



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

March 02, 2023

Brad Rokus
Oshkosh Water Filtration Dept
425 Lakeshore Drive
Oshkosh, WI 54901

RE: UCMR5 Testing SE1
Work Order: CB01159
Received: 02/08/23

Enclosed are the results of analyses for samples received by our laboratory on 2/8/2023. If you have any questions concerning this report, please feel free to contact a client service representative at clientservices@nlslab.com.

Sincerely,

Ronald T. Krueger For Tracy Huber
Northern Lake Service, Inc.



Oshkosh Water Filtration Dept
425 Lakeshore Drive
Oshkosh, WI 54901

Project: UCMR5 Testing SE1
Project Number: UCMR5 Testing
Project Manager: Brad Rokus

Reported:
3/2/23 10:09

Work Order:
CB01159

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
CB01159-01	EP81	DW			2/7/23 10:00	2/8/23 9:00

Cancelled Tests:

LabNumber	SampleName	Analysis	Cancelled	Initials
CB01159-02	EP81 Field Blank	Perfluorinated Chemicals by EPA Method 533	2/24/23 10:00	CSC
CB01159-02	EP81 Field Blank	Perfluorinated Chemicals by EPA Method 537.1	2/15/23 14:52	CSC



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Sample Results

Sample: EP81

CB01159-01 (DW) Sampled: 02/07/23 10:00

Analyte	Result	Qualifier	Dilution	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Metals											
Lithium, Total	ND		1	9.0		ug/L	2/9/23 13:00	2/10/23 10:37	RAB	EPA 200.7, Rev 4.4	1
<hr/>											
Surrogate: Yttrium 200.7 ISTD	103%			Limits: 60-125%			2/9/23 13:00	2/10/23 10:37	RAB	EPA 200.7, Rev 4.4	
<hr/>											
Semi-Volatiles											
FBNA											
perfluorobutanoic acid (PFBA)	ND		1	0.0050		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluoro-3-methoxypropanoic acid (PFMPA)	ND		1	0.0040		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluoropentanoic acid (PFPeA)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluorobutanesulfonic acid (PFBS)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluoro-4-methoxybutanoic acid (PFMBA)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluoro(2-ethoxyethane)sulfonic acid (PFEEESA)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		1	0.020		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorohexane sulfonic acid (4:2FTS)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluorohexanoic acid (PFHxA)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluoropentanesulfonic acid (PFPeS)	ND		1	0.0040		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		1	0.0050		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluoroheptanoic acid (PFHpA)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluorohexanesulfonic acid (PFHxS)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorooctane sulfonic acid (6:2FTS)	ND		1	0.0050		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluoroheptanesulfonic acid (PFHpS)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluorooctanoic acid (PFOA)	ND		1	0.0040		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluorononanoic acid (PFNA)	ND		1	0.0040		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluorooctanesulfonic acid (PFOS)	ND		1	0.0040		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		1	0.0020		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluorodecanoic acid (PFDA)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorodecane sulfonic acid (8:2FTS)	ND		1	0.0050		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluoroundecanoic acid (PFUnA)	ND		1	0.0020		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1

The contents of this report apply to the sample(s) analyzed in accordance with the chain of custody document. No duplication of this report is allowed, except in its entirety.



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Sample Results (Continued)

Sample: EP81 (Continued)

