



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

March 30, 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: CB02352
Received: 03/10/23

Enclosed are the results of analyses for samples received by our laboratory on 3/10/2023. 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
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Madison, WI 53707

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3/30/23 8:00

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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 |
|------------|-------------|--------|-------------|------------|---------------|---------------|
| CB02352-01 | QA063 | DW | | | 3/10/23 14:30 | 3/10/23 17:10 |
| CB02352-02 | Field Blank | DW | | | 3/10/23 0:00 | 3/10/23 17:10 |



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Sample Results

Sample: QA063

CB02352-01 (DW) Sampled: 03/10/23 14:30

Table with 12 columns: Analyte, Result, Qualifier, LOD, LOQ, MCL, Units, Date Prepared, Date Analyzed, Analyst, Method, Lab Cert Code. Rows include various PFAS compounds and surrogate results.

Sample: Field Blank

CB02352-02 (DW) Sampled: 03/10/23 00:00

Table with 12 columns: Analyte, Result, Qualifier, LOD, LOQ, MCL, Units, Date Prepared, Date Analyzed, Analyst, Method, Lab Cert Code. Row for Field Blank.

Semi-Volatiles



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Sample Results (Continued)

Sample: Field Blank (Continued)

CB02352-02 (DW) Sampled: 03/10/23 00:00

| Analyte | Result | Qualifier | 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 | | 0.31 | 1.0 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| 9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS) | ND | | 0.34 | 1.1 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| 4,8-dioxa-3H-perfluorononanoic acid (ADONA) | ND | | 0.37 | 1.2 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| hexafluoropropylene oxide dimer acid (HFPO DA) | ND | | 0.41 | 1.4 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA) | ND | | 0.47 | 1.6 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA) | ND | | 0.40 | 1.3 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluorobutanesulfonic acid (PFBS) | ND | | 0.30 | 1.0 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluorodecanoic acid (PFDA) | ND | | 0.33 | 1.1 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluorododecanoic acid (PFDoA) | ND | | 0.23 | 0.77 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluoroheptanoic acid (PFHpA) | ND | | 0.44 | 1.5 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluorohexanoic acid (PFHxA) | ND | | 0.47 | 1.6 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluorohexanesulfonic acid (PFHxS) | ND | | 0.34 | 1.1 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluorononanoic acid (PFNA) | ND | | 0.46 | 1.5 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluorooctanoic acid (PFOA) | ND | | 0.49 | 1.6 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluorooctanesulfonic acid (PFOS) | ND | | 0.31 | 1.0 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluorotetradecanoic acid (PFTA) | ND | CCV%H | 0.34 | 1.1 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluorotridecanoic acid (PFTTrDA) | ND | | 0.43 | 1.4 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| perfluoroundecanoic acid (PFUnA) | ND | | 0.30 | 1.0 | | ng/L | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| Surrogate: (SURR) C13-PFHxA | 92% | | Limits: 70-130% | | | | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| Surrogate: (SURR) C13-HFPODA | 95% | | Limits: 70-130% | | | | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| Surrogate: (SURR) C13-PFDA | 101% | | Limits: 70-130% | | | | 3/24/23 6:37 | 3/26/23 11:58 | RAW | EPA 537.1, Rev 2.0 | 2 |
| Surrogate: (SURR) d5-NEtFOSAA | 94% | | Limits: 70-130% | | | | 3/24/23 6:37 | 3/26/23 11:58 | 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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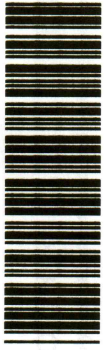
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Qualifiers and Definitions

| Item | Definition |
|-----------|--|
| CCV%H | The continuing calibration verification standard recovery was above QC limits at 145%. |
| 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.

CB02352



SAMPLE COLLECTION AND CHAIN OF CUSTODY RECORD

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

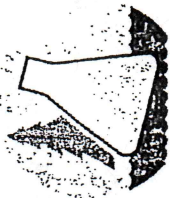
CLIENT: WISCONSIN DNR-DRINKING AND GROUNDWATER
 ADDRESS: PO BOX 7921, DOBLS
 CITY: MARSHEN STATE: WI ZIP: 53707
 PROJECT DESCRIPTION / NO.: PFA'S PRIVATE WELLS QUOTATION NO.
 DNR FID # _____ DNR LICENSE # _____
 CONTACT: MARK PAULI PHONE: 715-499-0612
 PURCHASE ORDER NO.: 000022899 FAX: _____

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: 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: X ERP METHOD 5371

| ITEM NO. | ANIS LAB NO. | SAMPLE ID | COLLECTION DATE | TIME | MATRIX (See above) | COLLECTION REMARKS (i.e. DNR Well ID #) |
|----------|--------------|-----------|-----------------|-------|--------------------|---|
| 1. | | BA063 | 3/10/23 | 14:30 | GW | 2) SAMPLES (C) FB |
| 2. | | | | | | |
| 3. | | | | | | |
| 4. | | | | | | |
| 5. | | | | | | |
| 6. | | | | | | |
| 7. | | | | | | |
| 8. | | | | | | |
| 9. | | | | | | |
| 10. | | | | | | |



NO.

COLLECTED BY (signature): *William Robert* CUSTODY SEAL NO. (IF ANY): 3-10-23 DATE/TIME: 14:30
 RELINQUISHED BY (signature): *William Robert* RECEIVED BY (signature): _____ DATE/TIME: 17:05
 DISPATCHED BY (signature): _____ METHOD OF TRANSPORT: _____

RECEIVED AT (signature): *Mark Pauli* DATE/TIME: 3/10/23 17:00 CONDITION: _____ TEMP: 0.7
 REMARKS & OTHER INFORMATION: _____
 COOLER # _____
 PRESERVATIVE: N = nitric acid OH = sodium hydroxide
 Z = zinc acetate HA = hydrochloric & ascorbic acid
 M = methanol H = hydrochloric acid
 S = sulfuric acid
 WDNR FACILITY NUMBER: _____ E-MAIL ADDRESS: _____

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.

REPORT TO _____
 INVOICE TO _____