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800-278-1254 • www.nlslab.com

August 24, 2023

Dennis Wolf
Sussex Dept Public Works
N64 W23760 Main Street
Sussex, WI 53089

Project: UCMR5 Testing SE2
Project Number: UCMR5 Testing
Work Order: CB09371
Received: 08/09/23

Enclosed are the results of analyses for samples received by our laboratory on 8/9/2023. 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, appearing to read "Ronald T. Krueger".

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



Sussex Dept Public Works
N64 W23760 Main Street
Sussex, WI 53089

Project: UCMR5 Testing SE2
Project Number: UCMR5 Testing
Project Manager: Dennis Wolf

Reported:
8/24/23 14:48

Work Order:
CB09371

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
CB09371-01	EP100	DW			8/8/23 8:47	8/9/23 8:15
CB09371-03	EP4	DW			8/8/23 9:45	8/9/23 8:15
CB09371-05	EP5	DW			8/8/23 10:25	8/9/23 8:15
CB09371-07	EP8	DW			8/8/23 9:20	8/9/23 8:15

Analysis Qualifiers:

LabNumber	Analysis	Qualifier
CB09371-01	UCMR5 EPA Method 533	FBNA
CB09371-01	UCMR5 EPA Method 537.1	FBNA
CB09371-03	UCMR5 EPA Method 533	FBNA
CB09371-03	UCMR5 EPA Method 537.1	FBNA
CB09371-05	UCMR5 EPA Method 533	FBNA
CB09371-05	UCMR5 EPA Method 537.1	FBNA
CB09371-07	UCMR5 EPA Method 533	FBNA
CB09371-07	UCMR5 EPA Method 537.1	FBNA

Cancelled Tests:

LabNumber	SampleName	Analysis	Cancelled	Initials
CB09371-02	EP100 Field Blank	Perfluorinated Chemicals by EPA Method 533	8/15/23 11:51	CSC
CB09371-02	EP100 Field Blank	Perfluorinated Chemicals by EPA Method 537.1	8/14/23 8:54	CSC
CB09371-04	EP4 Field Blank	Perfluorinated Chemicals by EPA Method 533	8/16/23 12:57	CSC
CB09371-04	EP4 Field Blank	Perfluorinated Chemicals by EPA Method 537.1	8/14/23 8:54	CSC
CB09371-06	EP5 Field Blank	Perfluorinated Chemicals by EPA Method 533	8/16/23 12:57	CSC
CB09371-06	EP5 Field Blank	Perfluorinated Chemicals by EPA Method 537.1	8/14/23 8:54	CSC
CB09371-08	EP8 Field Blank	Perfluorinated Chemicals by EPA Method 533	8/16/23 12:57	CSC
CB09371-08	EP8 Field Blank	Perfluorinated Chemicals by EPA Method 537.1	8/14/23 8:54	CSC



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Sample Results

Sample: EP100

CB09371-01 (DW) Sampled: 08/08/23 08:47

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 8:53	RAB	EPA 200.7, Rev 4.4	1
<i>Surrogate: Yttrium 200.7 ISTD</i>										
	92%		Limits: 60-125%			8/11/23 12:30	8/15/23 8:53	RAB	EPA 200.7, Rev 4.4	
Semi-Volatiles										
perfluorobutanoic acid (PFBA)	ND		0.0050		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.0040		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluoropentanoic acid (PFPeA)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluorobutanesulfonic acid (PFBS)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.020		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorohexane sulfonic acid (4:2FTS)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluorohexanoic acid (PFHxA)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluoropentanesulfonic acid (PFPeS)	ND		0.0040		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		0.0050		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluoroheptanoic acid (PFHpA)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluorohexanesulfonic acid (PFHxS)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorooctane sulfonic acid (6:2FTS)	ND		0.0050		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluoroheptanesulfonic acid (PFHpS)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluorooctanoic acid (PFOA)	ND		0.0040		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluorononanoic acid (PFNA)	ND		0.0040		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluorooctanesulfonic acid (PFOS)	ND		0.0040		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.0020		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluorodecanoic acid (PFDA)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorodecane sulfonic acid (8:2FTS)	ND		0.0050		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluoroundecanoic acid (PFUnA)	ND		0.0020		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1



