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

February 17, 2023

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

RE: 2023 Drinking Water Testing
Work Order: CB01043
Received: 02/06/23

Enclosed are the results of analyses for samples received by our laboratory on 2/6/2023. If you have any questions concerning this report, please feel free to contact a client service representative at clientservices@nlslab.com.

Sincerely,

Tom Priebe For Client Services
Northern Lake Service, Inc.

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Wisconsin Department of Natural Resources	Project: 2023 Drinking Water Testing		
101 S Webster St	Project Number: PFAS Private Well	**Reported:**	**Work Order:**
Madison, WI 53707	Project Manager: Matt Silver	2/17/23 12:17	CB01043

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
CB01043-01	QA073	DW			2/6/23 9:15	2/6/23 10:25
CB01043-02	QA073 Field Blank	DW			2/6/23 0:00	2/6/23 10:25

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

Project: 2023 Drinking Water Testing
Project Number: PFAS Private Well
Project Manager: Matt Silver

Reported: 2/17/23 12:17

Work Order: CB01043

Sample Results

Sample: QA073

CB01043-01 (DW) Sampled: 02/06/23 09:15

Analyte	Result	Qualifier	Dilution	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles		**InVol**										
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1	7.8	25		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1	8.5	28		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		1	9.2	30		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		1	10	35		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1	12	40		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1	10	32		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluorobutanesulfonic acid (PFBS)	ND		1	7.5	25		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluorodecanoic acid (PFDA)	ND		1	8.3	28		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluorododecanoic acid (PFDoA)	ND		1	5.8	19		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluoroheptanoic acid (PFHpA)	1300		1	11	38		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanoic acid (PFHxA)	960		1	12	40		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanesulfonic acid (PFHxS)	33		1	8.5	28		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluorononanoic acid (PFNA)	32	J	1	12	38		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanoic acid (PFOA)	6400		5	61	200		ng/L	2/10/23 6:39	2/15/23 11:13	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanesulfonic acid (PFOS)	140		1	7.8	25		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluorotetradecanoic acid (PFTA)	ND		1	8.5	28		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluorotridecanoic acid (PFTrDA)	ND		1	11	35		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
perfluoroundecanoic acid (PFUnA)	ND		1	7.5	25		ng/L	2/10/23 6:39	2/13/23 15:46	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFHxA	*94%*			Limits:	*70-130%*			*2/10/23 6:39*	*2/13/23 15:46*	*RAW*	*EPA 537.1, Rev 2.0*	2
Surrogate: (SURR) C13-HFPODA	*94%*			Limits:	*70-130%*			*2/10/23 6:39*	*2/13/23 15:46*	*RAW*	*EPA 537.1, Rev 2.0*	2
Surrogate: (SURR) C13-PFDA	*94%*			Limits:	*70-130%*			*2/10/23 6:39*	*2/13/23 15:46*	*RAW*	*EPA 537.1, Rev 2.0*	2
Surrogate: (SURR) d5-NEtFOSAA	*91%*			Limits:	*70-130%*			*2/10/23 6:39*	*2/13/23 15:46*	*RAW*	*EPA 537.1, Rev 2.0*	2

Sample: QA073 Field Blank

CB01043-02 (DW) Sampled: 02/06/23 00:00

Analyte	Result	Qualifier	Dilution	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles												

Wisconsin Department of Natural Resources	Project: 2023 Drinking Water Testing		
101 S Webster St	Project Number: PFAS Private Well	**Reported:**	**Work Order:**
Madison, WI 53707	Project Manager: Matt Silver	2/17/23 12:17	CB01043

Sample Results (Continued)

Sample: QA073 Field Blank (Continued)

