

**Memo**

To Tauren Beggs

From David de Courcy-Bower and Andrew Roberts

Date 1 May 2024

Reference 0383990

Subject Off-Site Evaluation of Polyfluorinated Alkyl Substances (PFAS)
Former Hamilton Industries Property, Two Rivers, Wisconsin
BRRTS Activity #02-36-578316

Dear Mr. Beggs,

This memorandum has been prepared to provide the Wisconsin Department of Natural Resources (WDNR) further evaluation of polyfluorinated alkyl substances (PFAS) offsite and upgradient at the Former Hamilton Industries Property located in Two Rivers, Wisconsin, BRRTS Activity #02-36-578316 (Site).

Background

In June 2023, ERM collected additional groundwater samples at the Site for PFAS analysis as requested by the WDNR in the Technical Assistance Review letter dated May 4, 2022. ERM submitted the *Groundwater Analytical Results for Polyfluorinated Alkyl Substances (PFAS) Former Hamilton Industries Property, Two Rivers, Wisconsin BRRTS Activity #02-36-578316* memorandum to WDNR on August 24, 2023 summarizing the results of the June 2023 PFAS groundwater sampling event and requested concurrence that the nature and extent of PFAS at the Site has been sufficiently delineated for the purposes of Site Investigation. In their October 9th, 2023 email in response to that memorandum, the WDNR stated that, "The Site investigation for PFAS is not complete. Additional investigation off-Site is needed to define degree and extent."

ERM submitted a work plan by email to the WDNR on March 6, 2024 to conduct additional PFAS sampling in off-Site groundwater. This memorandum summarizes and discusses the results of the off-Site PFAS groundwater investigation.

Offsite PFAS Evaluation

ERM completed the following tasks to further evaluate the presence of PFAS in offsite groundwater upgradient of the Site:

1. An access agreement between the City of Two Rivers and ERM was obtained for the off-Site monitoring wells. Locations were selected to minimize the potential for damage to subsurface utilities and to provide safe access for sampling purposes.
2. Three offsite shallow groundwater monitoring wells were installed either upgradient or side gradient of the current /well network. As stated in the email work plan dated March 6,

2024, the monitoring wells were installed and developed in accordance with the methods as presented in the *Offsite Investigation Work Plan* dated November 2017. Groundwater samples for PFAS analysis were collected in accordance with the *2021 Work Plan Addendum – Additional Groundwater and Soil Investigation* dated September 10, 2021.

3. Updated the groundwater concentration contour plots for PFAS constituents that exceed either of the proposed ch. NR140 preventive action limit (PAL) or enforcement standard (ES).

PFAS Compound Distribution in Groundwater

In March 2024, ERM sampled three off-Site groundwater monitoring wells for PFAS. The samples were submitted to Pace Analytical for analysis of PFAS compounds. Groundwater analytical results were compared to the proposed PAL or ES. Table 1 presents the proposed PAL and ES, a summary of the March 2024 analytical results for the off-Site wells, and provides an expanded description of the acronyms. Laboratory analytical results are provided as Attachment A.

As shown on Table 1, PFHxS, PFOS, PFOA, and the total combined FOSA, NEtFOSE, NEtFOSA, NEtFOSAA, PFOS, and PFOA were detected in off-Site groundwater at concentrations that exceeded a proposed PAL or ES. Groundwater concentration plots for each of the compounds were developed and are provided as Figures 1 through 4. Figures 1 through 4 also include results of the June 2023 groundwater sampling event at the Site to provide context for the off-Site concentrations and to understand the nature and extent of PFAS in the vicinity of the Site. Discussion of the June 2023 results and summary analytical tables were provided in the *Groundwater Analytical Results for Polyfluorinated Alkyl Substances (PFAS) Former Hamilton Industries Property, Two Rivers, Wisconsin BRRTS Activity #02-36-578316* memorandum, submitted to WDNR on August 24, 2023.

PFHxS

The extent of PFHxS in groundwater is shown on Figure 1. The only new off-Site location where PFHxS exceeded the proposed PAL of 4 ng/l was at MW-32S located to the northeast of the Site on a former industrial property, at the southeast corner of 20th Street and East River Street. The only proposed ES exceedance is located downgradient of a former Industrial property located to the south of the Site. The extent of PFHxS above the PAL is fully delineated on the Site. The detection of PFAS in MW-32S may be attributed to co-mingled plumes associated with the former industrial property as it is located side gradient of the Site.

PFOS

The extent of PFOS in groundwater is shown on Figure 2. The only new off-Site location where PFOS exceeded the proposed PAL of 2 ng/l was at MW-34S located off-Site to the west of the Site, at the northwest corner of 17th Street and East Park Street in Two Rivers Public Square. There are no exceedances of the proposed ES for PFOS on the Site or off-Site. MW-34S is located hydraulically up-gradient of the Site and concentrations of PFOS in MW-34S are delineated to the east towards the Site. The extent of PFOS on-Site is fully delineated.

PFOA

The extent of PFOA in groundwater is shown on Figure 3. PFOA concentrations were detected above the proposed ES of 20 ng/L at MW-33S located off-Site to the southwest of the Site, near the intersection of East River Street and Washington Street, and at MW-34S located off-Site to the west of the Site, at the northwest corner of 17th Street and East Park Street. PFOA concentrations were detected above the proposed PAL of 2 ng/L at MW-32S located off-Site to the northeast of the Site, at the southeast corner of 20th Street and East River Street.

Concentrations of PFOA in groundwater were detected above the ES to the west and southwest of the Site, and above the PAL to the north. The second highest concentration of PFOA detected in shallow groundwater both on-Site and off-Site was at MW-33S located to the southwest of the Site, and concentrations are lower in the southern portion of the Site than at MW-33S. The presence of PFOA above the ES in shallow groundwater both upgradient and side gradient of the Site indicates there may be comingled plumes associated with other sources in the vicinity of the Site.

Combined FOSA, NEtFOSE, NEtFOSA, NEtFOSAA, PFOS, and PFOA

The extent of combined FOSA, NEtFOSE, NEtFOSA, NEtFOSAA, PFOS, and PFOA (Sum PFAS) in groundwater is shown on Figure 4. Sum PFAS concentrations were detected above the proposed ES of 20 ng/L at all three off-Site locations.

Concentrations of Sum PFAS in groundwater were detected above the ES to the north, west and southwest of the Site. The third highest concentration of Sum PFAS detected in shallow groundwater both on-Site and off-Site was at MW-33S located to the southwest of the Site, and concentrations are lower in the southern portion of the Site than at MW-33S. The presence of Sum PFAS above the ES in shallow groundwater both upgradient and side gradient of the Site indicates there may be comingled plumes associated with other sources in the vicinity of the Site.

Discussion

This memorandum was prepared understanding the context that PFAS are considered emerging contaminants that can pose a risk to human health and the environment. However, the regulation and technical understanding of PFAS compounds continues to evolve. The evaluation of PFAS off-site Site was performed based on current guidance from the WDNR and DHS and used both the WAC NR 809 MCLs and proposed NR 140 PAL and ES as references for understanding the risks to human health and the environment at the Site.

The March 2024 off-Site groundwater sampling event identified exceedances of the proposed ES for Sum PFAS at the three new off-Site locations. It is further recognized that combined PFOA/PFOS were detected at MW-33S at a concentration of 70.2 ng/L, exceeding the drinking water NR 809 MCL of 70 ng/l.

Installation and sampling of the three new off-Site monitoring wells sampled in March 2024 indicate that PFAS concentrations off-Site may be attributed to other off-Site sources. Figures 1 through 4 show off-Site properties with either former or current industrial zoning located to the

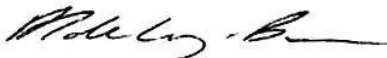
south, southwest, west, and northeast of the Site. These industrially zoned properties may represent potential sources of historic PFAS usage contributing to potentially comingled plumes.

Recommendations

Based on the finding of this data review, WDNR concurrence with the following is requested:

- 1) The nature and extent of PFAS located off-Site could be from co-mingled plumes from former industrial properties.
- 2) The nature and extent of PFAS at the Site has been sufficiently delineated for the purposes of Site Investigation.
- 3) The presence of PFAS in groundwater at the Site at concentrations that exceed the proposed PAL, proposed ES, and the NR 809 MCL can be managed with a groundwater use restriction for the Site and no active remediation or further groundwater sampling for PFAS is required.

