



Northern Lake Service, Inc • 400 N Lake Ave • Crandon, WI 54520
800-278-1254 • www.nlslab.com

March 27, 2023

Mark Pauli
Wisconsin Department of Natural Resources
101 S Webster St
Madison, WI 53707

Project: 2023 Drinking Water Testing - Starks Expanded Area
Project Number: PFAS Private Wells
Work Order: CB02221
Received: 03/08/23

Enclosed are the results of analyses for samples received by our laboratory on 3/8/2023. If you have any questions concerning this report, please feel free to contact a client service representative at clientservices@nlslab.com.

Sincerely,

A handwritten signature in black ink that reads "Tom Priebe".

Tom Priebe For Client Services
Northern Lake Service, Inc.



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Sample Summary

Descriptions of all qualifiers listed throughout this report can be found on the Qualifiers and Definitions Page.

Lab ID	Sample	Matrix	Sample Type	Qualifiers	Date Sampled	Date Received
CB02221-01	QA076	DW			3/8/23 9:20	3/8/23 16:50

Analysis Qualifiers:

LabNumber	Analysis	Qualifier
CB02221-01RE1	537.1 Perfluorinated Chemicals by LC/MS/MS	FBNA

Cancelled Tests:

LabNumber	SampleName	Analysis	Cancelled	Initials
CB02221-02	Field Blank	Perfluorinated Chemicals by EPA Method 537.1 FB	3/23/23 13:16	CSC



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Sample Results

Sample: QA076

CB02221-01 (DW) Sampled: 03/08/23 09:20

Analyte	Result	Qualifier	Dilution	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles												
11-chloroicosafafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1	0.31	1.0		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1	0.34	1.1		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		1	0.37	1.2		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		1	0.41	1.4		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1	0.47	1.6		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1	0.40	1.3		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluorobutanesulfonic acid (PFBS)	ND		1	0.30	1.0		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluorodecanoic acid (PFDA)	ND		1	0.33	1.1		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluorododecanoic acid (PFDoA)	ND		1	0.23	0.77		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluoroheptanoic acid (PFHpA)	ND		1	0.44	1.5		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanoic acid (PFHxA)	ND		1	0.47	1.6		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanesulfonic acid (PFHxS)	ND		1	0.34	1.1		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluorononanoic acid (PFNA)	ND		1	0.46	1.5		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanoic acid (PFOA)	ND		1	0.49	1.6		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanesulfonic acid (PFOS)	ND		1	0.31	1.0		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluorotetradecanoic acid (PFTA)	ND		1	0.34	1.1		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluorotridecanoic acid (PFTrDA)	ND		1	0.43	1.4		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
perfluoroundecanoic acid (PFUnA)	ND		1	0.30	1.0		ng/L	3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURRE) C13-PFHxA	104%			Limits: 70-130%				3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURRE) C13-HFPODA	97%			Limits: 70-130%				3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURRE) C13-PFDA	96%			Limits: 70-130%				3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURRE) d5-NEtFOSAA	84%			Limits: 70-130%				3/20/23 6:51	3/22/23 17:40	RAW	EPA 537.1, Rev 2.0	2



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List of Certifications

Code	Description	Number	Expires
2	NLS (Crandon) WDNR Laboratory ID No.	721026460	8/31/23



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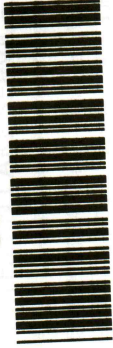
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Qualifiers and Definitions

Item	Definition
FBNA	The field sample had no detects, therefore the corresponding trip blank/field reagent blank was not analyzed.
ND	Analyte NOT DETECTED at or above the LOD or MRL.
LOD	Limit of Detection.
LOQ	Limit of Quantitation.
NA	Not Applicable.
Dry	Dry Weight Basis.
Wet	Wet Weight Basis.
% Dry	Equal to: (mg/kg dry) / 10000.
1000 ug/L	Equal to: 1 mg/L.
MCL	Maximum Contaminant Levels for Drinking Water Samples. Shaded results indicate >MCL.
RPD	Relative Percent Difference.
%REC	Percent Recovery.
Source	Sample that was matrix spiked or duplicated.

All LOD/LOQs adjusted to reflect preparation volumes, dilutions, and/or solids content.

CB02221



SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

Wisconsin Lab Cert. No. 721026460
WI DATCP 105-000330

CLIENT: **WISCONSIN DNR-DRINKING AND GROUNDWATER**
 ADDRESS: **PO Box 7921, D615**
 CITY: **MADISON** STATE: **WI** ZIP: **53707**
 PROJECT DESCRIPTION / NO.: **PAS PRIVATE WELLS** QUOTATION NO.
 DNR FID # _____ DNR LICENSE # _____
 CONTACT: **MARK PAULI** PHONE: **715-499-0612**
 PURCHASE ORDER NO. **000022899** FAX _____

MATRIX:
 SW = surface water
 WW = waste water
 GW = groundwater
 DW = drinking water
 TIS = tissue
 AIR = air
 SOIL = soil
 SED = sediment
 PROD = product
 SL = sludge
 OTHER _____

US _____

Indicate G or C if WW Sample is Grab or Composite.

ANALYZE PER ORDER OF ANALYSIS

ITEM NO.	ANIS LAB NO.	SAMPLE ID	DATE	TIME	MATRIX (See above)	COLLECTION REMARKS (ie. DNR Well ID #)
1.		0A076	3/8/23	9:20	GW	(2) samples (1) B
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

COLLECTED BY (signature) *William Roberts* CUSTODY SEAL NO. (IF ANY) **3-8-23** DATE/TIME **9:20**

RELINQUISHED BY (signature) *William Roberts* RECEIVED BY (signature) _____ DATE/TIME **16:50**

DISPATCHED BY (signature) _____ METHOD OF TRANSPORT _____ DATE/TIME _____

RECEIVED AT (signature) *William Roberts* DATE/TIME **3/8/23 16:50** TEMP **0.4**

COOLER # _____

PRESERVATIVE:
 N = nitric acid
 NP = no preservative
 S = sulfuric acid
 OH = sodium hydroxide
 Z = zinc acetate
 M = methanol
 HA = hydrochloric & ascorbic acid
 H = hydrochloric acid

REMARKS & OTHER INFORMATION

WDNR FACILITY NUMBER _____ E-MAIL ADDRESS _____

IMPORTANT!

1. TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE COOLER CONTAINING THE SAMPLES DESCRIBED.
 2. PLEASE USE ONE LINE PER SAMPLE, NOT PER BOTTLE.
 3. RETURN THIS FORM WITH SAMPLES - CLIENT MAY KEEP PINK COPY.
 4. PARTIES COLLECTING SAMPLE, LISTED AS REPORT TO AND LISTED AS INVOICED TO AGREE TO STANDARD TERMS & CONDITIONS ON REVERSE.

REPORT TO _____

INVOICE TO _____