CB01043-02 (DW) Sampled: 02/06/23 00:00

Analyte	Result	Qualifier	Dilution	LOD	LOQ	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles (Continued)												
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1	0.31	1.0		ng/L	2/14/23 7:07	2/15/23 11:39	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	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		1	0.37	1.2		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		1	0.41	1.4		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1	0.47	1.6		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1	0.40	1.3		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluorobutanesulfonic acid (PFBS)	ND		1	0.30	1.0		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluorodecanoic acid (PFDA)	ND		1	0.33	1.1		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluorododecanoic acid (PFDoA)	ND		1	0.23	0.77		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluoroheptanoic acid (PFHpA)	ND		1	0.44	1.5		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanoic acid (PFHxA)	ND		1	0.47	1.6		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluorohexanesulfonic acid (PFHxS)	ND		1	0.34	1.1		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluorononanoic acid (PFNA)	ND		1	0.46	1.5		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanoic acid (PFOA)	ND		1	0.49	1.6		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluorooctanesulfonic acid (PFOS)	ND		1	0.31	1.0		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluorotetradecanoic acid (PFTA)	ND		1	0.34	1.1		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluorotridecanoic acid (PFTrDA)	ND		1	0.43	1.4		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
perfluoroundecanoic acid (PFUnA)	ND		1	0.30	1.0		ng/L	2/14/23 7:07	2/15/23 11:39	RAW	EPA 537.1, Rev 2.0	2
Surrogate: (SURR) C13-PFHxA	*93%*			Limits:	*70-130%*			*2/14/23 7:07*	*2/15/23 11:39*	*RAW*	*EPA 537.1, Rev 2.0*	2
Surrogate: (SURR) C13-HFPODA	*91%*			Limits:	*70-130%*			*2/14/23 7:07*	*2/15/23 11:39*	*RAW*	*EPA 537.1, Rev 2.0*	2
Surrogate: (SURR) C13-PFDA	*94%*			Limits:	*70-130%*			*2/14/23 7:07*	*2/15/23 11:39*	*RAW*	*EPA 537.1, Rev 2.0*	2
Surrogate: (SURR) d5-NEtFOSAA	*89%*			Limits:	*70-130%*			*2/14/23 7:07*	*2/15/23 11:39*	*RAW*	*EPA 537.1, Rev 2.0*	2

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Wisconsin Department of Natural Resources	Project: 2023 Drinking Water Testing		
101 S Webster St	Project Number: PFAS Private Well	**Reported:**	**Work Order:**
Madison, WI 53707	Project Manager: Matt Silver	2/17/23 12:17	CB01043

List of Certifications

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

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Wisconsin Department of Natural Resources	Project: 2023 Drinking Water Testing		
101 S Webster St	Project Number: PFAS Private Well	**Reported:**	**Work Order:**
Madison, WI 53707	Project Manager: Matt Silver	2/17/23 12:17	CB01043

Qualifiers and Definitions

Item	Definition
InVol	The initial volume used was 10mL.
J	Result is between LOD and LOQ and considered to be within a region of less-certain quantitation.
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.

CB01043

SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

NC

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

Anal

400

Tel: (

CLIENT: Wisconsin DNR - Drinking Water and Groundwater
ADDRESS: P.O. Box 7921, DG/5
CITY: Madison STATE: WI ZIP: 53707
PROJECT DESCRIPTION / NO.: PFAS Private Wells
QUOTATION NO.:
DNR FID #:
DNR LICENSE #:
CONTACT: Matt Silver PHONE: 608-206-0167
PURCHASE ORDER NO.: 37000-0000022345
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

ANALYZE PER ORDER OF ANALYSIS: EPA Method 537.1

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

NO.

ITEM NO.	NLS LAB. NO.	SAMPLE ID	COLLECTION DATE	COLLECTION TIME	MATRIX (See above)												COLLECTION REMARKS (i.e. DNR Well ID #)
1.		QA073	2/6/23	09:15	GW		X										(2) GW (1) FB
2.																	
3.																	
4.																	
5.																	
6.																	
7.																	
8.																	
9.																	
10.																	

COLLECTED BY (signature): William Robert — CUSTODY SEAL NO. (IF ANY) — DATE/TIME: 9:15
RELINQUISHED BY (signature): William Robert — RECEIVED BY (signature) — DATE/TIME: 10:25
DISPATCHED BY (signature) — METHOD OF TRANSPORT — DATE/TIME

REPORT TO

INVOICE TO

RECEIVED AT NLS BY (signature): Stan Hyt — DATE/TIME: 2/7/2023 1025 — CONDITION: OK - On Ice — TEMP.: 0.3°C
COOLER #
REMARKS & OTHER INFORMATION
WDNR FACILITY NUMBER
E-MAIL ADDRESS

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

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.