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8/24/23 14:48

Work Order:
CB09371

Sample Results (Continued)

Sample: EP100 (Continued)

CB09371-01 (DW) Sampled: 08/08/23 08:47

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles (Continued)										
11-chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.0050		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
perfluorododecanoic acid (PFDa)	ND		0.0030		ug/L	8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	1
<i>Surrogate: (EIS) MPFBA</i>	87%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M5PFPeA</i>	82%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M3PFBS</i>	86%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M2-4:2FTS</i>	83%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M5PFHxA</i>	89%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M4PFHpA</i>	87%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M3PFHxS</i>	86%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M2-6:2FTS</i>	74%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M8PFOA</i>	81%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M9PFNA</i>	77%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M8PFOS</i>	88%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M2-8:2FTS</i>	87%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M6PFDA</i>	81%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M7PFUdA</i>	85%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) MPFDoA</i>	88%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
<i>Surrogate: (EIS) M3HFPODA</i>	89%		<i>Limits: 50-200%</i>			8/14/23 5:26	8/15/23 0:44	RAW	EPA 533	
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.0060		ug/L	8/10/23 9:16	8/11/23 18:02	RAW	EPA 537.1, Rev 2.0	1
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.0050		ug/L	8/10/23 9:16	8/11/23 18:02	RAW	EPA 537.1, Rev 2.0	1
perfluorotridecanoic acid (PFTTrDA)	ND		0.0070		ug/L	8/10/23 9:16	8/11/23 18:02	RAW	EPA 537.1, Rev 2.0	1
perfluorotetradecanoic acid (PFTTA)	ND		0.0080		ug/L	8/10/23 9:16	8/11/23 18:02	RAW	EPA 537.1, Rev 2.0	1
<i>Surrogate: (SURRE) C13-PFHxA</i>	93%		<i>Limits: 70-130%</i>			8/10/23 9:16	8/11/23 18:02	RAW	EPA 537.1, Rev 2.0	
<i>Surrogate: (SURRE) C13-HFPODA</i>	88%		<i>Limits: 70-130%</i>			8/10/23 9:16	8/11/23 18:02	RAW	EPA 537.1, Rev 2.0	
<i>Surrogate: (SURRE) C13-PFDA</i>	93%		<i>Limits: 70-130%</i>			8/10/23 9:16	8/11/23 18:02	RAW	EPA 537.1, Rev 2.0	
<i>Surrogate: (SURRE) d5-NEtFOSAA</i>	96%		<i>Limits: 70-130%</i>			8/10/23 9:16	8/11/23 18:02	RAW	EPA 537.1, Rev 2.0	

Sample: EP4

CB09371-03 (DW) Sampled: 08/08/23 09:45

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
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Sample Results (Continued)

Sample: EP4 (Continued)

CB09371-03 (DW) Sampled: 08/08/23 09:45

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Metals										
Lithium, Total	12		9.0		ug/L	8/11/23 12:30	8/15/23 8:56	RAB	EPA 200.7, Rev 4.4	1
<i>Surrogate: Yttrium 200.7 ISTD</i>	<i>92%</i>		<i>Limits: 60-125%</i>			<i>8/11/23 12:30</i>	<i>8/15/23 8:56</i>	<i>RAB</i>	<i>EPA 200.7, Rev 4.4</i>	
Semi-Volatiles										
perfluorobutanoic acid (PFBA)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluoropentanoic acid (PFPeA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluorobutanesulfonic acid (PFBS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.020		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorohexane sulfonic acid (4:2F7S)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluorohexanoic acid (PFHxA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluoropentanesulfonic acid (PFPeS)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluoroheptanoic acid (PFHpA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluorohexanesulfonic acid (PFHxS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorooctane sulfonic acid (6:2F7S)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluoroheptanesulfonic acid (PFHpS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluorooctanoic acid (PFOA)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluorononanoic acid (PFNA)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluorooctanesulfonic acid (PFOS)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.0020		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluorodecanoic acid (PFDA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorodecane sulfonic acid (8:2F7S)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluoroundecanoic acid (PFUnA)	ND		0.0020		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1