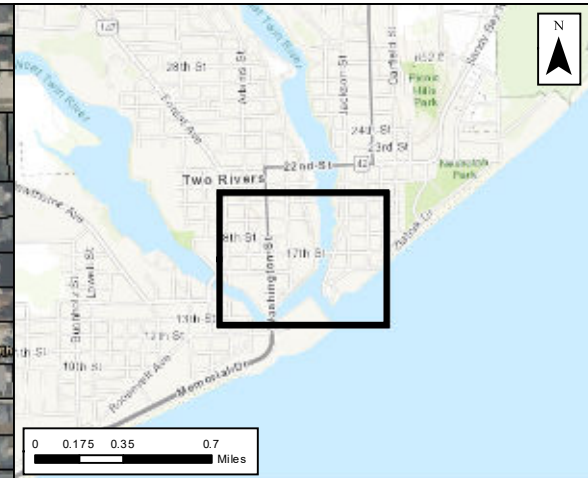
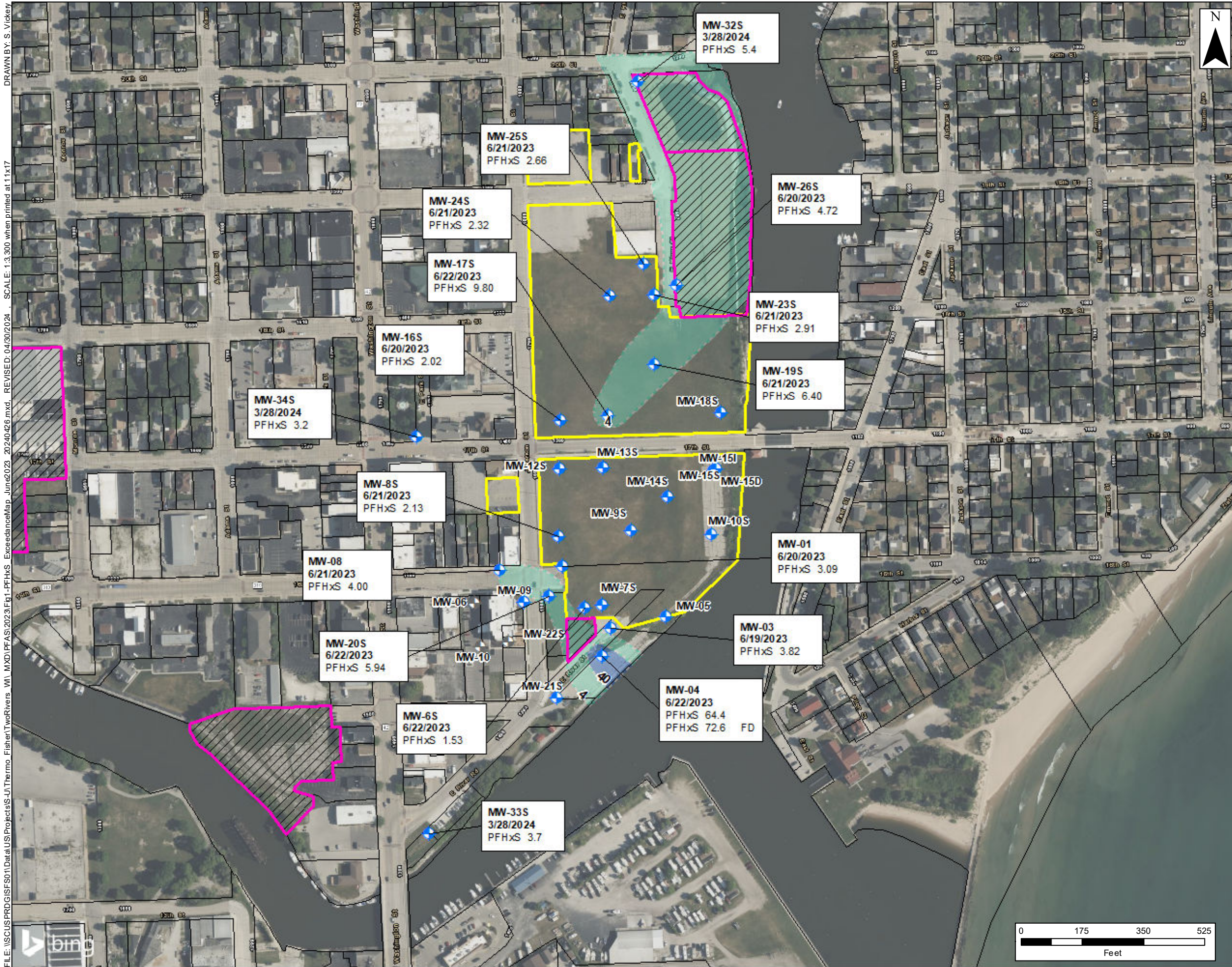
Please let us know if you would like to schedule a time to discuss the findings of this memorandum.



David de Courcy-Bower, P.E.
Partner

attachments

FILE: \\SCUSPRDGIS\FS011\Data\US\Projects\J\Thermo_Fisher\TwoRivers\MI_MXD\PFAS\2023\Fig1-PFHxS ExceedanceMap_June2023_20240426.mxd, REVISED: 04/30/2024, SCALE: 1:3,300 when printed at 11x17



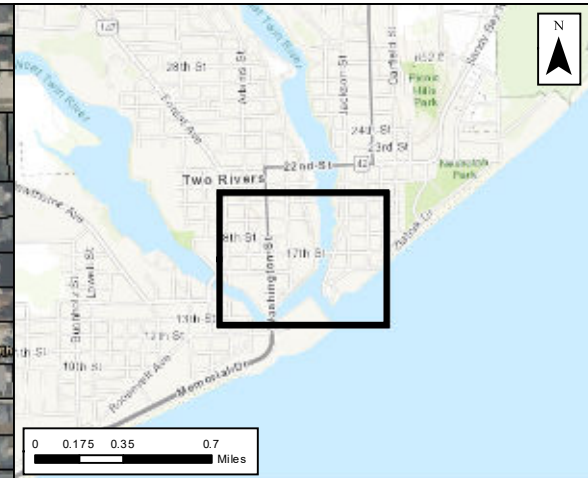
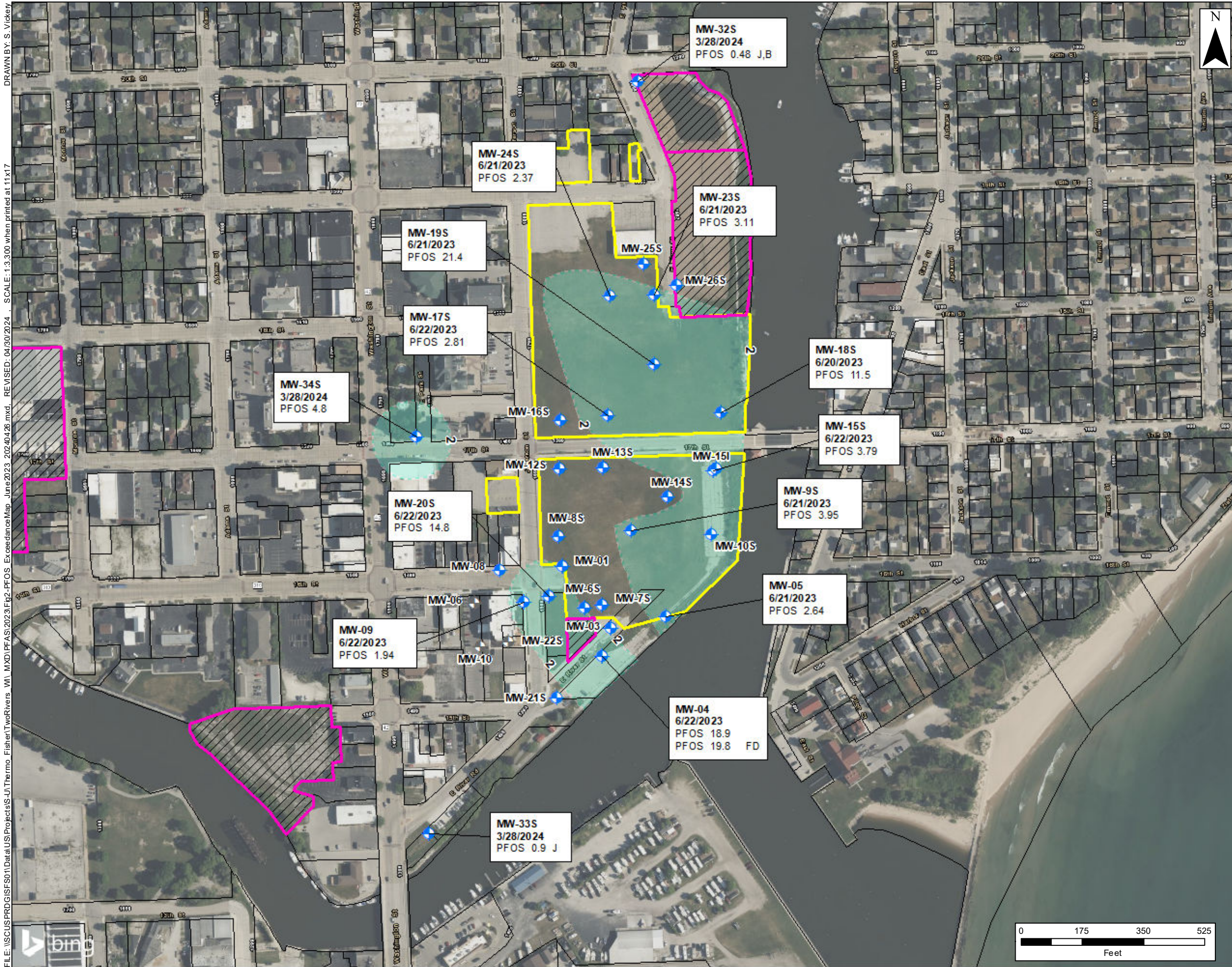
Legend

