Wisconsin State Laboratory of Hygiene
2601 Agriculture Drive, PO Box 7996
Madison, WI 53707-7996
(800)442-4618 - FAX (608)224-6213
http://www.slh.wisc.edu

Laboratory Report

Environmental Health Division

WSLH Sample: 631090001

Report To:

DNR DG PFAS GROUNDWATER STUDY

Invoice To:

ZANA SIJAN
WISCONSIN DNR

Customer ID: DG098

Field #: EJ981
Project No:

Collection End: 7/12/2022 8:35:00 AM
Collection Start: 07/12/2022 08:31:00
Collected By: LIZZY
Date Received: 7/15/2022
Date Reported: 9/13/2022
Sample Reason:

ID#: EJ981
Sample Location: 4168 DEPOT RD, RHINELANDER WI 54501
Sample Description:
Sample Type: PO-PRIVATE WELL
Waterbody:
Point or Outfall:
Sample Depth:
Program Code:
Region Code:
County:

Sample Comments

Data not reported for PFECHS due to chromatographic irregularities relative to standard/QC chromatography, significant transition ion ratio failure, and shifted/mismatching retention times between primary and secondary ion channels.

PFAS in Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 08/30/22 10:05	Analysis Date: 09/03/22 09:38				
PFBS (375-73-5)	WSLH PFAS in Ground Water	6.86	ng/L	0.223	0.964
4:2 FTSA (757124-72-4)	WSLH PFAS in Ground Water	<0.183	ng/L	0.183	0.964
PFPeS (2706-91-4)	WSLH PFAS in Ground Water	5.79	ng/L	0.131	0.964
Compound detected in lab blank.					
HFPO-DA (13252-13-6)	WSLH PFAS in Ground Water	<0.185	ng/L	0.185	0.964
DONA (919005-14-4)	WSLH PFAS in Ground Water	<0.123	ng/L	0.123	0.964
The Laboratory Control Spike (LCS) does not meet the upper QC limit.					
6:2 FTSA (27619-97-2)	WSLH PFAS in Ground Water	29.9	ng/L	0.262	0.964
9Cl-PF3ONS (756426-58-1)	WSLH PFAS in Ground Water	0.453F	ng/L	0.175	0.964
Compound detected in lab blank.					

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Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 08/30/22 10:05	Analysis Date: 09/03/22 09:38				
The Relative Percent Difference (RPD) for the sample and sample duplicate does not meet the QC limit.					
The internal standard QC limit has failed low.					
8:2 FTSA (39108-34-4)	WSLH PFAS in Ground Water	<0.252	ng/L	0.252	0.964
PFDA (335-76-2)	WSLH PFAS in Ground Water	6.30	ng/L	0.157	0.964
Compound detected in lab blank.					
PFNS (68259-12-1)	WSLH PFAS in Ground Water	<0.175	ng/L	0.175	0.964
N-MeFOSAA (2355-31-9)	WSLH PFAS in Ground Water	<0.211	ng/L	0.211	0.964
N-EtFOSAA (2991-50-6)	WSLH PFAS in Ground Water	<0.204	ng/L	0.204	0.964
FOSA (754-91-6)	WSLH PFAS in Ground Water	0.177F	ng/L	0.149	0.964
Compound detected in lab blank.					
PFUnA (2058-94-8)	WSLH PFAS in Ground Water	<0.214	ng/L	0.214	0.964
PFDS (335-77-3)	WSLH PFAS in Ground Water	<0.248	ng/L	0.248	0.964
11Cl-PF3OUdS (763051-92-9)	WSLH PFAS in Ground Water	<0.144	ng/L	0.144	0.964
PFDoA (307-55-1)	WSLH PFAS in Ground Water	<0.261	ng/L	0.261	0.964
PFDoS (79780-39-5)	WSLH PFAS in Ground Water	<0.384	ng/L	0.384	0.964
PFTrDA (72629-94-8)	WSLH PFAS in Ground Water	<0.186	ng/L	0.186	0.964
N-MeFOSA (31506-32-8)	WSLH PFAS in Ground Water	<0.964	ng/L	0.964	1.93
N-MeFOSE (24448-09-7)	WSLH PFAS in Ground Water	<0.271	ng/L	0.271	0.964
N-EtFOSA (4151-50-2)	WSLH PFAS in Ground Water	<0.669	ng/L	0.669	1.93
N-EtFOSE (1691-99-2)	WSLH PFAS in Ground Water	<0.204	ng/L	0.204	0.964
PFTeDA (376-06-7)	WSLH PFAS in Ground Water	0.301F	ng/L	0.169	0.964
Compound detected in lab blank.					
The Relative Percent Difference (RPD) for the sample and sample duplicate does not meet the QC limit.					
10:2 FTSA (120226-60-0)	WSLH PFAS in Ground Water	<0.198	ng/L	0.198	0.964

