



Northern Lake Service, Inc • 400 N Lake Ave • Crandon, WI 54520  
800-278-1254 • [www.nlslab.com](http://www.nlslab.com)

March 24, 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: CB02031  
Received: 03/03/23

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

Sincerely,

A handwritten signature in black ink, appearing to read "Tom Priebe".

Tom Priebe For Client Services  
Northern Lake Service, Inc.



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

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**Reported:**  
3/24/23 9:40

**Work Order:**  
CB02031

### 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
CB02031-01	RI188	DW			3/3/23 10:50	3/3/23 15:00
CB02031-02	Field Blank	DW			3/3/23 0:00	3/3/23 15:00



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Sample Results

Sample: RI188

CB02031-01 (DW) Sampled: 03/03/23 10:50

Table with 13 columns: Analyte, Result, Qualifier, Dilution, LOD, LOQ, MCL, Units, Date Prepared, Date Analyzed, Analyst, Method, Lab Cert Code. Rows include various PFAS compounds and surrogate recovery percentages.

Sample: Field Blank

CB02031-02 (DW) Sampled: 03/03/23 00:00

Table with 13 columns: Analyte, Result, Qualifier, Dilution, LOD, LOQ, MCL, Units, Date Prepared, Date Analyzed, Analyst, Method, Lab Cert Code. Rows include various PFAS compounds.



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**Sample Results (Continued)**

**Sample: Field Blank (Continued)**

**CB02031-02 (DW) Sampled: 03/03/23 00:00**

Analyte	Result	Qualifier	Dilution	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
<b>Semi-Volatiles (Continued)</b>												
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1	0.31	1.0		ng/L	3/15/23 7:07	3/17/23 1:29	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	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		1	0.37	1.2		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		1	0.41	1.4		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1	0.47	1.6		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1	0.40	1.3		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluorobutanesulfonic acid (PFBS)	ND		1	0.30	1.0		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluorodecanoic acid (PFDA)	ND		1	0.33	1.1		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluorododecanoic acid (PFDoA)	ND		1	0.23	0.77		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluoroheptanoic acid (PFHpA)	ND		1	0.44	1.5		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanoic acid (PFHxA)	ND		1	0.47	1.6		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanesulfonic acid (PFHxS)	ND		1	0.34	1.1		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluorononanoic acid (PFNA)	ND		1	0.46	1.5		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanoic acid (PFOA)	ND		1	0.49	1.6		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanesulfonic acid (PFOS)	ND		1	0.31	1.0		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluorotetradecanoic acid (PFTA)	ND		1	0.34	1.1		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluorotridecanoic acid (PFTTrDA)	ND		1	0.43	1.4		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
perfluoroundecanoic acid (PFUnA)	ND		1	0.30	1.0		ng/L	3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFHxA	92%			Limits: 70-130%				3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-HFPODA	92%			Limits: 70-130%				3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFDA	92%			Limits: 70-130%				3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) d5-NEtFOSAA	87%			Limits: 70-130%				3/15/23 7:07	3/17/23 1:29	RAW	EPA 537.1, Rev 2.0	2



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**List of Certifications**

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



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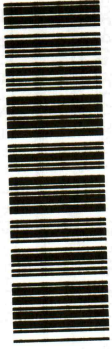
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### Qualifiers and Definitions

Item	Definition
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.

CB02031



**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	ZIP 53707
CITY MADISON	STATE WI
PROJECT DESCRIPTION / NO. PHAS PRIVATE WELLS	
DNR FID #	DNR LICENSE #
CONTACT MARK PAULI	PHONE 715-499-0612
PURCHASE ORDER NO. 0000022899	FAX

MATRIX:  
SW = surface water  
WW = waste water  
GW = ground water  
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		EPA METHOD 5371		NO.		COLLECTION REMARKS (i.e. DNR Well ID #)	
ITEM NO.	SAMPLE ID	DATE	TIME	MATRIX (See above)	Y/N	G/C	REMARKS
1.	RF 186	3/3/23	10:50	GW			(B) SAMPLE (1) FB
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							

COLLECTED BY (signature) <i>William Roberts</i>	DATE/TIME 3-3-23	CUSTODY SEAL NO. (IF ANY)	DATE/TIME 10:50
RELINQUISHED BY (signature) <i>William Roberts</i>	DATE/TIME 3-3-23	RECEIVED BY (signature) <i>Robert</i>	DATE/TIME 15:00
DISPATCHED BY (signature) <i>William Roberts</i>	METHOD OF TRANSPORT <i>Hand</i>	REPORT TO	INVOICE TO
RECEIVED AT NUS BY (signature) <i>William Roberts</i>	DATE/TIME 3/3/23	CONDITION <i>Good</i>	TEMP <i>20</i>
REMARKS & OTHER INFORMATION		WDNR FACILITY NUMBER	E-MAIL ADDRESS

COOLER #  
PRESERVATIVE: N = nitric acid OIT = sodium hydroxide  
Z = zinc acetate HA = hydrochloric & ascorbic acid  
M = methanol H = hydrochloric acid  
S = sulfuric acid

**IMPORTANT!**

- TO MEET REGULATORY REQUIREMENTS, THIS FORM MUST BE COMPLETED IN DETAIL AND INCLUDED IN THE COOLER CONTAINING THE SAMPLES DESCRIBED.
- PLEASE USE ONE LINE PER SAMPLE. CLIENT MAY KEEP PINK COPY.
- RETURN THIS FORM WITH SAMPLES. CLIENT MAY KEEP PINK COPY.
- PARTIES COLLECTING SAMPLE, LISTED AS REPORT TO AND LISTED AS INVOICED TO AGREE TO STANDARD TERMS & CONDITIONS ON REVERSE.