- Monitoring Well Location
- Abandoned Monitoring Well Location
- Exceeds Proposed ES Levels
- Exceeds Proposed PAL Levels
- Former/Current Industrial Properties
- Property Boundary (Approximate)
- Parcel Boundary

- Notes:
- 1) PFHxS - Perfluorohexane sulfonic acid
 - 2) Proposed ES Levels
PFHxS: 40 ng/L
 - 3) Proposed PAL Levels
PFHxS: 4 ng/L
 - 4) B - Analyte found in associated blank as well as in sample
 - 5) I - The lower value for the two columns has been reported due to obvious interference
 - 6) Sample event on-site wells June 19-22, 2023
 - 7) Sample event off-site wells March 28, 2024
 - 8) Results boxes are not shown for wells with non-detects
 - 9) J - Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
 - 10) DUP - Duplicate sample
 - 11) All results shown in ng/L

Figure 1
Perfluorohexane sulfonic acid (PFHxS) Exceedance in Groundwater - June 2023 & March 2024
 Former Hamilton Industries
 1316 18th Street
 Two Rivers, Wisconsin
 Environmental Resources Management
 www.erm.com

FILE: \\SCUSPRDGIS\FS01\1\Map\PFAS\2023\Fig2-PFOS Exceedance Map June 2023.mxd, REVISED: 04/30/2024, SCALE: 1:3,300 when printed at 11x17
 DRAWN BY: S. Vickey



Legend

- Monitoring Well Location
- Abandoned Monitoring Well Location
- Exceeds Proposed ES Levels
- Exceeds Proposed PAL Levels
- Former/Current Industrial Properties
- Property Boundary (Approximate)
- Parcel Boundary

- Notes:
- 1) PFOS - Perfluorooctane sulfonic acid
 - 2) Proposed ES Levels
PFOS: 20 ng/L
 - 3) Proposed PAL Levels
PFOS: 2 ng/L
 - 4) B - Analyte found in associated blank as well as in sample
 - 5) I - The lower value for the two columns has been reported due to obvious interference
 - 6) J - Estimated Value
 - 7) Sample event on-site wells June 19-22, 2023
 - 8) Sample event off-site wells March 28, 2024
 - 9) DUP - Duplicate Sample
 - 10) Results boxes are not included for wells with non-detects.
 - 11) All results shown in ng/L

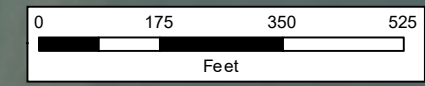
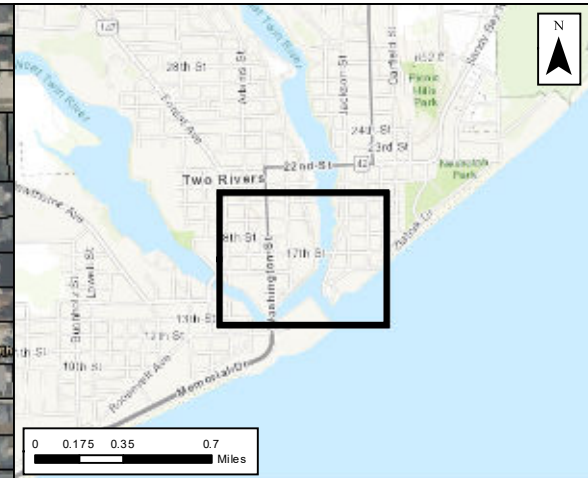
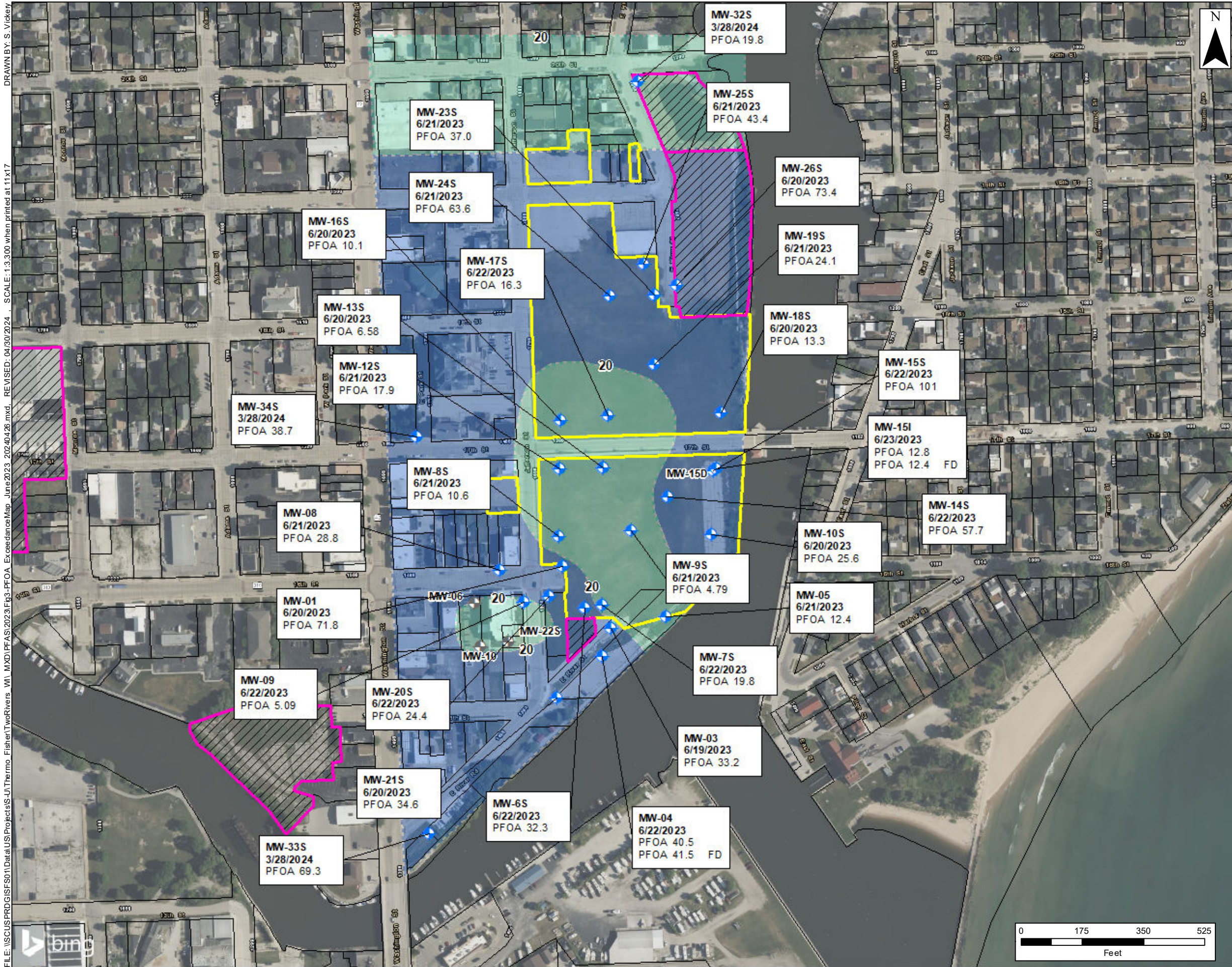


Figure 2
Perfluorooctane sulfonic acid (PFOS) Exceedance in Groundwater - June 2023 & March 2024
 Former Hamilton Industries
 1316 18th Street
 Two Rivers, Wisconsin
 Environmental Resources Management
 www.erm.com

Source: Esri - World Topographic Map; NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet

FILE: \\SCUSPRDGIS\FS011\Data\US\Projects\S-U\Thermo_Fisher\TwoRivers\MI_MXD\PFAS\2023\Figs-PFOA_ExcceedanceMap_June2023_20240428.mxd, REVISED: 04/30/2024, SCALE: 1:3,300 when printed at 11x17



Legend

- Monitoring Well Location
- Abandoned Monitoring Well Location
- Exceeds Proposed ES Levels
- Exceeds Proposed PAL Levels
- Former/Current Industrial Properties
- Property Boundary (Approximate)
- Parcel Boundary

- Notes:
- 1) PFOA - Perfluorooctanoic acid
 - 2) Proposed ES Levels
PFOA: 20 ng/L
 - 3) Proposed PAL Levels
PFOA: 2 ng/L
 - 4) B - Analyte found in associated blank as well as in sample
 - 5) I - The lower value for the two columns has been reported due to obvious interference
 - 6) Sample event on-site wells June 19-22, 2023
 - 7) Sample event off-site wells March 28, 2024
 - 8) All shallow wells are above the PAL value
 - 9) N - Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
 - 10) DUP - Duplicate Sample
 - 11) All results shown in ng/L
 - 12) Concentration contour for PAL unable to be plotted as every well has exceedance of proposed PAL.

