



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

July 16, 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: CB07275  
Received: 06/29/23

Enclosed are the results of analyses for samples received by our laboratory on 6/29/2023. 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,

Ronald T. Krueger 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:**  
7/16/23 17:26

**Work Order:**  
CB07275

### 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
CB07275-01	QA083	DW			6/29/23 13:25	6/29/23 15:40

#### Analysis Qualifiers:

LabNumber	Analysis	Qualifier
CB07275-01	537.1 Perfluorinated Chemicals by LC/MS/MS	FBNA1

#### Cancelled Tests:

Lab ID	Sample	Analysis	Cancelled	Initials
CB07275-02	QA083 Field Blank	Perfluorinated Chemicals by EPA Method 537.1 FB	7/6/23 10:16	CSC



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### Sample Results

Sample: **QA083**

**CB07275-01 (DW) Sampled: 06/29/23 13:25**

Analyte	Result	Qualifier	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
<b>Semi-Volatiles</b>											
11-chloroicosafafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.32	1.0		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.35	1.1		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.38	1.2		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		0.42	1.4		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.48	1.6		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.41	1.3		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluorobutanesulfonic acid (PFBS)	ND		0.31	1.0		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluorodecanoic acid (PFDA)	ND		0.34	1.1		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluorododecanoic acid (PFDoA)	ND		0.23	0.79		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluoroheptanoic acid (PFHpA)	ND		0.45	1.5		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanoic acid (PFHxA)	ND		0.48	1.6		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanesulfonic acid (PFHxS)	ND		0.35	1.1		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluorononanoic acid (PFNA)	ND		0.47	1.5		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanoic acid (PFOA)	ND		0.50	1.6		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanesulfonic acid (PFOS)	ND		0.32	1.0		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluorotetradecanoic acid (PFTA)	ND		0.35	1.1		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluorotridecanoic acid (PFTrDA)	ND		0.44	1.4		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
perfluoroundecanoic acid (PFUnA)	ND		0.31	1.0		ng/L	7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFHxA	94%		Limits: 70-130%				7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-HFPODA	89%		Limits: 70-130%				7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFDA	99%		Limits: 70-130%				7/5/23 5:41	7/5/23 19:09	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) d5-NEtFOSAA	81%		Limits: 70-130%				7/5/23 5:41	7/5/23 19:09	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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### Qualifiers and Definitions

Item	Definition
FBNA1	The field sample had no detects at or greater than 2.0 ng/L, per the WDNR the corresponding field reagent blank was not required to be 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.

# SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

CB07275

Wisconsin Lab Cert. No. 72102646  
WI DATCP 105-000330



CLIENT WISCONSIN DNR-DRINKING AND GROUNDWATER	
ADDRESS PO Box 7921, D615	
CITY MADISON	STATE WI
ZIP 53707	
PROJECT DESCRIPTION / NO. PFAS PRIVATE WELLS	QUOTATION NO.
DNR FID #	DNR LICENSE #
CONTACT MARK PAULI	PHONE 765-499-0612
PURCHASE ORDER NO. 0000022899	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

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

ANALYZE PER ORDER OF ANALYSIS  
EPAMETHOD 5371

ITEM NO.	DATE	TIME	MATRIX	COLLECTION REMARKS (i.e. DNR Well ID #)
1.	6/29/23	13:25	GW	(2) SAMPLES (1) FB
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				



NO.

ITEM NO.	MILS LAB. NO.	SAMPLE ID	COLLECTION		MATRIX (See above)	ANALYZE PER ORDER OF ANALYSIS	EPAMETHOD 5371	COLLECTION REMARKS (i.e. DNR Well ID #)
			DATE	TIME				
1.		QA083	6/29/23	13:25	GW	X		(2) SAMPLES (1) FB
2.								
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

COLLECTED BY (signature) William Roberts	CUSTODY SEAL NO. (IF ANY)	DATE/TIME 6-29-23 13:25
RELINQUISHED BY (signature) William Roberts	RECEIVED BY (signature)	DATE/TIME 6-29-23 14:30
DISPATCHED BY (signature)	METHOD OF TRANSPORT	DATE/TIME

REPORT TO

RECEIVED AT MLS BY (signature) William Roberts	DATE/TIME 6/29/2023 3:40	CONDITION Cool	TEMP. 37
REMARKS & OTHER INFORMATION #12	WDNR FACILITY NUMBER	E-MAIL ADDRESS	

INVOICE TO

**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.

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