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Work Order:
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Sample Results (Continued)

Sample: EP4 (Continued)

CB09371-03 (DW) Sampled: 08/08/23 09:45

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles (Continued)										
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
perfluorododecanoic acid (PFDa)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	1
Surrogate: (EIS) MPFBA	84%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M5PFPeA	78%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M3PFBS	84%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M2-4:2FTS	79%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M5PFHxA	86%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M4PFHpA	85%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M3PFHxS	85%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M2-6:2FTS	79%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M8PFOA	88%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M9PFNA	86%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M8PFOS	84%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M2-8:2FTS	97%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M6PFDA	88%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M7PFUDa	85%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) MPFDoA	89%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
Surrogate: (EIS) M3HFPODA	97%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:23	RAW	EPA 533	
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.0060		ug/L	8/10/23 9:16	8/11/23 18:28	RAW	EPA 537.1, Rev 2.0	1
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.0050		ug/L	8/10/23 9:16	8/11/23 18:28	RAW	EPA 537.1, Rev 2.0	1
perfluorotridecanoic acid (PFTTrDA)	ND		0.0070		ug/L	8/10/23 9:16	8/11/23 18:28	RAW	EPA 537.1, Rev 2.0	1
perfluorotetradecanoic acid (PFTTA)	ND		0.0080		ug/L	8/10/23 9:16	8/11/23 18:28	RAW	EPA 537.1, Rev 2.0	1
Surrogate: (SURRE) C13-PFHxA	85%		Limits: 70-130%			8/10/23 9:16	8/11/23 18:28	RAW	EPA 537.1, Rev 2.0	
Surrogate: (SURRE) C13-HFPODA	85%		Limits: 70-130%			8/10/23 9:16	8/11/23 18:28	RAW	EPA 537.1, Rev 2.0	
Surrogate: (SURRE) C13-PFDA	85%		Limits: 70-130%			8/10/23 9:16	8/11/23 18:28	RAW	EPA 537.1, Rev 2.0	
Surrogate: (SURRE) d5-NEtFOSAA	90%		Limits: 70-130%			8/10/23 9:16	8/11/23 18:28	RAW	EPA 537.1, Rev 2.0	

Sample: EP5

CB09371-05 (DW) Sampled: 08/08/23 10:25

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
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Work Order:
CB09371

Sample Results (Continued)

Sample: EP5 (Continued)

CB09371-05 (DW) Sampled: 08/08/23 10:25

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 8:59	RAB	EPA 200.7, Rev 4.4	1
<i>Surrogate: Yttrium 200.7 ISTD</i>	<i>92%</i>		<i>Limits: 60-125%</i>			<i>8/11/23 12:30</i>	<i>8/15/23 8:59</i>	<i>RAB</i>	<i>EPA 200.7, Rev 4.4</i>	
Semi-Volatiles										
perfluorobutanoic acid (PFBA)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluoropentanoic acid (PFPeA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluorobutanesulfonic acid (PFBS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.020		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorohexane sulfonic acid (4:2FTS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluorohexanoic acid (PFHxA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluoropentanesulfonic acid (PFPeS)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluoroheptanoic acid (PFHpA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluorohexanesulfonic acid (PFHxS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorooctane sulfonic acid (6:2FTS)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluoroheptanesulfonic acid (PFHpS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluorooctanoic acid (PFOA)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluorononanoic acid (PFNA)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluorooctanesulfonic acid (PFOS)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.0020		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluorodecanoic acid (PFDA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorodecane sulfonic acid (8:2FTS)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluoroundecanoic acid (PFUnA)	ND		0.0020		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1



