

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 347354

Project Description: Drinking Water

Project Title: PWS# 74401261

Template: SCI2537.1 Printed: 07/14/2020 06:24

Sample: 1196223 1553 S:Oneida Collected: 06/30/20 Analyzed: 07/08/20 - Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	[1.52]	ng/L	1	0.54	1.8		J
Perfluoroheptanoic acid (PFHpA)	2.29	ng/L	1	0.27	0.89		
Perfluorooctanoic acid (PFOA)	4.01	ng/L	1	0.66	2.2		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.37	1.2		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.65	2.2		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.48	1.6		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.88	2.9		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.69	2.3		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.85	2.8		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.51	1.7		
Perfluorohexanesulfonic acid (PFHxS)	[0.48]	ng/L	1	0.28	0.93		J
Perfluorooctanesulfonic acid (PFOS)	1.2	ng/L	1	0.26	0.87		
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.50	1.7		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.76	2.5		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	0.36	1.2		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.29	0.98		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.39	1.3		
C13-PFHxA (SURR)	64.904%		1				SR S
C13-HFPODA (SURR)	61.001%		1				SR S
C13-PFDA (SURR)	86.659%		1				S
d5-NEtFOSAA (SURR)	81.831%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.

S = This compound is a surrogate used to evaluate the quality control of a method.

SR = Surrogate recovery was outside QC limits.

C13-HFPODA recovered below QC limits.

C13-PFHxA recovered below QC limits.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 347354

Project Description: Drinking Water

Project Title: PWS# 74401261

Template: SCI2537.1 Printed: 07/14/2020 06:24

Sample: 1196224 1549 S Oneida Collected: 06/30/20 Analyzed: 07/08/20 - Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	3.34	ng/L	1	0.54	1.8		
Perfluoroheptanoic acid (PFHpA)	2.95	ng/L	1	0.27	0.89		
Perfluorooctanoic acid (PFOA)	3.82	ng/L	1	0.66	2.2		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.37	1.2		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.65	2.2		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.48	1.6		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.88	2.9		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.69	2.3		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.85	2.8		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.51	1.7		
Perfluorohexanesulfonic acid (PFHxS)	[0.61]	ng/L	1	0.28	0.93		J
Perfluorooctanesulfonic acid (PFOS)	1.89	ng/L	1	0.26	0.87		
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.50	1.7		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.76	2.5		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	0.36	1.2		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.29	0.98		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.39	1.3		
C13-PFHxA (SURR)	60.731%		1				SR S
C13-HFPODA (SURR)	57.643%		1				SR S
C13-PFDA (SURR)	76.017%		1				S
d5-NEtFOSAA (SURR)	93.529%		1				S

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SR = Surrogate recovery was outside QC limits.

C13-HFPODA recovered below QC limits.

C13-PFHxA recovered below QC limits.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 347354

Project Description: Drinking Water

Project Title: PWS# 74401261

Template: SCI2537.1 Printed: 07/14/2020 06:24

Sample: 1196225 1409 Phillip St Collected: 06/30/20 Analyzed: 07/08/20 - Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	dIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	3.11	ng/L	1	0.54	1.8		
Perfluoroheptanoic acid (PFHpA)	2.57	ng/L	1	0.27	0.89		
Perfluorooctanoic acid (PFOA)	4.76	ng/L	1	0.66	2.2		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.37	1.2		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.65	2.2		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.48	1.6		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.88	2.9		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.69	2.3		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.85	2.8		
Perfluorobutanesulfonic acid (PFBS)	[1.52]	ng/L	1	0.51	1.7		J
Perfluorohexanesulfonic acid (PFHxS)	1.62	ng/L	1	0.28	0.93		
Perfluorooctanesulfonic acid (PFOS)	[0.66]	ng/L	1	0.26	0.87		J
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.50	1.7		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.76	2.5		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	0.36	1.2		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.29	0.98		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.39	1.3		
C13-PFHxA (SURR)	74.53%		1				S
C13-HFPODA (SURR)	65.282%		1				SR S
C13-PFDA (SURR)	75.67%		1				S
d5-NEtFOSAA (SURR)	99.955%		1				S

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C13-HFPODA recovered below QC limits.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 347354

