



Northern Lake Service, Inc • 400 N Lake Ave • Crandon, WI 54520
800-278-1254 • 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: CB02034
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.

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
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Madison, WI 53707

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Reported:
3/24/23 9:39

Work Order:
CB02034

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
CB02034-01	LH944	DW			3/3/23 12:20	3/3/23 15:00

Analysis Qualifiers:

LabNumber	Analysis	Qualifier
CB02034-01RE1	537.1 Perfluorinated Chemicals by LC/MS/MS	FBNA

Cancelled Tests:

LabNumber	SampleName	Analysis	Cancelled	Initials
CB02034-02	Field Blank	Perfluorinated Chemicals by EPA Method 537.1 FB	3/18/23 12:09	CSC



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Sample Results

Sample: LH944

CB02034-01 (DW) Sampled: 03/03/23 12:20

Analyte	Result	Qualifier	Dilution	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles												
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1	0.30	0.98		ng/L	3/15/23 7:07	3/17/23 3:12	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	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		1	0.36	1.2		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		1	0.40	1.4		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1	0.46	1.6		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1	0.39	1.3		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluorobutanesulfonic acid (PFBS)	ND		1	0.29	0.98		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluorodecanoic acid (PFDA)	ND		1	0.32	1.1		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluorododecanoic acid (PFDoA)	ND		1	0.23	0.75		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluoroheptanoic acid (PFHpA)	ND		1	0.43	1.5		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanoic acid (PFHxA)	ND		1	0.46	1.6		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanesulfonic acid (PFHxS)	ND		1	0.33	1.1		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluorononanoic acid (PFNA)	ND		1	0.45	1.5		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanoic acid (PFOA)	ND		1	0.48	1.6		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanesulfonic acid (PFOS)	ND		1	0.30	0.98		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluorotetradecanoic acid (PFTA)	ND		1	0.33	1.1		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluorotridecanoic acid (PFTrDA)	ND		1	0.42	1.4		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
perfluoroundecanoic acid (PFUnA)	ND		1	0.29	0.98		ng/L	3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFHxA	87%			Limits: 70-130%				3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-HFPODA	88%			Limits: 70-130%				3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFDA	90%			Limits: 70-130%				3/15/23 7:07	3/17/23 3:12	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) d5-NEtFOSAA	80%			Limits: 70-130%				3/15/23 7:07	3/17/23 3:12	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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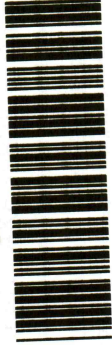
Work Order:
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Qualifiers and Definitions

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.

CB02034



NO. Ana 400 Tel:

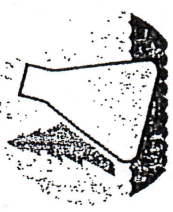
Wisconsin Lab Cert. No. 721026460
WI DATCP 105-000330

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

CLIENT: **WISCONSIN DNR - DRINKING AND GROUNDWATER**
 ADDRESS: **PO BOX 7921, DOKS**
 CITY: **MADISON** STATE: **WI** ZIP: **53707**
 PROJECT DESCRIPTION: **PAS PRIVATE WELLS**
 QUOTATION NO.:
 DNR FID #:
 CONTACT: **MARK PAULI** PHONE: **725-499-0612**
 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 TO INDICATE IF IN G.W. Sample is field filtered.
 Indicate G or C if WW Sample is Grab or Composite.



NO.

ITEM NO.	ANIS LAB NO.	SAMPLE ID	COLLECTION		MATRIX (See above)	COLLECTION REMARKS (i.e. DNR Well ID #)
			DATE	TIME		
1.		LH944	3/3/03	12:20	GW	(2) SAMPLE (1) FB
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						

ANALYZE PER ORDER OF ANALYSIS
 EPA METHOD 5371

COLLECTED BY (signature): *William Roberts* CUSTODY SEAL NO. (IF ANY):
 RECEIVED BY (signature): *William Roberts* DATE/TIME: 3-3-23 12:20
 DISPATCHED BY (signature): *hand* DATE/TIME: 3-3-23 15:00
 METHOD OF TRANSPORT: *hand*

RECEIVED AT NLS BY (signature): *William Roberts* DATE/TIME: 3-3-23 12:20
 REMARKS & OTHER INFORMATION: *OK* CONDITION: *OK* TEMP: *20C*
 COOLER #:
 PRESERVATIVE: N = nitric acid OI = sodium hydroxide
 NP = no preservative Z = zinc acetate HA = hydrochloric & ascorbic acid
 M = methanol H = hydrochloric acid
 S = sulfuric acid
 WDNR FACILITY NUMBER: E-MAIL ADDRESS:

REPORT TO:
 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.