Figure 3
Perfluorooctanoic acid (PFOA) Exceedance in Groundwater - June 2023 & March 2024
 Former Hamilton Industries
 1316 18th Street
 Two Rivers, Wisconsin
 Environmental Resources Management
 www.erm.com

Source: Esri - World Topographic Map; NAD 1983 StatePlane Wisconsin South FIPS 4803 Feet

Table 1: PFAS Groundwater Analytical Results
Project Title: Thermo Fisher Two Rivers
Site Address: 1316 18th St, Two Rivers, WI
BRRTS # 02-36-578316

				Location ID	MW-32S	MW-33S	MW-34S	
				Sample Date	03/28/2024	03/28/2024	03/28/2024	
				Sample Time	12:35	14:15	15:40	
				Sample Type	N	N	N	
Acronym (EPA)	Parameter	Cas #	Ch. NR 140 Enforcement Standard	Ch. NR 140 Preventive Action Limit	Unit			
11CI-PF3OUdS	11-chloroicosafuoro-3-oxaundecane-1-sulfonic acid [C10]	763051-92-9	NE	NE	ng/L	< 0.41	< 0.42	< 0.40
4:2 FTS	4:2 fluorotelomersulfonic acid [C6]	757124-72-4	NE	NE	ng/L	< 0.56	< 0.57	< 0.56
6:2 FTS	6:2 fluorotelomersulfonic acid [C8]	27619-97-2	NE	NE	ng/L	< 0.68	< 0.69	< 0.67
8:2 FTS	8:2 fluorotelomersulfonic acid [C10]	39108-34-4	NE	NE	ng/L	< 0.48	< 0.49	< 0.48
9CI-PF3ONS	9-chlorohexadecafluoro-3-oxanonane-1-sulfonic acid [C8]	756426-58-1	NE	NE	ng/L	< 0.41	< 0.42	< 0.40
DONA	4,8-dioxa-3H-perfluorononanoic acid [C7]	919005-14-4	3000	600	ng/L	< 0.39	< 0.40	< 0.39
HFPO-DA	Hexafluoropropylene oxide dimer acid [C6]	13252-13-6	300	30	ng/L	< 0.77	< 0.78	< 0.76
NETFOSA	N-Ethylperfluorooctanesulfonamide [C10]	4151-50-2	20	2	ng/L	< 0.63	< 0.65	< 0.63
NETFOSAA	N-Ethylperfluorooctanesulfonamidoacetic acid [C12]	2991-50-6	20	2	ng/L	< 0.71	< 0.73	< 0.71
NETFOSE	N-Ethylperfluorooctanesulfonamidoethanol [C12]	1691-99-2	20	2	ng/L	< 0.46 N2	< 0.47 N2	< 0.45 N2
NMeFOSA	N-Methylperfluorooctanesulfonamide [C9]	31506-32-8	NE	NE	ng/L	< 0.75	< 0.77	< 0.75
NMeFOSAA	N-Methylperfluorooctanesulfonamidoacetic acid [C11]	2355-31-9	NE	NE	ng/L	< 0.41	< 0.42	< 0.40
NMeFOSE	N-Methylperfluorooctanesulfonamidoethanol [C11]	24448-09-7	NE	NE	ng/L	< 0.59 N2	< 0.60 N2	< 0.58 N2
PFBA	Perfluorobutanoic acid [C4]	375-22-4	10000	2000	ng/L	7.1	8.2	6.5
PFBS	Perfluorobutanesulfonic acid [C4]	375-73-5	450000	90000	ng/L	7.1	11.1	2.7
PFDA	Perfluorodecanoic acid [C10]	335-76-2	300	60	ng/L	< 0.65	< 0.66	< 0.65
PFDoA	Perfluorododecanoic acid [C12]	307-55-1	500	100	ng/L	< 0.59	< 0.60	< 0.58
PFDoS	Perfluorododecanesulfonic acid [C12]	79780-39-5	NE	NE	ng/L	< 0.59	< 0.60	< 0.59
PFDS	Perfluorododecanesulfonic acid [C10]	335-77-3	NE	NE	ng/L	< 0.55	< 0.56	< 0.55
PFHpA	Perfluoroheptanoic acid [C7]	375-85-9	NE	NE	ng/L	2.7	5.7	6.2
PFHpS	Perfluoroheptanesulfonic acid [C7]	375-92-8	NE	NE	ng/L	< 0.55	< 0.56	< 0.55
PFHxA	Perfluorohexanoic acid [C6]	307-24-4	150000	30000	ng/L	3.3	5.6	5.2
PFHxS	Perfluorohexanesulfonic acid [C6]	355-46-4	40	4	ng/L	5.4	3.7	3.2
PFNA	Perfluorononanoic acid [C9]	375-95-1	30	3	ng/L	< 0.44	1.2 J	< 0.44
PFNS	Perfluorononanesulfonic acid [C9]	68259-12-1	NE	NE	ng/L	< 0.78	< 0.80	< 0.78
PFOA	Perfluorooctanoic acid [C8]	335-67-1	20	2	ng/L	19.8	69.3	38.7
PFOS	Perfluorooctanesulfonic acid [C8]	1763-23-1	20	2	ng/L	0.48 J,B	0.90 J	4.8
PFOSA	Perfluorooctanesulfonamide [C8]	754-91-6	20	2	ng/L	0.39 J,B	< 0.34	< 0.33
PFPeA	Perfluoropentanoic acid [C5]	2706-90-3	NE	NE	ng/L	3.2	6.0	4.3
PFPeS	Perfluoropentanesulfonic acid [C5]	2706-91-4	NE	NE	ng/L	< 0.46	0.64 J	1.0 J
PFTA	Perfluorotetradecanoic acid [C14]	376-06-7	10000	2000	ng/L	< 0.51	< 0.53	< 0.51
PFTTrDA	Perfluorotridecanoic acid [C13]	72629-94-8	NE	NE	ng/L	< 0.55	< 0.57	< 0.55
PFUnA	Perfluoroundecanoic acid [C11]	2058-94-8	3000	600	ng/L	< 0.56	< 0.57	< 0.56
	Sum of NETFOSA, NETFOSAA, NETFOSE, FOSA, PFOS, and PFOA**	Sum of NETFOSA, NETFOSAA, NETFOSE, FOSA, PFOS, and PFOA**	20	2	ng/L	20.67 N2	70.2 N2	43.5 N2

Notes:

** Non-detect values were treated as zero in sum calculations.

Results reported in milligrams per liter (ug/L) or nanograms per liter (ng/L).

Non-detect results reported to the method detection limit.

N = Normal sample

FD = Field duplicate sample

"-" = Not Analyzed

NE = Not Established

J = Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

N2 = The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A

Bold denotes exceedance of Ch. NR 140 Enforcement Standard

Shading indicates exceedance of Ch. NR 140 Preventive Action Limit



April 15, 2024

Ryan Plath
ERM, INC.
7311 W. Greenfield Ave.
Milwaukee, WI 53214

RE: Project: 0383990 TWO RIVERS
Pace Project No.: 40276083

Dear Ryan Plath:

Enclosed are the analytical results for sample(s) received by the laboratory on March 28, 2024. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Baton Rouge

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Dan Milewsky".