Project Description: Drinking Water

Project Title: PWS# 74401261

Template: SCI2537.1 Printed: 07/14/2020 06:24

Sample: 1196226 3401 Fox Ranch Rd Collected: 06/30/20 Analyzed: 07/08/20 - Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	[1.04]	ng/L	1	0.54	1.8		J
Perfluoroheptanoic acid (PFHpA)	[0.54]	ng/L	1	0.27	0.89		J
Perfluorooctanoic acid (PFOA)	[0.89]	ng/L	1	0.66	2.2		J
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.37	1.2		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.65	2.2		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.48	1.6		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.88	2.9		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.69	2.3		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.85	2.8		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.51	1.7		
Perfluorohexanesulfonic acid (PFHxS)	3.55	ng/L	1	0.28	0.93		
Perfluorooctanesulfonic acid (PFOS)	[0.41]	ng/L	1	0.26	0.87		J
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.50	1.7		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.76	2.5		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	0.36	1.2		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.29	0.98		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.39	1.3		
C13-PFHxA (SURR)	77.979%		1				S
C13-HFPODA (SURR)	78.909%		1				S
C13-PFDA (SURR)	87.377%		1				S
d5-NEtFOSAA (SURR)	100.176%		1				S

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ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 347354

Project Description: Drinking Water

Project Title: PWS# 74401261

Template: SCI2537.1 Printed: 07/14/2020 06:24

Sample: 1196227 3400 Fox Ranch Rd Collected: 06/30/20 Analyzed: 07/08/20 Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	ND	ng/L	1	0.54	1.8		
Perfluoroheptanoic acid (PFHpA)	ND	ng/L	1	0.27	0.89		
Perfluorooctanoic acid (PFOA)	ND	ng/L	1	0.66	2.2		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.37	1.2		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.65	2.2		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.48	1.6		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.88	2.9		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.69	2.3		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.85	2.8		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.51	1.7		
Perfluorohexanesulfonic acid (PFHxS)	[0.47]	ng/L	1	0.28	0.93		J
Perfluorooctanesulfonic acid (PFOS)	ND	ng/L	1	0.26	0.87		
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.50	1.7		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.76	2.5		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	0.36	1.2		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.29	0.98		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.39	1.3		
C13-PFHxA (SURR)	79.8%		1				S
C13-HFPODA (SURR)	77.236%		1				S
C13-PFDA (SURR)	89.019%		1				S
d5-NEtFOSAA (SURR)	101.348%		1				S

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ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 352174

Project Description: PFAS Analysis

Project Title: Template: SCI1537.1 Printed: 09/23/2020 15:01

Sample: 1211268 1553 S Oneida Collected: 09/01/20 Analyzed: 09/21/20 - Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	[1.14]	ng/L	1	0.41	1.4		J
Perfluoroheptanoic acid (PFHpA)	1.43	ng/L	1	0.34	1.1		
Perfluorooctanoic acid (PFOA)	3.49	ng/L	1	0.31	1.0		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.45	1.5		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.62	2.1		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.76	2.5		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.27	0.88		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.35	1.2		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.24	0.80		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.65	2.2		
Perfluorohexanesulfonic acid (PFHxS)	ND	ng/L	1	0.53	1.8		
Perfluorooctanesulfonic acid (PFOS)	[1.06]	ng/L	1	0.45	1.5		J
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.55	1.8		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.60	2.0		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	1.3	4.4		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.21	0.71		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.14	0.48		
C13-PFHxA (SURR)	70.271%		1				S
C13-HFPODA (SURR)	75.256%		1				S
C13-PFDA (SURR)	104.022%		1				S
d5-NEtFOSAA (SURR)	88.288%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

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ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 352174

Project Description: PFAS Analysis

Project Title: Template: SCI1537.1 Printed: 09/23/2020 15:01

Sample: 1211269 1549 S Oneida Collected: 09/01/20 Analyzed: 09/21/20 - Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	5.72	ng/L	1	0.41	1.4		
Perfluoroheptanoic acid (PFHpA)	4.49	ng/L	1	0.34	1.1		
Perfluorooctanoic acid (PFOA)	5.32	ng/L	1	0.31	1.0		
Perfluorononanoic acid (PFNA)	[0.47]	ng/L	1	0.45	1.5		J
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.62	2.1		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.76	2.5		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.27	0.88		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.35	1.2		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.24	0.80		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.65	2.2		
Perfluorohexanesulfonic acid (PFHxS)	ND	ng/L	1	0.53	1.8		
Perfluorooctanesulfonic acid (PFOS)	2.13	ng/L	1	0.45	1.5		
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.55	1.8		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEFOSAA)	ND	ng/L	1	0.60	2.0		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	1.3	4.4		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.21	0.71		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.14	0.48		
C13-PFHxA (SURR)	65.598%		1				SR S
C13-HFPODA (SURR)	67.198%		1				SR S
C13-PFDA (SURR)	109.214%		1				S
d5-NEFOSAA (SURR)	91.541%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

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SR = Surrogate recovery was outside QC limits.