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Environmental Health Division

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PFAS in Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 08/30/22 10:05	Analysis Date: 09/03/22 09:38				
PFPrS (423-41-6)	WSLH PFAS in Ground Water	2.11	ng/L	0.249	0.964
FPrPA (356-02-5)	WSLH PFAS in Ground Water	<0.241	ng/L	0.241	0.964
PFBSA (30334-69-1)	WSLH PFAS in Ground Water	<0.416	ng/L	0.416	0.964
The Laboratory Control Spike (LCS) does not meet the upper QC limit.					
FPePA (914637-49-3)	WSLH PFAS in Ground Water	<0.373	ng/L	0.373	0.964
FHUEA (70887-88-6)	WSLH PFAS in Ground Water	<0.278	ng/L	0.278	0.964
PFHxSA (41997-13-1)	WSLH PFAS in Ground Water	<0.466	ng/L	0.466	0.964
The Laboratory Control Spike (LCS) does not meet the upper QC limit.					
FHpPA (812-70-4)	WSLH PFAS in Ground Water	<0.424	ng/L	0.424	0.964
FOUEA (70887-84-2)	WSLH PFAS in Ground Water	<0.210	ng/L	0.210	0.964
FDUEA (70887-94-4)	WSLH PFAS in Ground Water	<0.353	ng/L	0.353	0.964

Field Data

Analyte	Analysis Method	Result	Units
Sample Temp-field (C)	Field Data	8.6	Centigrade
DO field (mg/L)	Field Data	6.3	mg/L
pH (SU) field	Field Data	6.5	SU
Cond-fld (uS/CM@25C)	Field Data	140	UMHOS/CM

PFAS in Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 08/30/22 10:05	Analysis Date: 09/03/22 08:21				
PFBA (375-22-4)	WSLH PFAS in Ground Water	261	ng/L	3.33	9.64
Results for this analyte were reported from a diluted sample extract. True isotope dilution was not achieved. Results are approximate.					
PFPeA (2706-90-3)	WSLH PFAS in Ground Water	909	ng/L	1.45	9.64

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Environmental Health Division

WSLH Sample: 631090001

PFAS in Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 08/30/22 10:05 Analysis Date: 09/03/22 08:21					
Results for this analyte were reported from a diluted sample extract. True isotope dilution was not achieved. Results are approximate.					
PFHxS (355-46-4)	WSLH PFAS in Ground Water	88.9	ng/L	1.37	9.64
Results for this analyte were reported from a diluted sample extract. True isotope dilution was not achieved. Results are approximate.					
PFHpS (375-92-8)	WSLH PFAS in Ground Water	140	ng/L	1.83	9.64
Results for this analyte were reported from a diluted sample extract. True isotope dilution was not achieved. Results are approximate.					
PFNA (375-95-1)	WSLH PFAS in Ground Water	303	ng/L	1.43	9.64
Results for this analyte were reported from a diluted sample extract. True isotope dilution was not achieved. Results are approximate.					
Prep Date: 08/30/22 10:05 Analysis Date: 09/03/22 09:07					
PFHxA (307-24-4)	WSLH PFAS in Ground Water	1370	ng/L	98.3	482
Results for this analyte were reported from a diluted sample extract. True isotope dilution was not achieved. Results are approximate.					
PFHpA (375-85-9)	WSLH PFAS in Ground Water	1970	ng/L	72.3	482
Results for this analyte were reported from a diluted sample extract. True isotope dilution was not achieved. Results are approximate.					
PFOA (335-67-1)	WSLH PFAS in Ground Water	9030	ng/L	52.0	482
Results for this analyte were reported from a diluted sample extract. True isotope dilution was not achieved. Results are approximate.					
PFOS (1763-23-1)	WSLH PFAS in Ground Water	2440	ng/L	68.9	482
Results for this analyte were reported from a diluted sample extract. True isotope dilution was not achieved. Results are approximate.					