Dan Milewsky
dan.milewsky@pacelabs.com
(920)469-2436
Project Manager

Enclosures



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Pace Analytical Services Baton Rouge

7979 Innovation Park Drive Ste A, Baton Rouge, LA
70820-7402

Louisiana Dept of Environmental Quality (NELAC/LELAP):
01979

Florida Dept of Health (NELAC/FELAP): E87854

DoD ELAP (A2LA) #: 6429.01

Alabama DEM #: 41900

Alaska DEC-DW #: LA00024

Alaska DEC CS-LAP #: 21-001

Arkansas DEQ #: 88-0655

California ELAP #: 3063

Georgia DPD #: C050

Hawaii DOH State Laboratories Division

Illinois EPA #: 200048

Kansas DoHE #: E-10354

Kentucky DEP UST Branch #: 123054

Louisiana DOH #: LA036

Minnesota DOH #: 2233799

Mississippi State Dept of Health

Montana Department of Environmental Quality

Nebraska DHHS #: NE-OS-35.21

Nevada DCNR DEP #: LA00024

New York DOH #: 12149

North Carolina DEQ - WW & GW #: 618

North Dakota DEQ #: R195

Ohio EPA #: 87782

Oklahoma Dept of Environmental Quality #: 9403

Oregon ELAP #: 4168

Pennsylvania Dept of Environmental Protection #: 68-
05973

South Carolina DHEC #: 73006001

Texas CEQ #: T104704178-23-15

Utah DOH #: LA00024

Virginia DCLS #: 6460215

Washington Dept of Ecology #: C929

Wisconsin DNR #: 399139510

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Lab ID	Sample ID	Matrix	Date Collected	Date Received
40276083001	MW-32S-WG-20240328	Water	03/28/24 12:35	03/28/24 16:47
40276083002	MW-33S-WG-20240328	Water	03/28/24 14:15	03/28/24 16:47
40276083003	MW-34S-WG-20240328	Water	03/28/24 15:40	03/28/24 16:47
40276083004	TB-01-WQ-20240328	Water	03/28/24 15:50	03/28/24 16:47
40276083005	FB-01-WQ-20240328	Water	03/28/24 15:50	03/28/24 16:47

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SAMPLE ANALYTE COUNT

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
40276083001	MW-32S-WG-20240328	EPA 537 Mod	AG	58	PASI-BR
40276083002	MW-33S-WG-20240328	EPA 537 Mod	AG	58	PASI-BR
40276083003	MW-34S-WG-20240328	EPA 537 Mod	AG	58	PASI-BR
40276083004	TB-01-WQ-20240328	EPA 537 Mod	AG	58	PASI-BR
40276083005	FB-01-WQ-20240328	EPA 537 Mod	AG	58	PASI-BR

PASI-BR = Pace Analytical Services - Baton Rouge

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ANALYTICAL RESULTS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Sample: MW-32S-WG-20240328 Lab ID: 40276083001 Collected: 03/28/24 12:35 Received: 03/28/24 16:47 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
PFAS in Water-EPA 537 Mod									
Analytical Method: EPA 537 Mod Preparation Method: EPA 537 Mod									
Pace Analytical Services - Baton Rouge									
11CI-PF3OUdS	<0.41	ng/L	1.8	0.41	1	04/11/24 08:00	04/12/24 19:11	763051-92-9	
4:2 FTS	<0.56	ng/L	1.8	0.56	1	04/11/24 08:00	04/12/24 19:11	757124-72-4	
6:2 FTS	<0.68	ng/L	1.8	0.68	1	04/11/24 08:00	04/12/24 19:11	27619-97-2	
8:2 FTS	<0.48	ng/L	1.8	0.48	1	04/11/24 08:00	04/12/24 19:11	39108-34-4	
9CI-PF3ONS	<0.41	ng/L	1.8	0.41	1	04/11/24 08:00	04/12/24 19:11	756426-58-1	
ADONA	<0.39	ng/L	1.8	0.39	1	04/11/24 08:00	04/12/24 19:11	919005-14-4	
HFPO-DA	<0.77	ng/L	3.6	0.77	1	04/11/24 08:00	04/12/24 19:11	13252-13-6	
NEtFOSAA	<0.71	ng/L	3.6	0.71	1	04/11/24 08:00	04/12/24 19:11	2991-50-6	
NEtFOSA	<0.63	ng/L	3.6	0.63	1	04/11/24 08:00	04/12/24 19:11	4151-50-2	
NEtFOSE	<0.46	ng/L	3.6	0.46	1	04/11/24 08:00	04/12/24 19:11	1691-99-2	N2
NMeFOSAA	<0.41	ng/L	3.6	0.41	1	04/11/24 08:00	04/12/24 19:11	2355-31-9	
NMeFOSA	<0.75	ng/L	3.6	0.75	1	04/11/24 08:00	04/12/24 19:11	31506-32-8	
NMeFOSE	<0.59	ng/L	3.6	0.59	1	04/11/24 08:00	04/12/24 19:11	24448-09-7	N2
PFBS	7.1	ng/L	1.8	0.28	1	04/11/24 08:00	04/12/24 19:11	375-73-5	
PFDA	<0.65	ng/L	1.8	0.65	1	04/11/24 08:00	04/12/24 19:11	335-76-2	
PFHxA	3.3	ng/L	1.8	0.42	1	04/11/24 08:00	04/12/24 19:11	307-24-4	
PFBA	7.1	ng/L	1.8	0.68	1	04/11/24 08:00	04/12/24 19:11	375-22-4	
PFDS	<0.55	ng/L	1.8	0.55	1	04/11/24 08:00	04/12/24 19:11	335-77-3	
PFDoS	<0.59	ng/L	1.8	0.59	1	04/11/24 08:00	04/12/24 19:11	79780-39-5	
PFHpS	<0.55	ng/L	1.8	0.55	1	04/11/24 08:00	04/12/24 19:11	375-92-8	
PFNS	<0.78	ng/L	1.8	0.78	1	04/11/24 08:00	04/12/24 19:11	68259-12-1	
PFOSA	0.39J	ng/L	1.8	0.33	1	04/11/24 08:00	04/12/24 19:11	754-91-6	B
PFPeA	3.2	ng/L	1.8	0.40	1	04/11/24 08:00	04/12/24 19:11	2706-90-3	
PFPeS	<0.46	ng/L	1.8	0.46	1	04/11/24 08:00	04/12/24 19:11	2706-91-4	
PFDoA	<0.59	ng/L	1.8	0.59	1	04/11/24 08:00	04/12/24 19:11	307-55-1	
PFHpA	2.7	ng/L	1.8	0.52	1	04/11/24 08:00	04/12/24 19:11	375-85-9	
PFHxS	5.4	ng/L	1.8	0.56	1	04/11/24 08:00	04/12/24 19:11	355-46-4	
PFNA	<0.44	ng/L	1.8	0.44	1	04/11/24 08:00	04/12/24 19:11	375-95-1	
PFOS	0.48J	ng/L	1.8	0.34	1	04/11/24 08:00	04/12/24 19:11	1763-23-1	B
PFOA	19.8	ng/L	1.8	0.38	1	04/11/24 08:00	04/12/24 19:11	335-67-1	
PFTeDA	<0.51	ng/L	1.8	0.51	1	04/11/24 08:00	04/12/24 19:11	376-06-7	
PFTrDA	<0.55	ng/L	1.8	0.55	1	04/11/24 08:00	04/12/24 19:11	72629-94-8	
PFUnA	<0.56	ng/L	1.8	0.56	1	04/11/24 08:00	04/12/24 19:11	2058-94-8	
Extracted Internal Standards									
13C2-PFDoA (IS)	90.3	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C2-PFTA (IS)	76.1	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C24:2FTS (IS)	151	%	50-150		1	04/11/24 08:00	04/12/24 19:11		IR
13C26:2FTS (IS)	130	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C28:2FTS (IS)	101	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C2PFHxDA (IS)	45.3	%	50-150		1	04/11/24 08:00	04/12/24 19:11		IO
13C3-PFBS (IS)	97.1	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C3-PFHxS (IS)	90.0	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C3HFPO-DA (IS)	96.8	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C4-PFBA (IS)	93.6	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C4-PFHpA (IS)	91.0	%	50-150		1	04/11/24 08:00	04/12/24 19:11		

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ANALYTICAL RESULTS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Sample: MW-32S-WG-20240328 Lab ID: 40276083001 Collected: 03/28/24 12:35 Received: 03/28/24 16:47 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
PFAS in Water-EPA 537 Mod		Analytical Method: EPA 537 Mod Preparation Method: EPA 537 Mod Pace Analytical Services - Baton Rouge							
Extracted Internal Standards									
13C5-PFHxA (IS)	98.1	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C5-PFPeA (IS)	95.8	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C6-PFDA (IS)	94.4	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C7-PFUdA (IS)	95.1	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C8-PFOA (IS)	99.7	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C8-PFOS (IS)	92.4	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C8-PFOSA (IS)	92.5	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
13C9-PFNA (IS)	96.1	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
d3-MeFOSAA (IS)	90.2	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
d3-NMeFOSA (IS)	28.6	%	50-150		1	04/11/24 08:00	04/12/24 19:11		IO
d5-EtFOSAA (IS)	92.2	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
d5-NEtFOSA (IS)	20.4	%	50-150		1	04/11/24 08:00	04/12/24 19:11		IO
d7-NMeFOSE (IS)	79.3	%	50-150		1	04/11/24 08:00	04/12/24 19:11		
d9-NEtFOSE (IS)	71.2	%	50-150		1	04/11/24 08:00	04/12/24 19:11		