C13-HFPODA recovered below QC limits.

C13-PFHxA recovered below QC limits.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 352174

Project Description: PFAS Analysis

Project Title: Template: SCI1537.1 Printed: 09/23/2020 15:01

Sample: 1211270 1409 Phillip St Collected: 09/01/20 Analyzed: 09/21/20 - Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	2.78	ng/L	1	0.41	1.4		
Perfluoroheptanoic acid (PFHpA)	2.51	ng/L	1	0.34	1.1		
Perfluorooctanoic acid (PFOA)	4.79	ng/L	1	0.31	1.0		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.45	1.5		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.62	2.1		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.76	2.5		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.27	0.88		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.35	1.2		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.24	0.80		
Perfluorobutanesulfonic acid (PFBS)	[0.96]	ng/L	1	0.65	2.2		J
Perfluorohexanesulfonic acid (PFHxS)	[1.04]	ng/L	1	0.53	1.8		J
Perfluorooctanesulfonic acid (PFOS)	ND	ng/L	1	0.45	1.5		
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.55	1.8		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.60	2.0		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	1.3	4.4		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.21	0.71		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.14	0.48		
C13-PFHxA (SURR)	61.049%		1				SR S
C13-HFPODA (SURR)	65.637%		1				SR S
C13-PFDA (SURR)	99.906%		1				S
d5-NEtFOSAA (SURR)	91.422%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

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SR = Surrogate recovery was outside QC limits.

C13-HFPODA recovered below QC limits.

C13-PFHxA recovered below QC limits.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 352174

Project Description: PFAS Analysis

Project Title: Template: SCI1537.1 Printed: 09/23/2020 15:01

Sample: 1211271 3401 Fox Ranch Rd Collected: 09/01/20 Analyzed: 09/21/20 -- Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	2.78	ng/L	1	0.41	1.4		
Perfluoroheptanoic acid (PFHpA)	2.77	ng/L	1	0.34	1.1		
Perfluorooctanoic acid (PFOA)	4.66	ng/L	1	0.31	1.0		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.45	1.5		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.62	2.1		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.76	2.5		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.27	0.88		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.35	1.2		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.24	0.80		
Perfluorobutanesulfonic acid (PFBS)	[1.12]	ng/L	1	0.65	2.2		J
Perfluorohexanesulfonic acid (PFHxS)	1.82	ng/L	1	0.53	1.8		
Perfluorooctanesulfonic acid (PFOS)	ND	ng/L	1	0.45	1.5		
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.55	1.8		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.60	2.0		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	1.3	4.4		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.21	0.71		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.14	0.48		
C13-PFHxA (SURR)	66.814%		1				SR S
C13-HFPODA (SURR)	65.235%		1				SR S
C13-PFDA (SURR)	101.538%		1				S
d5-NEtFOSAA (SURR)	89.657%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.

S = This compound is a surrogate used to evaluate the quality control of a method.

SR = Surrogate recovery was outside QC limits.

C13-HFPODA recovered below QC limits.

C13-PFHxA recovered below QC limits.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 352174

Project Description: PFAS Analysis

Project Title: Template: SCI1537.1 Printed: 09/23/2020 15:01

Sample: 1211272 3400 Fox Ranch Rd Collected: 09/01/20 Analyzed: 09/21/20 Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	ND	ng/L	1	0.41	1.4		
Perfluoroheptanoic acid (PFHpA)	ND	ng/L	1	0.34	1.1		
Perfluorooctanoic acid (PFOA)	ND	ng/L	1	0.31	1.0		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.45	1.5		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.62	2.1		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.76	2.5		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.27	0.88		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.35	1.2		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.24	0.80		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.65	2.2		
Perfluorohexanesulfonic acid (PFHxS)	ND	ng/L	1	0.53	1.8		
Perfluorooctanesulfonic acid (PFOS)	ND	ng/L	1	0.45	1.5		
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.55	1.8		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.60	2.0		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	1.3	4.4		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.21	0.71		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.14	0.48		
C13-PFHxA (SURR)	72.786%		1				S
C13-HFPODA (SURR)	78.244%		1				S
C13-PFDA (SURR)	104.513%		1				S
d5-NEtFOSAA (SURR)	97.833%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 356540