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Laboratory Report

Environmental Health Division

WSLH Sample: 631090001

WDNR LAB ID:113133790 NELAP LAB ID:2091 EPA LAB ID:WI00007, WI00008 WI DATCP ID:105-415

List of Abbreviations:

LOD = Level of detection
LOQ = Level of quantification (for PFAS the LOQ = MRL)
ND = None detected. Results are less than the LOD
F next to result = Result is between LOD and LOQ
Z next to result = Result is between 0 (zero) and LOD
if LOD=LOQ, Limits were not statistically derived

Test results for NELAP accredited tests are certified to meet the requirements of the NELAC standards. For a list of accredited analytes
see http://www.slh.wisc.edu/about/compliance/nelac-laboratory-accreditation
Results, LOD and LOQ values have been adjusted for analytical dilutions and percent moisture where applicable.
Results relate only to the items tested.

The water microbiology unit analyzes samples as received and not all samples are tested for preservation before analysis is performed.

Responsible Party

Inorganic Chemistry: Graham Anderson, Supervisor 608-224-6281
Metals: Graham Anderson, Supervisor 608-224-6281
Organics: Erin Mani, Supervisor 608-224-6269
Environmental Toxicology: Dawn Perkins, Supervisor 608-224-6230
Water Microbiology: Martin Collins, Supervisor 608-224-6239
Radiochemistry: David Webb, Division Director 608-224-6227

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Laboratory Report

Environmental Health Division

WSLH Sample: 631090002

Report To:

DNR DG PFAS GROUNDWATER STUDY

Invoice To:

ZANA SIJAN
WISCONSIN DNR

Customer ID: DG098

Field #: FRB2
Project No:

Collection End: 7/12/2022 8:35:00 AM
Collection Start: 07/12/2022 08:31:00
Collected By: LIZZY
Date Received: 7/15/2022
Date Reported: 9/13/2022
Sample Reason:

ID#: EJ981
Sample Location: 4168 DEPOT RD, RHINELANDER WI 54501
Sample Description:
Sample Type: PO-PRIVATE WELL
Waterbody:
Point or Outfall:
Sample Depth:
Program Code:
Region Code:
County:

Sample Comments

FIELD REAGENT BLANK (FRB)

PFAS in Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 09/07/22 10:37	Analysis Date: 09/08/22 19:16				
PFBA (375-22-4)	WSLH PFAS in Ground Water	<0.344	ng/L	0.344	0.993
PFPeA (2706-90-3)	WSLH PFAS in Ground Water	<0.149	ng/L	0.149	0.993
PFBS (375-73-5)	WSLH PFAS in Ground Water	<0.229	ng/L	0.229	0.993
4:2 FTSA (757124-72-4)	WSLH PFAS in Ground Water	<0.189	ng/L	0.189	0.993
PFHxA (307-24-4)	WSLH PFAS in Ground Water	<0.203	ng/L	0.203	0.993
PFPeS (2706-91-4)	WSLH PFAS in Ground Water	<0.135	ng/L	0.135	0.993
HFPO-DA (13252-13-6)	WSLH PFAS in Ground Water	<0.191	ng/L	0.191	0.993
PFHpA (375-85-9)	WSLH PFAS in Ground Water	<0.149	ng/L	0.149	0.993
PFHxS (355-46-4)	WSLH PFAS in Ground Water	<0.141	ng/L	0.141	0.993
DONA (919005-14-4)	WSLH PFAS in Ground Water	<0.127	ng/L	0.127	0.993

