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

September 01, 2023

** DRAFT **

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

Project: UCMR5 Testing SE3
Project Number: UCMR5 Testing
Work Order: CB09464
Received: 08/10/23

Enclosed are the results of analyses for samples received by our laboratory on 8/10/2023. If you have any questions concerning this report, please feel free to contact a client service representative at clientservices@nlslab.com.

Sincerely,

DRAFT REPORT
Northern Lake Service, Inc.

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Oshkosh Water Filtration Dept	Project: UCMR5 Testing SE3		
425 Lakeshore Drive	Project Number: UCMR5 Testing	**Reported:**	**Work Order:**
Oshkosh, WI 54901	Project Manager: Brad Rokus	9/1/23 15:11	CB09464

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
CB09464-01	EP81	DW			8/9/23 11:00	8/10/23 7:45

Analysis Qualifiers:

LabNumber	Analysis	Qualifier
CB09464-01	UCMR5 EPA Method 533	FBNA
CB09464-01	UCMR5 EPA Method 537.1	FBNA

Cancelled Tests:

LabNumber	SampleName	Analysis	Cancelled	Initials
CB09464-02	EP81 Field Blank	Perfluorinated Chemicals by EPA Method 533	8/21/23 5:21	CSC
CB09464-02	EP81 Field Blank	Perfluorinated Chemicals by EPA Method 537.1	8/17/23 12:06	CSC

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425 Lakeshore Drive	Project Number: UCMR5 Testing	**Reported:**	**Work Order:**
Oshkosh, WI 54901	Project Manager: Brad Rokus	9/1/23 15:11	CB09464

Sample Results

Sample: EP81

CB09464-01 (DW) Sampled: 08/09/23 11:00

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Metals										
Lithium, Total	ND		9.0		ug/L	8/11/23 12:30	8/15/23 9:47	RAB	EPA 200.7, Rev 4.4	1
Surrogate: Yttrium 200.7 ISTD	*94%*		*Limits: 60-125%*			*8/11/23 12:30*	*8/15/23 9:47*	*RAB*	*EPA 200.7, Rev 4.4*	
Semi-Volatiles										
perfluorobutanoic acid (PFBA)	ND		0.0050		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.0040		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluoropentanoic acid (PFPeA)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluorobutanesulfonic acid (PFBS)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.020		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorohexane sulfonic acid (4:2FTS)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluorohexanoic acid (PFHxA)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluoropentanesulfonic acid (PFPeS)	ND		0.0040		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		0.0050		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluoroheptanoic acid (PFHpA)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluorohexanesulfonic acid (PFHxS)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorooctane sulfonic acid (6:2FTS)	ND		0.0050		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluoroheptanesulfonic acid (PFHpS)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluorooctanoic acid (PFOA)	ND		0.0040		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluorononanoic acid (PFNA)	ND		0.0040		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluorooctanesulfonic acid (PFOS)	ND		0.0040		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.0020		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluorodecanoic acid (PFDA)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorodecane sulfonic acid (8:2FTS)	ND		0.0050		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluoroundecanoic acid (PFUnA)	ND		0.0020		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1

Oshkosh Water Filtration Dept	Project: UCMR5 Testing SE3		
425 Lakeshore Drive	Project Number: UCMR5 Testing	**Reported:**	**Work Order:**
Oshkosh, WI 54901	Project Manager: Brad Rokus	9/1/23 15:11	CB09464

Sample Results (Continued)

Sample: EP81 (Continued)

CB09464-01 (DW) Sampled: 08/09/23 11:00

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles (Continued)										
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.0050		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
perfluorododecanoic acid (PFDoA)	ND		0.0030		ug/L	8/17/23 5:30	8/18/23 17:27	RAW	EPA 533	1
Surrogate: (EIS) MPFBA	*92%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M5PFPeA	*93%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M3PFBS	*95%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M2-4:2FTS	*103%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M5PFHxA	*90%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M4PFHpA	*87%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M3PFHxS	*94%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M2-6:2FTS	*95%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M8PFOA	*83%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M9PFNA	*78%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M8PFOS	*95%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M2-8:2FTS	*101%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M6PFDA	*83%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M7PFUdA	*87%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) MPFDoA	*88%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
Surrogate: (EIS) M3HFPODA	*90%*		*Limits: 50-200%*			*8/17/23 5:30*	*8/18/23 17:27*	*RAW*	*EPA 533*	
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.0060		ug/L	8/15/23 9:49	8/16/23 19:01	RAW	EPA 537.1, Rev 2.0	1
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.0050		ug/L	8/15/23 9:49	8/16/23 19:01	RAW	EPA 537.1, Rev 2.0	1
perfluorotridecanoic acid (PFTrDA)	ND		0.0070		ug/L	8/15/23 9:49	8/16/23 19:01	RAW	EPA 537.1, Rev 2.0	1
perfluorotetradecanoic acid (PFTA)	ND		0.0080		ug/L	8/15/23 9:49	8/16/23 19:01	RAW	EPA 537.1, Rev 2.0	1
Surrogate: (SURR) C13-PFHxA	*97%*		*Limits: 70-130%*			*8/15/23 9:49*	*8/16/23 19:01*	*RAW*	*EPA 537.1, Rev 2.0*	
Surrogate: (SURR) C13-HFPODA	*95%*		*Limits: 70-130%*			*8/15/23 9:49*	*8/16/23 19:01*	*RAW*	*EPA 537.1, Rev 2.0*	
Surrogate: (SURR) C13-PFDA	*102%*		*Limits: 70-130%*			*8/15/23 9:49*	*8/16/23 19:01*	*RAW*	*EPA 537.1, Rev 2.0*	
Surrogate: (SURR) d5-NEtFOSAA	*93%*		*Limits: 70-130%*			*8/15/23 9:49*	*8/16/23 19:01*	*RAW*	*EPA 537.1, Rev 2.0*	

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Oshkosh, WI 54901	Project Manager: Brad Rokus	9/1/23 15:11	CB09464

List of Certifications

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

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Oshkosh, WI 54901	Project Manager: Brad Rokus	9/1/23 15:11	CB09464

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.

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ENVIRONMENTAL ANALYTICAL LABORATORY
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UCMR5 Sample Collection and Chain of Custody Record

Oshkosh Water Filtration Dept -- UCMR5 Testing SE3

Bottle Order Number: C000082

(Client please fill in date/time)

Sample Point ID Code	Collection Date/Time	200.7	533	537.1
EP81	8/9/2023 1100	X	X	X
EP81 Field Blank	8/9/2023 1100		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 (signatures)	Jesse Burris
Method of Transport	EZR Spec Dec
Sample Collection Comments (Optional	

	(To be filled out by lab upon arrival)		200.7	533	537.1
Received at NLS by (Signature)	Date/Time 8/10/23 0715	Rec Temp 6.2		6.2	4.7
Remarks and other Information					

IMPORTANT: To meet regulatory requirements, this form must be completed in detail and includedin 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)	6.94	6.96	6.98	6.92						
Res Chlorine (<0.1)	<.1	<.1	<.1	<.1						

Method 537.1	S1B1	S1B2	S2B1	S2B2	S3B1	S3B2	S4B1	S4B2	S5B1	S5B2
pH (6-8)	7.32	7.37								
Res Chlorine (<0.1)	<.1	<.1								

Method 200.7	S1	S2	S3	S4	S5
Acidified	✓				

CB09464