Project Description: PFAS Analysis

Project Title: Template: SCI1537.1 Printed: 11/18/2020 07:01

Sample: 1225870 1553 Oneida Ave Collected: 11/02/20 Analyzed: 11/11/20 Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	[1.22]	ng/L	1	0.41	1.4		J
Perfluoroheptanoic acid (PFHpA)	1.39	ng/L	1	0.34	1.1		
Perfluorooctanoic acid (PFOA)	3.58	ng/L	1	0.31	1.0		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.45	1.5		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.62	2.1		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.76	2.5		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.27	0.88		
Perfluorotridecanoic acid (PFTrIA)	ND	ng/L	1	0.35	1.2		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.24	0.80		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.65	2.2		
Perfluorohexanesulfonic acid (PFHxS)	ND	ng/L	1	0.53	1.8		
Perfluorooctanesulfonic acid (PFOS)	[1.12]	ng/L	1	0.45	1.5		J
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.55	1.8		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEFOSAA)	ND	ng/L	1	0.60	2.0		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	1.3	4.4		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.21	0.71		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.14	0.48		
C13-PFHxA (SURR)	60.313%		1				SR S
C13-HFPODA (SURR)	75.001%		1				S
C13-PFDA (SURR)	111.265%		1				S
d5-NEFOSAA (SURR)	94.885%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.

S = This compound is a surrogate used to evaluate the quality control of a method.

SR = Surrogate recovery was outside QC limits.

C13-PFHxA recovered below QC limits.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 356540

Project Description: PFAS Analysis

Project Title: Template: SCI1537.1 Printed: 11/18/2020 07:01

Sample: 1225871 1549 S Oneida Ave Collected: 11/02/20 Analyzed: 11/11/20 - Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	3.43	ng/L	1	0.41	1.4		
Perfluoroheptanoic acid (PFHpA)	3.09	ng/L	1	0.34	1.1		
Perfluorooctanoic acid (PFOA)	3.84	ng/L	1	0.31	1.0		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.45	1.5		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.62	2.1		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.76	2.5		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.27	0.88		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.35	1.2		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.24	0.80		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.65	2.2		
Perfluorohexanesulfonic acid (PFHxS)	ND	ng/L	1	0.53	1.8		
Perfluorooctanesulfonic acid (PFOS)	2.0	ng/L	1	0.45	1.5		
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.55	1.8		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.60	2.0		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	1.3	4.4		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.21	0.71		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.14	0.48		
C13-PFHxA (SURR)	45.649%		1				SR S
C13-HFPODA (SURR)	73.891%		1				S
C13-PFDA (SURR)	104.341%		1				S
d5-NEtFOSAA (SURR)	87.34%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.

SR = Surrogate recovery was outside QC limits.

C13-PFHxA recovered below QC limits.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Customer: Rhinelander Water Utility NLS Project: 356540

Project Description: PFAS Analysis

Project Title: Template: SCI1537.1 Printed: 11/18/2020 07:01

Sample: 1225872 1409 Phillips St Collected: 11/02/20 Analyzed: 11/11/20 - Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	3.45	ng/L	1	0.41	1.4		
Perfluoroheptanoic acid (PFHpA)	2.99	ng/L	1	0.34	1.1		
Perfluorooctanoic acid (PFOA)	6.39	ng/L	1	0.31	1.0		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.45	1.5		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.62	2.1		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.76	2.5		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.27	0.88		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.35	1.2		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.24	0.80		
Perfluorobutanesulfonic acid (PFBS)	[0.68]	ng/L	1	0.65	2.2		J
Perfluorohexanesulfonic acid (PFHxS)	[1.53]	ng/L	1	0.53	1.8		J
Perfluorooctanesulfonic acid (PFOS)	ND	ng/L	1	0.45	1.5		
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.55	1.8		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.60	2.0		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	1.3	4.4		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.21	0.71		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.14	0.48		
C13-PFHxA (SURR)	61.595%		1				SR S
C13-HFPODA (SURR)	81.086%		1				S
C13-PFDA (SURR)	110.01%		1				S
d5-NEtFOSAA (SURR)	94.034%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.

S = This compound is a surrogate used to evaluate the quality control of a method.