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Laboratory Report

Environmental Health Division

WSLH Sample: 631090002

PFAS in Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 09/07/22 10:37	Analysis Date: 09/08/22 19:16				
6:2 FTSA (27619-97-2)	WSLH PFAS in Ground Water	<0.270	ng/L	0.270	0.993
PFOA (335-67-1)	WSLH PFAS in Ground Water	<0.107	ng/L	0.107	0.993
PFHpS (375-92-8)	WSLH PFAS in Ground Water	<0.189	ng/L	0.189	0.993
PFOS (1763-23-1)	WSLH PFAS in Ground Water	<0.142	ng/L	0.142	0.993
PFNA (375-95-1)	WSLH PFAS in Ground Water	<0.147	ng/L	0.147	0.993
9Cl-PF3ONS (756426-58-1)	WSLH PFAS in Ground Water	<0.181	ng/L	0.181	0.993
8:2 FTSA (39108-34-4)	WSLH PFAS in Ground Water	<0.260	ng/L	0.260	0.993
PFDA (335-76-2)	WSLH PFAS in Ground Water	<0.162	ng/L	0.162	0.993
PFNS (68259-12-1)	WSLH PFAS in Ground Water	<0.181	ng/L	0.181	0.993
N-MeFOSAA (2355-31-9)	WSLH PFAS in Ground Water	<0.218	ng/L	0.218	0.993
N-EtFOSAA (2991-50-6)	WSLH PFAS in Ground Water	<0.211	ng/L	0.211	0.993
FOSA (754-91-6)	WSLH PFAS in Ground Water	<0.154	ng/L	0.154	0.993
PFUnA (2058-94-8)	WSLH PFAS in Ground Water	<0.220	ng/L	0.220	0.993
PFDS (335-77-3)	WSLH PFAS in Ground Water	<0.255	ng/L	0.255	0.993
11Cl-PF3OUdS (763051-92-9)	WSLH PFAS in Ground Water	<0.148	ng/L	0.148	0.993
PFDoA (307-55-1)	WSLH PFAS in Ground Water	<0.269	ng/L	0.269	0.993
PFDoS (79780-39-5)	WSLH PFAS in Ground Water	<0.395	ng/L	0.395	0.993
PFTrDA (72629-94-8)	WSLH PFAS in Ground Water	<0.192	ng/L	0.192	0.993
N-MeFOSA (31506-32-8)	WSLH PFAS in Ground Water	<0.993	ng/L	0.993	1.99
N-MeFOSE (24448-09-7)	WSLH PFAS in Ground Water	<0.279	ng/L	0.279	0.993
N-EtFOSA (4151-50-2)	WSLH PFAS in Ground Water	<0.689	ng/L	0.689	1.99
N-EtFOSE (1691-99-2)	WSLH PFAS in Ground Water	<0.211	ng/L	0.211	0.993

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UNIVERSITY OF WISCONSIN-MADISON

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Laboratory Report

Environmental Health Division

WSLH Sample: 631090002

PFAS in Water

Analyte	Analysis Method	Result	Units	LOD	LOQ
Prep Date: 09/07/22 10:37	Analysis Date: 09/08/22 19:16				
PFTeDA (376-06-7)	WSLH PFAS in Ground Water	<0.174	ng/L	0.174	0.993
10:2 FTSA (120226-60-0)	WSLH PFAS in Ground Water	<0.204	ng/L	0.204	0.993
PFPrS (423-41-6)	WSLH PFAS in Ground Water	<0.256	ng/L	0.256	0.993
FPrPA (356-02-5)	WSLH PFAS in Ground Water	<0.248	ng/L	0.248	0.993
PFBSA (30334-69-1)	WSLH PFAS in Ground Water	<0.429	ng/L	0.429	0.993
FPePA (914637-49-3)	WSLH PFAS in Ground Water	<0.384	ng/L	0.384	0.993
FHUEA (70887-88-6)	WSLH PFAS in Ground Water	<0.286	ng/L	0.286	0.993
PFECHS (133201-07-7)	WSLH PFAS in Ground Water	<0.190	ng/L	0.190	0.993
PFHxSA (41997-13-1)	WSLH PFAS in Ground Water	<0.481	ng/L	0.481	0.993
FHpPA (812-70-4)	WSLH PFAS in Ground Water	<0.437	ng/L	0.437	0.993
FOUEA (70887-84-2)	WSLH PFAS in Ground Water	<0.217	ng/L	0.217	0.993
FDUEA (70887-94-4)	WSLH PFAS in Ground Water	<0.364	ng/L	0.364	0.993

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