Sussex Dept Public Works
N64 W23760 Main Street
Sussex, WI 53089

Project: UCMR5 Testing SE2
Project Number: UCMR5 Testing
Project Manager: Dennis Wolf

Reported:
8/24/23 14:48

Work Order:
CB09371

Sample Results (Continued)

Sample: EP5 (Continued)

CB09371-05 (DW) Sampled: 08/08/23 10:25

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles (Continued)										
11-chloroeicosafuoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
perfluorododecanoic acid (PFDa)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	1
Surrogate: (EIS) MPFBA	88%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M5PFPeA	80%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M3PFBS	79%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M2-4:2FTS	81%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M5PFHxA	86%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M4PFHpA	84%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M3PFHxS	84%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M2-6:2FTS	72%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M8PFOA	81%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M9PFNA	83%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M8PFOS	85%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M2-8:2FTS	86%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M6PFDA	86%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M7PFUDa	81%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) MPFDoA	83%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
Surrogate: (EIS) M3HFPODA	91%		Limits: 50-200%			8/15/23 5:29	8/15/23 15:47	RAW	EPA 533	
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.0060		ug/L	8/10/23 9:16	8/11/23 18:53	RAW	EPA 537.1, Rev 2.0	1
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.0050		ug/L	8/10/23 9:16	8/11/23 18:53	RAW	EPA 537.1, Rev 2.0	1
perfluorotridecanoic acid (PFTTrDA)	ND		0.0070		ug/L	8/10/23 9:16	8/11/23 18:53	RAW	EPA 537.1, Rev 2.0	1
perfluorotetradecanoic acid (PFTTA)	ND		0.0080		ug/L	8/10/23 9:16	8/11/23 18:53	RAW	EPA 537.1, Rev 2.0	1
Surrogate: (SURRE) C13-PFHxA	91%		Limits: 70-130%			8/10/23 9:16	8/11/23 18:53	RAW	EPA 537.1, Rev 2.0	
Surrogate: (SURRE) C13-HFPODA	87%		Limits: 70-130%			8/10/23 9:16	8/11/23 18:53	RAW	EPA 537.1, Rev 2.0	
Surrogate: (SURRE) C13-PFDA	91%		Limits: 70-130%			8/10/23 9:16	8/11/23 18:53	RAW	EPA 537.1, Rev 2.0	
Surrogate: (SURRE) d5-NEtFOSAA	94%		Limits: 70-130%			8/10/23 9:16	8/11/23 18:53	RAW	EPA 537.1, Rev 2.0	

Sample: EP8

CB09371-07 (DW) Sampled: 08/08/23 09:20

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
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Sussex Dept Public Works
N64 W23760 Main Street
Sussex, WI 53089

Project: UCMR5 Testing SE2
Project Number: UCMR5 Testing
Project Manager: Dennis Wolf

Reported:
8/24/23 14:48

Work Order:
CB09371

Sample Results (Continued)

Sample: EP8 (Continued)