CB01159-01 (DW) Sampled: 02/07/23 10:00

Analyte	Result	Qualifier	Dilution	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles (Continued)											
FBNA											
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		1	0.0050		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
perfluorododecanoic acid (PFDoA)	ND		1	0.0030		ug/L	2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	1
<i>Surrogate: (EIS) MPFBA</i>	89%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M5PFPeA</i>	100%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M3PFBS</i>	92%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M2-4:2FTS</i>	102%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M5PFHxA</i>	87%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M4PFHpA</i>	85%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M3PFHxS</i>	91%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M2-6:2FTS</i>	86%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M8PFOA</i>	85%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M9PFNA</i>	89%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M8PFOS</i>	91%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M2-8:2FTS</i>	94%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M6PFDA</i>	89%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M7PFUdA</i>	89%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) MPFDoA</i>	87%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
<i>Surrogate: (EIS) M3HFPODA</i>	77%			Limits: 70-130%			2/23/23 7:23	2/23/23 17:14	RAW	EPA 533	
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		1	0.0060		ug/L	2/14/23 5:32	2/14/23 14:46	RAW	EPA 537.1, Rev 2.0	1
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		1	0.0050		ug/L	2/14/23 5:32	2/14/23 14:46	RAW	EPA 537.1, Rev 2.0	1
perfluorotridecanoic acid (PFTTrDA)	ND		1	0.0070		ug/L	2/14/23 5:32	2/14/23 14:46	RAW	EPA 537.1, Rev 2.0	1
perfluorotetradecanoic acid (PFTTA)	ND		1	0.0080		ug/L	2/14/23 5:32	2/14/23 14:46	RAW	EPA 537.1, Rev 2.0	1
<i>Surrogate: (SURR) C13-PFHxA</i>	97%			Limits: 70-130%			2/14/23 5:32	2/14/23 14:46	RAW	EPA 537.1, Rev 2.0	
<i>Surrogate: (SURR) C13-HFPODA</i>	93%			Limits: 70-130%			2/14/23 5:32	2/14/23 14:46	RAW	EPA 537.1, Rev 2.0	
<i>Surrogate: (SURR) C13-PFDA</i>	95%			Limits: 70-130%			2/14/23 5:32	2/14/23 14:46	RAW	EPA 537.1, Rev 2.0	
<i>Surrogate: (SURR) d5-NEtFOSAA</i>	87%			Limits: 70-130%			2/14/23 5:32	2/14/23 14:46	RAW	EPA 537.1, Rev 2.0	



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List of Certifications

Code	Description	Number	Expires
1	EPA Laboratory ID No.	WI00034	1/1/26



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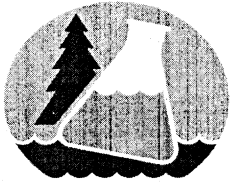
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Qualifiers and Definitions

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.



Northern Lake Service
 ENVIRONMENTAL ANALYTICAL LABORATORY
 400 N Lake Ave | Crandon, WI 54520 | 800-278-1254 | www.nls.com

CB01159



UCMR5 Sample Collection and Chain of Custody Record
 Oshkosh Water Filtration Dept -- UCMR5 Testing SE1

Bottle Order Number: C000080

(Client please fill in date/time)

Sample Point ID Code	Collection Date/Time	200.7	533	537.1
EP81	2/7/2023 10:00	X	X	X
EP81 Field Blank	2/7/2023 10:00		X	X

The EPA Unregulated Contaminant Monitoring Program has specific sample receipt temperature requirements. Samples received within 48 hours from collection must be received at < or = 10 C. Samples received greater than 48 hours from collection must be received at < or = 6 C

(Client please sign)

Collected by (signature)	<i>[Signature]</i>
Method of Transport	EPAC DEC
Sample Collection Comments (Optional)	

		(To be filled out by lab upon arrival)			200.7	533	537.1
Received at NLS by (Signature)	<i>[Signature]</i>	Date/Time	2/8/23	Rec Temp	3	7.0	7.0
Remarks and other information	Speed						

IMPORTANT: To meet regulatory requirements, this form must be completed in detail and included in the cooler containing the samples described

For Lab Use Only										
Method 533	S1B1	S1B2	S2B1	S2B2	S3B1	S3B2	S4B1	S4B2	S5B1	S5B2
pH (6-8)	6.70	6.55								
Res Chlorine (<0.1)	2.1	2.1								
Method 537.1	S1B1	S1B2	S2B1	S2B2	S3B1	S3B2	S4B1	S4B2	S5B1	S5B2
pH (6-8)	7.12	7.14								
Res Chlorine (<0.1)	2.1	2.1								
Method 200.7	S1	S2	S3	S4	S5					
Acidified										