7.64	
13C2_6:2FTS	N/A	N/A	6.82	6.79	
13C8_PFOA	N/A	N/A	7.18	7.16	
13C9_PFNA	N/A	N/A	7.88	7.83	
13C8_PFOS	N/A	N/A	9.11	9.06	
13C2_8:2FTS	N/A	N/A	8.18	8.14	
13C6_PFDA	N/A	N/A	8.59	8.55	
d3-MeFOSAA	N/A	N/A	8.43	8.38	
13C8_PFOSA	N/A	N/A	10.75	10.63	
d5-EtFOSAA	N/A	N/A	8.74	8.69	
13C7_PFUdA	N/A	N/A	9.30	9.27	
13C2_PFDoA	N/A	N/A	10.01	9.98	
13C2_PFTeDA	N/A	N/A	11.38	11.36	
13C3_HFPO-DA	N/A	N/A	6.09	6.11	

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LCS Analysis Summary

PFAS by Isotope Dilution

Lab Sample ID	LCS-98542	Instrument ID	10LCMS02
Run File Name	B220517B_005	Column ID	125GA90033
Analyzed	05/17/2022 20:20	Ical ID	220517A02
Injected By	QL	Level	L

Native Analytes

Compound	Ion Abund. Ratio	Reference Ratio	Retention Time	Reference Time	Qualifiers
PFBA	N/A	N/A	4.40	4.42	
PFPeA	N/A	N/A	5.15	5.18	
HFPO-DA	0.27	0.29	6.10	6.11	
PFBS	0.38	0.41	6.09	6.11	
PFHxA	0.08	0.08	5.81	5.84	
4:2 FTS	0.90	0.84	5.52	5.56	
PFPeS	0.40	0.39	6.89	6.89	
PFHpA	0.28	0.31	6.50	6.49	
DONA	0.57	0.56	6.75	6.76	
PFHxS	0.36	0.30	7.64	7.42	
PFOA	0.38	0.38	7.19	7.08	
6:2 FTS	0.82	0.77	6.82	6.83	
PFHpS	0.40	0.38	8.39	8.37	
PFNA	0.13	0.13	7.89	7.87	
PFOSAm	N/A	N/A	10.76	10.76	
PFOS	0.38	0.39	9.12	9.11	
PFDA	0.18	0.17	8.60	8.60	
8:2 FTS	0.83	0.82	8.18	8.19	
9-Cl-PF3ON	0.05	0.06	9.64	9.64	
PFNS	0.50	0.54	9.83	9.83	
PFUnDA	0.12	0.12	9.31	9.31	
NMeFOSAA	0.77	0.78	8.44	8.42	
NEtFOSAA	0.59	0.68	8.76	8.74	
PFDS	0.38	0.37	10.53	10.53	
PFDOA	0.17	0.18	10.02	10.02	
11-Cl-PF3OUdS	0.02	0.02	11.03	11.06	
PFTrDA	0.16	0.14	10.72	10.75	
PFTDA	0.24	0.24	11.39	11.43	

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