CB09371-07 (DW) Sampled: 08/08/23 09:20

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Metals										
Lithium, Total	9.2		9.0		ug/L	8/11/23 12:30	8/15/23 9:02	RAB	EPA 200.7, Rev 4.4	1
<hr/>										
Surrogate: Yttrium 200.7 ISTD	92%		Limits: 60-125%			8/11/23 12:30	8/15/23 9:02	RAB	EPA 200.7, Rev 4.4	
<hr/>										
Semi-Volatiles										
perfluorobutanoic acid (PFBA)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluoro-3-methoxypropanoic acid (PFMPA)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluoropentanoic acid (PFPeA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluorobutanesulfonic acid (PFBS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluoro-4-methoxybutanoic acid (PFMBA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluoro(2-ethoxyethane)sulfonic acid (PFEESA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
nonafluoro-3,6-dioxaheptanoic acid (NFDHA)	ND		0.020		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorohexane sulfonic acid (4:2FTS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluorohexanoic acid (PFHxA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluoropentanesulfonic acid (PFPeS)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
hexafluoropropylene oxide dimer acid (HFPO DA)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluoroheptanoic acid (PFHpA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluorohexanesulfonic acid (PFHxS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
4,8-dioxa-3H-perfluorononanoic acid (ADONA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorooctane sulfonic acid (6:2FTS)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluoroheptanesulfonic acid (PFHpS)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluorooctanoic acid (PFOA)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluorononanoic acid (PFNA)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluorooctanesulfonic acid (PFOS)	ND		0.0040		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND		0.0020		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluorodecanoic acid (PFDA)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
1H,1H, 2H, 2H-perfluorodecane sulfonic acid (8:2FTS)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluoroundecanoic acid (PFUnA)	ND		0.0020		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1



Sussex Dept Public Works
N64 W23760 Main Street
Sussex, WI 53089

Project: UCMR5 Testing SE2
Project Number: UCMR5 Testing
Project Manager: Dennis Wolf

Reported:
8/24/23 14:48

Work Order:
CB09371

Sample Results (Continued)

Sample: EP8 (Continued)

CB09371-07 (DW) Sampled: 08/08/23 09:20

Analyte	Result	Qualifier	MRL	MCL	Units	Date Prepared	Date Analyzed	Analyst	Method	Lab Cert Code
Semi-Volatiles (Continued)										
11-chloroeicosfluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND		0.0050		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
perfluorododecanoic acid (PFDa)	ND		0.0030		ug/L	8/15/23 5:29	8/15/23 16:11	RAW	EPA 533	1
<i>Surrogate: (EIS) MPFBA</i>	89%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M5PFPeA</i>	83%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M3PFBS</i>	88%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M2-4:2FTS</i>	79%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M5PFHxA</i>	87%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M4PFHpA</i>	87%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M3PFHxS</i>	86%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M2-6:2FTS</i>	80%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M8PFOA</i>	88%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M9PFNA</i>	85%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M8PFOS</i>	88%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M2-8:2FTS</i>	97%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M6PFDA</i>	84%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M7PFUDa</i>	85%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) MPFDoA</i>	83%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
<i>Surrogate: (EIS) M3HFPODA</i>	96%		<i>Limits: 50-200%</i>			<i>8/15/23 5:29</i>	<i>8/15/23 16:11</i>	<i>RAW</i>	<i>EPA 533</i>	
n-methyl perfluorooctanesulfonamidoacetic acid (NMeFOSAA)	ND		0.0060		ug/L	8/10/23 9:16	8/11/23 19:19	RAW	EPA 537.1, Rev 2.0	1
N-ethyl perfluorooctanesulfonamidoacetic acid (NEtFOSAA)	ND		0.0050		ug/L	8/10/23 9:16	8/11/23 19:19	RAW	EPA 537.1, Rev 2.0	1
perfluorotridecanoic acid (PFTTrDA)	ND		0.0070		ug/L	8/10/23 9:16	8/11/23 19:19	RAW	EPA 537.1, Rev 2.0	1
perfluorotetradecanoic acid (PFTTA)	ND		0.0080		ug/L	8/10/23 9:16	8/11/23 19:19	RAW	EPA 537.1, Rev 2.0	1
<i>Surrogate: (SURR) C13-PFHxA</i>	88%		<i>Limits: 70-130%</i>			<i>8/10/23 9:16</i>	<i>8/11/23 19:19</i>	<i>RAW</i>	<i>EPA 537.1, Rev 2.0</i>	
<i>Surrogate: (SURR) C13-HFPODA</i>	83%		<i>Limits: 70-130%</i>			<i>8/10/23 9:16</i>	<i>8/11/23 19:19</i>	<i>RAW</i>	<i>EPA 537.1, Rev 2.0</i>	
<i>Surrogate: (SURR) C13-PFDA</i>	83%		<i>Limits: 70-130%</i>			<i>8/10/23 9:16</i>	<i>8/11/23 19:19</i>	<i>RAW</i>	<i>EPA 537.1, Rev 2.0</i>	
<i>Surrogate: (SURR) d5-NEtFOSAA</i>	86%		<i>Limits: 70-130%</i>			<i>8/10/23 9:16</i>	<i>8/11/23 19:19</i>	<i>RAW</i>	<i>EPA 537.1, Rev 2.0</i>	



