



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

March 17, 2023

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

RE: 2023 Drinking Water Testing - Starks Expanded Area
Work Order: CB02225
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.



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
Project Manager: Mark Pauli

Reported:
3/17/23 12:50

Work Order:
CB02225

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
CB02225-01	QA078	DW			3/8/23 12:45	3/8/23 16:50

Analysis Qualifiers:

LabNumber	Analysis	Qualifier
CB02225-01	537.1 Perfluorinated Chemicals by LC/MS/MS	FBNA

Cancelled Tests:

LabNumber	SampleName	Analysis	Cancelled	Initials
CB02225-02	Field Blank	Perfluorinated Chemicals by EPA Method 537.1 FB	3/15/23 16:02	CSC



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Sample Results

Sample: QA078

CB02225-01 (DW) Sampled: 03/08/23 12:45

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	0.30	0.96		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1	0.33	1.1		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		1	0.36	1.2		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		1	0.39	1.3		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1	0.45	1.5		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1	0.38	1.2		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluorobutanesulfonic acid (PFBS)	ND		1	0.29	0.96		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluorodecanoic acid (PFDA)	ND		1	0.32	1.1		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluorododecanoic acid (PFDoA)	ND		1	0.22	0.74		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluoroheptanoic acid (PFHpA)	ND		1	0.42	1.4		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanoic acid (PFHxA)	ND		1	0.45	1.5		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanesulfonic acid (PFHxS)	ND		1	0.33	1.1		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluorononanoic acid (PFNA)	ND		1	0.44	1.4		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanoic acid (PFOA)	ND		1	0.47	1.5		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanesulfonic acid (PFOS)	ND		1	0.30	0.96		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluorotetradecanoic acid (PFTA)	ND		1	0.33	1.1		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluorotridecanoic acid (PFTrDA)	ND		1	0.41	1.3		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
perfluoroundecanoic acid (PFUnA)	ND		1	0.29	0.96		ng/L	3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFHxA	97%			Limits: 70-130%				3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-HFPODA	100%			Limits: 70-130%				3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFDA	99%			Limits: 70-130%				3/13/23 7:26	3/14/23 18:35	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) d5-NEtFOSAA	87%			Limits: 70-130%				3/13/23 7:26	3/14/23 18:35	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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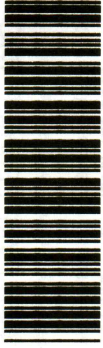
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Qualifiers and Definitions

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.

CB02225



NO
Analy
400 N
Tel: C

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

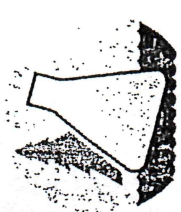
Wisconsin Lab Cert. No. 721026460
WI DATCP 105-000330

CLIENT WISCONSIN DNR-DRINKING AND GROUNDWATER	ZIP 53707
ADDRESS PO BOX 7921, D615	STATE WI
CITY MADISON	PROJECT DESCRIPTION / NO. PHAS PRIVATE WELLS
QUOTATION NO.	DNR LICENSE #
CONTACT MARK PAULI	PHONE 765-499-0612
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

USE BOXES BELOW: Indicate Y or N if GW Sample is field filtered.
Indicate G or C if WW Sample is Grab or Composite.

ANALYZE PER ORDER OF ANALYSIS
ERAMETHIO 5371



NO.

ITEM NO.	ANALYST LAB NO.	SAMPLE ID	DATE	TIME	MATRIX (See above)	COLLECTION REMARKS (i.e. DNR Well ID #)
1.		0A078	3/8/23	12:45	GW	21 samples (0) FB
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

COLLECTED BY (signature) <i>William Robert</i>	CUSTODY SEAL NO. (IF ANY)	DATE/TIME 12:45
RELINQUISHED BY (signature) <i>William Robert</i>	RECEIVED BY (signature)	DATE/TIME 3-8-23
DISPATCHED BY (signature)	METHOD OF TRANSPORT	DATE/TIME 3-8-23
RECEIVED BY (signature) <i>William Robert</i>	DATE/TIME 3/8/23 1650	TEMP 0.4
COOLER #	REMARKS & OTHER INFORMATION	CONDITION
PRESERVATIVE: N = nitric acid Z = zinc acetate M = methanol S = sulfuric acid	WDNR FACILITY NUMBER	E-MAIL ADDRESS

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.

IMPORTANT!

REPORT TO
INVOICE TO