SR = Surrogate recovery was outside QC limits.

C13-PFHxA recovered below QC limits.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

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Customer: Rhinelander Water Utility NLS Project: 356540

Project Description: PFAS Analysis

Project Title: Template: SCI1537.1 Printed: 11/18/2020 07:01

Sample: 1225873 3401 Fox Ranch Rd Collected: 11/02/20 Analyzed: 11/11/20 -- Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	[0.93]	ng/L	1	0.41	1.4		J
Perfluoroheptanoic acid (PFHpA)	[0.78]	ng/L	1	0.34	1.1		J
Perfluorooctanoic acid (PFOA)	1.22	ng/L	1	0.31	1.0		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.45	1.5		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.62	2.1		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.76	2.5		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.27	0.88		
Perfluorotridecanoic acid (PFTriA)	ND	ng/L	1	0.35	1.2		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.24	0.80		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.65	2.2		
Perfluorohexanesulfonic acid (PFHxS)	2.07	ng/L	1	0.53	1.8		
Perfluorooctanesulfonic acid (PFOS)	[0.71]	ng/L	1	0.45	1.5		J
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.55	1.8		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.60	2.0		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	1.3	4.4		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.21	0.71		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.14	0.48		
C13-PFHxA (SURR)	65.036%		1				SR S
C13-HFPODA (SURR)	73.58%		1				S
C13-PFDA (SURR)	111.601%		1				S
d5-NEtFOSAA (SURR)	98.186%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

J = Result enclosed in brackets is between LOD and LOQ, a region of less certain quantitation.

S = This compound is a surrogate used to evaluate the quality control of a method.

SR = Surrogate recovery was outside QC limits.

C13-PFHxA recovered below QC limits.

ANALYTICAL RESULTS: Perfluorinated Chemicals by EPA Method 537.1 Safe Drinking Water Analysis

Page 5 of 5

Customer: Rhinelander Water Utility NLS Project: 356540

Project Description: PFAS Analysis

Project Title: Template: SCI1537.1 Printed: 11/18/2020 07:01

Sample: 1225874 3400 Fox Ranch Rd Collected: 11/02/20 Analyzed: 11/11/20 - Analytes: 18

ANALYTE NAME	RESULT	UNITS WWB	DIL	LOD	LOQ	MCL	Note
Perfluorohexanoic acid (PFHxA)	ND	ng/L	1	0.41	1.4		
Perfluoroheptanoic acid (PFHpA)	ND	ng/L	1	0.34	1.1		
Perfluorooctanoic acid (PFOA)	ND	ng/L	1	0.31	1.0		
Perfluorononanoic acid (PFNA)	ND	ng/L	1	0.45	1.5		
Perfluorodecanoic acid (PFDA)	ND	ng/L	1	0.62	2.1		
Perfluoroundecanoic acid (PFUnA)	ND	ng/L	1	0.76	2.5		
Perfluorododecanoic acid (PFDoA)	ND	ng/L	1	0.27	0.88		
Perfluorotridecanoic acid (PFTrIA)	ND	ng/L	1	0.35	1.2		
Perfluorotetradecanoic acid (PFTeA)	ND	ng/L	1	0.24	0.80		
Perfluorobutanesulfonic acid (PFBS)	ND	ng/L	1	0.65	2.2		
Perfluorohexanesulfonic acid (PFHxS)	ND	ng/L	1	0.53	1.8		
Perfluorooctanesulfonic acid (PFOS)	ND	ng/L	1	0.45	1.5		
N-Methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND	ng/L	1	0.55	1.8		
N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND	ng/L	1	0.60	2.0		
Hexafluoropropylene oxide dimer acid (GenX)	ND	ng/L	1	1.3	4.4		
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	ND	ng/L	1	0.21	0.71		
9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid (9Cl-PF3ONS)	ND	ng/L	1	0.19	0.63		
11-chloroeicosafluoro-3-oxaundecane-1-sulfonic acid (11Cl-PF3OUdS)	ND	ng/L	1	0.14	0.48		
C13-PFHxA (SURR)	70.614%		1				S
C13-HFPODA (SURR)	81.652%		1				S
C13-PFDA (SURR)	107.124%		1				S
d5-NEtFOSAA (SURR)	90.12%		1				S

NOTES APPLICABLE TO THIS ANALYSIS:

S = This compound is a surrogate used to evaluate the quality control of a method.