Sussex Dept Public Works
N64 W23760 Main Street
Sussex, WI 53089

Project: UCMR5 Testing SE2
Project Number: UCMR5 Testing
Project Manager: Dennis Wolf

Reported:
8/24/23 14:48

Work Order:
CB09371

List of Certifications

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



Sussex Dept Public Works
N64 W23760 Main Street
Sussex, WI 53089

Project: UCMR5 Testing SE2
Project Number: UCMR5 Testing
Project Manager: Dennis Wolf

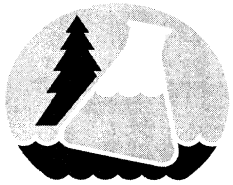
Reported:
8/24/23 14:48

Work Order:
CB09371

Qualifiers and Definitions

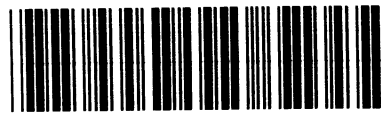
Item	Definition
FBNA	The field sample had no detects, therefore the corresponding trip blank/field reagent blank was not analyzed.
ND	Analyte NOT DETECTED at or above the LOD or MRL.
LOD	Limit of Detection.
LOQ	Limit of Quantitation.
NA	Not Applicable.
Dry	Dry Weight Basis.
Wet	Wet Weight Basis.
% Dry	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 Servi
 ENVIRONMENTAL ANALYTICAL LAB
 400 N Lake Ave | Crandon, WI 54520 | 800-278-1254 |

CB09371



UCMR5 Sample Collection and Chain of Custody Record
 Sussex Dept Public Works -- UCMR5 Testing SE2

Bottle Order Number: C000141

(Client please fill in date/time)

Sample Point ID Code	Collection Date/Time	200.7	533	537.1
EP100	8-8-23 08:47 am	X	X	X
EP100 Field Blank	8-8-23 09:47 am		X	X
EP4	8-8-23 09:45 am	X	X	X
EP4 Field Blank	8-8-23 09:45 am		X	X
EP5	8-8-23 10:25 am	X	X	X
EP5 Field Blank	8-8-23 10:25 am		X	X
EP8	8-8-23 09:20 am	X	X	X
EP8 Field Blank	8-8-23 09:20 am		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)
Method of Transport
Sample Collection Comments (Optional)

		(To be filled out by lab upon arrival)		
		200.7	533	537.1
Received at NLS by (Signature)	Date/Time	Rec Temp		
	8/8/23 08:15	36	2.5	3.6
Remarks and other Information				
Spills				

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)	7.27	7.23	7.28	7.20	7.25	7.23	7.22	7.18		
Res Chlorine (<0.1)	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1		
Method 537.1	S1B1	S1B2	S2B1	S2B2	S3B1	S3B2	S4B1	S4B2	S5B1	S5B2
pH (6-8)	7.39	7.41	7.27	7.35	7.31	7.35	7.30	7.39		
Res Chlorine (<0.1)	<.1	<.1	<.1	<.1	<.1	<.1	<.1	<.1		
Method 200.7	S1	S2	S3	S4	S5					
Acidified	/	/	/	/						