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ANALYTICAL RESULTS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Sample: MW-33S-WG-20240328 Lab ID: 40276083002 Collected: 03/28/24 14:15 Received: 03/28/24 16:47 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
PFAS in Water-EPA 537 Mod									
Analytical Method: EPA 537 Mod Preparation Method: EPA 537 Mod									
Pace Analytical Services - Baton Rouge									
11CI-PF3OUdS	<0.42	ng/L	1.8	0.42	1	04/11/24 08:00	04/12/24 19:25	763051-92-9	
4:2 FTS	<0.57	ng/L	1.8	0.57	1	04/11/24 08:00	04/12/24 19:25	757124-72-4	
6:2 FTS	<0.69	ng/L	1.8	0.69	1	04/11/24 08:00	04/12/24 19:25	27619-97-2	
8:2 FTS	<0.49	ng/L	1.8	0.49	1	04/11/24 08:00	04/12/24 19:25	39108-34-4	
9CI-PF3ONS	<0.42	ng/L	1.8	0.42	1	04/11/24 08:00	04/12/24 19:25	756426-58-1	
ADONA	<0.40	ng/L	1.8	0.40	1	04/11/24 08:00	04/12/24 19:25	919005-14-4	
HFPO-DA	<0.78	ng/L	3.7	0.78	1	04/11/24 08:00	04/12/24 19:25	13252-13-6	
NEtFOSAA	<0.73	ng/L	3.7	0.73	1	04/11/24 08:00	04/12/24 19:25	2991-50-6	
NEtFOSA	<0.65	ng/L	3.7	0.65	1	04/11/24 08:00	04/12/24 19:25	4151-50-2	
NEtFOSE	<0.47	ng/L	3.7	0.47	1	04/11/24 08:00	04/12/24 19:25	1691-99-2	N2
NMeFOSAA	<0.42	ng/L	3.7	0.42	1	04/11/24 08:00	04/12/24 19:25	2355-31-9	
NMeFOSA	<0.77	ng/L	3.7	0.77	1	04/11/24 08:00	04/12/24 19:25	31506-32-8	
NMeFOSE	<0.60	ng/L	3.7	0.60	1	04/11/24 08:00	04/12/24 19:25	24448-09-7	N2
PFBS	11.1	ng/L	1.8	0.29	1	04/11/24 08:00	04/12/24 19:25	375-73-5	
PFDA	<0.66	ng/L	1.8	0.66	1	04/11/24 08:00	04/12/24 19:25	335-76-2	
PFHxA	5.6	ng/L	1.8	0.43	1	04/11/24 08:00	04/12/24 19:25	307-24-4	
PFBA	8.2	ng/L	1.8	0.70	1	04/11/24 08:00	04/12/24 19:25	375-22-4	
PFDS	<0.56	ng/L	1.8	0.56	1	04/11/24 08:00	04/12/24 19:25	335-77-3	
PFDoS	<0.60	ng/L	1.8	0.60	1	04/11/24 08:00	04/12/24 19:25	79780-39-5	
PFHpS	<0.56	ng/L	1.8	0.56	1	04/11/24 08:00	04/12/24 19:25	375-92-8	
PFNS	<0.80	ng/L	1.8	0.80	1	04/11/24 08:00	04/12/24 19:25	68259-12-1	
PFOSA	<0.34	ng/L	1.8	0.34	1	04/11/24 08:00	04/12/24 19:25	754-91-6	
PFPeA	6.0	ng/L	1.8	0.41	1	04/11/24 08:00	04/12/24 19:25	2706-90-3	
PFPeS	0.64J	ng/L	1.8	0.47	1	04/11/24 08:00	04/12/24 19:25	2706-91-4	
PFDoA	<0.60	ng/L	1.8	0.60	1	04/11/24 08:00	04/12/24 19:25	307-55-1	
PFHpA	5.7	ng/L	1.8	0.54	1	04/11/24 08:00	04/12/24 19:25	375-85-9	
PFHxS	3.7	ng/L	1.8	0.57	1	04/11/24 08:00	04/12/24 19:25	355-46-4	
PFNA	1.2J	ng/L	1.8	0.45	1	04/11/24 08:00	04/12/24 19:25	375-95-1	
PFOS	0.90J	ng/L	1.8	0.35	1	04/11/24 08:00	04/12/24 19:25	1763-23-1	
PFOA	69.3	ng/L	1.8	0.39	1	04/11/24 08:00	04/12/24 19:25	335-67-1	
PFTeDA	<0.53	ng/L	1.8	0.53	1	04/11/24 08:00	04/12/24 19:25	376-06-7	
PFTrDA	<0.57	ng/L	1.8	0.57	1	04/11/24 08:00	04/12/24 19:25	72629-94-8	
PFUnA	<0.57	ng/L	1.8	0.57	1	04/11/24 08:00	04/12/24 19:25	2058-94-8	
Extracted Internal Standards									
13C2-PFDoA (IS)	77.6	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C2-PFTA (IS)	57.1	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C24:2FTS (IS)	129	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C26:2FTS (IS)	123	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C28:2FTS (IS)	82.0	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C2PFHxDA (IS)	21.4	%	50-150		1	04/11/24 08:00	04/12/24 19:25		IO
13C3-PFBS (IS)	84.0	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C3-PFHxS (IS)	72.6	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C3HFPO-DA (IS)	81.4	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C4-PFBA (IS)	77.4	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C4-PFHpA (IS)	73.5	%	50-150		1	04/11/24 08:00	04/12/24 19:25		

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ANALYTICAL RESULTS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Sample: MW-33S-WG-20240328 Lab ID: 40276083002 Collected: 03/28/24 14:15 Received: 03/28/24 16:47 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
PFAS in Water-EPA 537 Mod		Analytical Method: EPA 537 Mod Preparation Method: EPA 537 Mod Pace Analytical Services - Baton Rouge							
Extracted Internal Standards									
13C5-PFHxA (IS)	85.0	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C5-PFPeA (IS)	76.0	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C6-PFDA (IS)	81.4	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C7-PFUdA (IS)	83.5	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C8-PFOA (IS)	86.5	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C8-PFOS (IS)	80.9	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C8-PFOSA (IS)	66.9	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
13C9-PFNA (IS)	82.9	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
d3-MeFOSAA (IS)	75.7	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
d3-NMeFOSA (IS)	13.2	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
d5-EtFOSAA (IS)	78.3	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
d5-NEtFOSA (IS)	10.9	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
d7-NMeFOSE (IS)	42.2	%	50-150		1	04/11/24 08:00	04/12/24 19:25		
d9-NEtFOSE (IS)	36.0	%	50-150		1	04/11/24 08:00	04/12/24 19:25		

