



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

March 10, 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: CB01938
Received: 03/01/23

Enclosed are the results of analyses for samples received by our laboratory on 3/1/2023. 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:
3/10/23 10:37

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CB01938

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
CB01938-01	QA074	DW			3/1/23 15:15	3/1/23 16:00

Cancelled Tests:

LabNumber	SampleName	Analysis	Cancelled	Initials
CB01938-02	Field Blank	Perfluorinated Chemicals by EPA Method 537.1 FB	3/7/23 14:59	CSC



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Sample Results

Sample: QA074

CB01938-01 (DW) Sampled: 03/01/23 15:15

Analyte	Result	Qualifier	Dilution	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles		FBNA										
11-chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1	0.31	1.0		ng/L	3/3/23 10:13	3/6/23 19:41	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	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		1	0.37	1.2		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		1	0.41	1.4		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
N-ethyl perfluorooctanesulfonamidoacetic acid (NETFOSAA)	ND		1	0.47	1.6		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1	0.40	1.3		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluorobutanesulfonic acid (PFBS)	ND		1	0.30	1.0		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluorodecanoic acid (PFDA)	ND		1	0.33	1.1		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluorododecanoic acid (PFDoA)	ND		1	0.23	0.77		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluoroheptanoic acid (PFHpA)	ND		1	0.44	1.5		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanoic acid (PFHxA)	ND		1	0.47	1.6		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanesulfonic acid (PFHxS)	ND		1	0.34	1.1		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluorononanoic acid (PFNA)	ND		1	0.46	1.5		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanoic acid (PFOA)	ND		1	0.49	1.6		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanesulfonic acid (PFOS)	ND		1	0.31	1.0		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluorotetradecanoic acid (PFTA)	ND		1	0.34	1.1		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluorotridecanoic acid (PFTrDA)	ND		1	0.43	1.4		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
perfluoroundecanoic acid (PFUnA)	ND		1	0.30	1.0		ng/L	3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFHxA	99%					Limits: 70-130%		3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-HFPODA	91%					Limits: 70-130%		3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFDA	101%					Limits: 70-130%		3/3/23 10:13	3/6/23 19:41	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) d5-NETFOSAA	89%					Limits: 70-130%		3/3/23 10:13	3/6/23 19:41	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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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.