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ANALYTICAL RESULTS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Sample: MW-34S-WG-20240328 Lab ID: 40276083003 Collected: 03/28/24 15:40 Received: 03/28/24 16:47 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
PFAS in Water-EPA 537 Mod									
Analytical Method: EPA 537 Mod Preparation Method: EPA 537 Mod									
Pace Analytical Services - Baton Rouge									
11CI-PF3OUdS	<0.40	ng/L	1.8	0.40	1	04/11/24 08:00	04/12/24 19:40	763051-92-9	
4:2 FTS	<0.56	ng/L	1.8	0.56	1	04/11/24 08:00	04/12/24 19:40	757124-72-4	
6:2 FTS	<0.67	ng/L	1.8	0.67	1	04/11/24 08:00	04/12/24 19:40	27619-97-2	
8:2 FTS	<0.48	ng/L	1.8	0.48	1	04/11/24 08:00	04/12/24 19:40	39108-34-4	
9CI-PF3ONS	<0.40	ng/L	1.8	0.40	1	04/11/24 08:00	04/12/24 19:40	756426-58-1	
ADONA	<0.39	ng/L	1.8	0.39	1	04/11/24 08:00	04/12/24 19:40	919005-14-4	
HFPO-DA	<0.76	ng/L	3.6	0.76	1	04/11/24 08:00	04/12/24 19:40	13252-13-6	
NEtFOSAA	<0.71	ng/L	3.6	0.71	1	04/11/24 08:00	04/12/24 19:40	2991-50-6	
NEtFOSA	<0.63	ng/L	3.6	0.63	1	04/11/24 08:00	04/12/24 19:40	4151-50-2	
NEtFOSE	<0.45	ng/L	3.6	0.45	1	04/11/24 08:00	04/12/24 19:40	1691-99-2	N2
NMeFOSAA	<0.40	ng/L	3.6	0.40	1	04/11/24 08:00	04/12/24 19:40	2355-31-9	
NMeFOSA	<0.75	ng/L	3.6	0.75	1	04/11/24 08:00	04/12/24 19:40	31506-32-8	
NMeFOSE	<0.58	ng/L	3.6	0.58	1	04/11/24 08:00	04/12/24 19:40	24448-09-7	N2
PFBS	2.7	ng/L	1.8	0.28	1	04/11/24 08:00	04/12/24 19:40	375-73-5	
PFDA	<0.65	ng/L	1.8	0.65	1	04/11/24 08:00	04/12/24 19:40	335-76-2	
PFHxA	5.2	ng/L	1.8	0.42	1	04/11/24 08:00	04/12/24 19:40	307-24-4	
PFBA	6.5	ng/L	1.8	0.68	1	04/11/24 08:00	04/12/24 19:40	375-22-4	
PFDS	<0.55	ng/L	1.8	0.55	1	04/11/24 08:00	04/12/24 19:40	335-77-3	
PFDoS	<0.59	ng/L	1.8	0.59	1	04/11/24 08:00	04/12/24 19:40	79780-39-5	
PFHpS	<0.55	ng/L	1.8	0.55	1	04/11/24 08:00	04/12/24 19:40	375-92-8	
PFNS	<0.78	ng/L	1.8	0.78	1	04/11/24 08:00	04/12/24 19:40	68259-12-1	
PFOSA	<0.33	ng/L	1.8	0.33	1	04/11/24 08:00	04/12/24 19:40	754-91-6	
PFPeA	4.3	ng/L	1.8	0.40	1	04/11/24 08:00	04/12/24 19:40	2706-90-3	
PFPeS	1.0J	ng/L	1.8	0.46	1	04/11/24 08:00	04/12/24 19:40	2706-91-4	
PFDoA	<0.58	ng/L	1.8	0.58	1	04/11/24 08:00	04/12/24 19:40	307-55-1	
PFHpA	6.2	ng/L	1.8	0.52	1	04/11/24 08:00	04/12/24 19:40	375-85-9	
PFHxS	3.2	ng/L	1.8	0.56	1	04/11/24 08:00	04/12/24 19:40	355-46-4	
PFNA	<0.44	ng/L	1.8	0.44	1	04/11/24 08:00	04/12/24 19:40	375-95-1	
PFOS	4.8	ng/L	1.8	0.34	1	04/11/24 08:00	04/12/24 19:40	1763-23-1	
PFOA	38.7	ng/L	1.8	0.38	1	04/11/24 08:00	04/12/24 19:40	335-67-1	
PFTeDA	<0.51	ng/L	1.8	0.51	1	04/11/24 08:00	04/12/24 19:40	376-06-7	
PFTrDA	<0.55	ng/L	1.8	0.55	1	04/11/24 08:00	04/12/24 19:40	72629-94-8	
PFUnA	<0.56	ng/L	1.8	0.56	1	04/11/24 08:00	04/12/24 19:40	2058-94-8	
Extracted Internal Standards									
13C2-PFDoA (IS)	75.7	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C2-PFTA (IS)	66.4	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C24:2FTS (IS)	131	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C26:2FTS (IS)	119	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C28:2FTS (IS)	83.7	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C2PFHxDA (IS)	43.2	%	50-150		1	04/11/24 08:00	04/12/24 19:40		IO
13C3-PFBS (IS)	89.0	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C3-PFHxS (IS)	76.3	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C3HFPO-DA (IS)	86.0	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C4-PFBA (IS)	84.3	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C4-PFHpA (IS)	80.2	%	50-150		1	04/11/24 08:00	04/12/24 19:40		

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ANALYTICAL RESULTS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Sample: MW-34S-WG-20240328 Lab ID: 40276083003 Collected: 03/28/24 15:40 Received: 03/28/24 16:47 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
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PFAS in Water-EPA 537 Mod

Analytical Method: EPA 537 Mod Preparation Method: EPA 537 Mod
Pace Analytical Services - Baton Rouge

Extracted Internal Standards

13C5-PFHxA (IS)	88.5	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C5-PFPeA (IS)	87.9	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C6-PFDA (IS)	84.0	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C7-PFUdA (IS)	82.1	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C8-PFOA (IS)	88.8	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C8-PFOS (IS)	81.9	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C8-PFOSA (IS)	71.5	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
13C9-PFNA (IS)	85.0	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
d3-MeFOSAA (IS)	74.7	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
d3-NMeFOSA (IS)	17.1	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
d5-EtFOSAA (IS)	76.9	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
d5-NEtFOSA (IS)	14.8	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
d7-NMeFOSE (IS)	47.0	%	50-150		1	04/11/24 08:00	04/12/24 19:40		
d9-NEtFOSE (IS)	41.3	%	50-150		1	04/11/24 08:00	04/12/24 19:40		

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ANALYTICAL RESULTS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Sample: TB-01-WQ-20240328 Lab ID: 40276083004 Collected: 03/28/24 15:50 Received: 03/28/24 16:47 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
PFAS in Water-EPA 537 Mod									
Analytical Method: EPA 537 Mod Preparation Method: EPA 537 Mod									
Pace Analytical Services - Baton Rouge									
11CI-PF3OUdS	<0.38	ng/L	1.7	0.38	1	04/06/24 17:12	04/08/24 18:56	763051-92-9	
4:2 FTS	<0.52	ng/L	1.7	0.52	1	04/06/24 17:12	04/08/24 18:56	757124-72-4	
6:2 FTS	<0.63	ng/L	1.7	0.63	1	04/06/24 17:12	04/08/24 18:56	27619-97-2	
8:2 FTS	<0.45	ng/L	1.7	0.45	1	04/06/24 17:12	04/08/24 18:56	39108-34-4	
9CI-PF3ONS	<0.38	ng/L	1.7	0.38	1	04/06/24 17:12	04/08/24 18:56	756426-58-1	
ADONA	<0.36	ng/L	1.7	0.36	1	04/06/24 17:12	04/08/24 18:56	919005-14-4	
HFPO-DA	<0.72	ng/L	3.4	0.72	1	04/06/24 17:12	04/08/24 18:56	13252-13-6	
NEtFOSAA	<0.66	ng/L	3.4	0.66	1	04/06/24 17:12	04/08/24 18:56	2991-50-6	
NEtFOSA	<0.59	ng/L	3.4	0.59	1	04/06/24 17:12	04/08/24 18:56	4151-50-2	
NEtFOSE	<0.42	ng/L	3.4	0.42	1	04/06/24 17:12	04/08/24 18:56	1691-99-2	N2
NMeFOSAA	<0.38	ng/L	3.4	0.38	1	04/06/24 17:12	04/08/24 18:56	2355-31-9	
NMeFOSA	<0.70	ng/L	3.4	0.70	1	04/06/24 17:12	04/08/24 18:56	31506-32-8	
NMeFOSE	<0.55	ng/L	3.4	0.55	1	04/06/24 17:12	04/08/24 18:56	24448-09-7	N2
PFBS	<0.26	ng/L	1.7	0.26	1	04/06/24 17:12	04/08/24 18:56	375-73-5	
PFDA	<0.61	ng/L	1.7	0.61	1	04/06/24 17:12	04/08/24 18:56	335-76-2	
PFHxA	<0.40	ng/L	1.7	0.40	1	04/06/24 17:12	04/08/24 18:56	307-24-4	
PFBA	<0.64	ng/L	1.7	0.64	1	04/06/24 17:12	04/08/24 18:56	375-22-4	
PFDS	<0.51	ng/L	1.7	0.51	1	04/06/24 17:12	04/08/24 18:56	335-77-3	
PFDoS	<0.55	ng/L	1.7	0.55	1	04/06/24 17:12	04/08/24 18:56	79780-39-5	
PFHpS	<0.51	ng/L	1.7	0.51	1	04/06/24 17:12	04/08/24 18:56	375-92-8	
PFNS	<0.73	ng/L	1.7	0.73	1	04/06/24 17:12	04/08/24 18:56	68259-12-1	
PFOSA	<0.31	ng/L	1.7	0.31	1	04/06/24 17:12	04/08/24 18:56	754-91-6	
PFPeA	<0.37	ng/L	1.7	0.37	1	04/06/24 17:12	04/08/24 18:56	2706-90-3	
PFPeS	<0.43	ng/L	1.7	0.43	1	04/06/24 17:12	04/08/24 18:56	2706-91-4	
PFDoA	<0.55	ng/L	1.7	0.55	1	04/06/24 17:12	04/08/24 18:56	307-55-1	
PFHpA	<0.49	ng/L	1.7	0.49	1	04/06/24 17:12	04/08/24 18:56	375-85-9	
PFHxS	<0.52	ng/L	1.7	0.52	1	04/06/24 17:12	04/08/24 18:56	355-46-4	
PFNA	<0.41	ng/L	1.7	0.41	1	04/06/24 17:12	04/08/24 18:56	375-95-1	
PFOS	<0.32	ng/L	1.7	0.32	1	04/06/24 17:12	04/08/24 18:56	1763-23-1	
PFOA	<0.35	ng/L	1.7	0.35	1	04/06/24 17:12	04/08/24 18:56	335-67-1	
PFTeDA	<0.48	ng/L	1.7	0.48	1	04/06/24 17:12	04/08/24 18:56	376-06-7	
PFTrDA	<0.52	ng/L	1.7	0.52	1	04/06/24 17:12	04/08/24 18:56	72629-94-8	
PFUnA	<0.52	ng/L	1.7	0.52	1	04/06/24 17:12	04/08/24 18:56	2058-94-8	
Extracted Internal Standards									
13C2-PFDoA (IS)	75.9	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C2-PFTA (IS)	69.8	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C24:2FTS (IS)	59.7	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C26:2FTS (IS)	43.5	%	50-150		1	04/06/24 17:12	04/08/24 18:56		IO
13C28:2FTS (IS)	60.9	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C2PFHxDA (IS)	71.9	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C3-PFBS (IS)	91.8	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C3-PFHxS (IS)	91.0	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C3HFPO-DA (IS)	96.8	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C4-PFBA (IS)	91.5	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C4-PFHpA (IS)	92.4	%	50-150		1	04/06/24 17:12	04/08/24 18:56		

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ANALYTICAL RESULTS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Sample: TB-01-WQ-20240328 Lab ID: 40276083004 Collected: 03/28/24 15:50 Received: 03/28/24 16:47 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
PFAS in Water-EPA 537 Mod		Analytical Method: EPA 537 Mod Preparation Method: EPA 537 Mod Pace Analytical Services - Baton Rouge							
Extracted Internal Standards									
13C5-PFHxA (IS)	95.5	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C5-PFPeA (IS)	95.5	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C6-PFDA (IS)	84.3	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C7-PFUdA (IS)	75.5	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C8-PFOA (IS)	93.7	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C8-PFOS (IS)	80.9	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C8-PFOSA (IS)	76.4	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
13C9-PFNA (IS)	90.9	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
d3-MeFOSAA (IS)	63.5	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
d3-NMeFOSA (IS)	45.7	%	50-150		1	04/06/24 17:12	04/08/24 18:56		IO
d5-EtFOSAA (IS)	66.3	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
d5-NEtFOSA (IS)	35.7	%	50-150		1	04/06/24 17:12	04/08/24 18:56		IO
d7-NMeFOSE (IS)	82.3	%	50-150		1	04/06/24 17:12	04/08/24 18:56		
d9-NEtFOSE (IS)	77.7	%	50-150		1	04/06/24 17:12	04/08/24 18:56		

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ANALYTICAL RESULTS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Sample: FB-01-WQ-20240328 Lab ID: 40276083005 Collected: 03/28/24 15:50 Received: 03/28/24 16:47 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
PFAS in Water-EPA 537 Mod									
Analytical Method: EPA 537 Mod Preparation Method: EPA 537 Mod									
Pace Analytical Services - Baton Rouge									
11CI-PF3OUdS	<0.38	ng/L	1.7	0.38	1	04/06/24 17:12	04/11/24 16:03	763051-92-9	
4:2 FTS	<0.53	ng/L	1.7	0.53	1	04/06/24 17:12	04/11/24 16:03	757124-72-4	
6:2 FTS	<0.64	ng/L	1.7	0.64	1	04/06/24 17:12	04/11/24 16:03	27619-97-2	
8:2 FTS	<0.45	ng/L	1.7	0.45	1	04/06/24 17:12	04/11/24 16:03	39108-34-4	
9CI-PF3ONS	<0.38	ng/L	1.7	0.38	1	04/06/24 17:12	04/11/24 16:03	756426-58-1	
ADONA	<0.37	ng/L	1.7	0.37	1	04/06/24 17:12	04/11/24 16:03	919005-14-4	
HFPO-DA	<0.73	ng/L	3.4	0.73	1	04/06/24 17:12	04/11/24 16:03	13252-13-6	
NEtFOSAA	<0.68	ng/L	3.4	0.68	1	04/06/24 17:12	04/11/24 16:03	2991-50-6	
NEtFOSA	<0.60	ng/L	3.4	0.60	1	04/06/24 17:12	04/11/24 16:03	4151-50-2	
NEtFOSE	<0.43	ng/L	3.4	0.43	1	04/06/24 17:12	04/11/24 16:03	1691-99-2	N2
NMeFOSAA	<0.38	ng/L	3.4	0.38	1	04/06/24 17:12	04/11/24 16:03	2355-31-9	
NMeFOSA	<0.71	ng/L	3.4	0.71	1	04/06/24 17:12	04/11/24 16:03	31506-32-8	
NMeFOSE	<0.56	ng/L	3.4	0.56	1	04/06/24 17:12	04/11/24 16:03	24448-09-7	N2
PFBS	<0.27	ng/L	1.7	0.27	1	04/06/24 17:12	04/11/24 16:03	375-73-5	
PFDA	<0.62	ng/L	1.7	0.62	1	04/06/24 17:12	04/11/24 16:03	335-76-2	
PFHxA	<0.40	ng/L	1.7	0.40	1	04/06/24 17:12	04/11/24 16:03	307-24-4	
PFBA	<0.65	ng/L	1.7	0.65	1	04/06/24 17:12	04/11/24 16:03	375-22-4	
PFDS	<0.52	ng/L	1.7	0.52	1	04/06/24 17:12	04/11/24 16:03	335-77-3	
PFDoS	<0.56	ng/L	1.7	0.56	1	04/06/24 17:12	04/11/24 16:03	79780-39-5	
PFHpS	<0.52	ng/L	1.7	0.52	1	04/06/24 17:12	04/11/24 16:03	375-92-8	
PFNS	<0.74	ng/L	1.7	0.74	1	04/06/24 17:12	04/11/24 16:03	68259-12-1	
PFOSA	0.41J	ng/L	1.7	0.32	1	04/06/24 17:12	04/11/24 16:03	754-91-6	B
PFPeA	<0.38	ng/L	1.7	0.38	1	04/06/24 17:12	04/11/24 16:03	2706-90-3	
PFPeS	<0.44	ng/L	1.7	0.44	1	04/06/24 17:12	04/11/24 16:03	2706-91-4	
PFDoA	<0.56	ng/L	1.7	0.56	1	04/06/24 17:12	04/11/24 16:03	307-55-1	
PFHpA	<0.50	ng/L	1.7	0.50	1	04/06/24 17:12	04/11/24 16:03	375-85-9	
PFHxS	<0.53	ng/L	1.7	0.53	1	04/06/24 17:12	04/11/24 16:03	355-46-4	
PFNA	<0.42	ng/L	1.7	0.42	1	04/06/24 17:12	04/11/24 16:03	375-95-1	
PFOS	<0.33	ng/L	1.7	0.33	1	04/06/24 17:12	04/11/24 16:03	1763-23-1	
PFOA	<0.36	ng/L	1.7	0.36	1	04/06/24 17:12	04/11/24 16:03	335-67-1	
PFTeDA	<0.49	ng/L	1.7	0.49	1	04/06/24 17:12	04/11/24 16:03	376-06-7	
PFTrDA	<0.53	ng/L	1.7	0.53	1	04/06/24 17:12	04/11/24 16:03	72629-94-8	
PFUnA	<0.53	ng/L	1.7	0.53	1	04/06/24 17:12	04/11/24 16:03	2058-94-8	
Extracted Internal Standards									
13C2-PFDoA (IS)	76.4	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C2-PFTA (IS)	75.7	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C24:2FTS (IS)	97.6	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C26:2FTS (IS)	98.9	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C28:2FTS (IS)	82.6	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C2PFHxDA (IS)	74.5	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C3-PFBS (IS)	89.0	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C3-PFHxS (IS)	87.3	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C3HFPO-DA (IS)	92.0	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C4-PFBA (IS)	92.3	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C4-PFHpA (IS)	92.1	%	50-150		1	04/06/24 17:12	04/11/24 16:03		

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ANALYTICAL RESULTS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Sample: **FB-01-WQ-20240328** Lab ID: **40276083005** Collected: 03/28/24 15:50 Received: 03/28/24 16:47 Matrix: Water

Parameters	Results	Units	LOQ	LOD	DF	Prepared	Analyzed	CAS No.	Qual
PFAS in Water-EPA 537 Mod		Analytical Method: EPA 537 Mod Preparation Method: EPA 537 Mod Pace Analytical Services - Baton Rouge							
Extracted Internal Standards									
13C5-PFHxA (IS)	93.6	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C5-PFPeA (IS)	92.2	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C6-PFDA (IS)	80.8	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C7-PFUdA (IS)	77.3	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C8-PFOA (IS)	93.0	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C8-PFOS (IS)	81.6	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C8-PFOSA (IS)	77.3	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
13C9-PFNA (IS)	88.5	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
d3-MeFOSAA (IS)	84.3	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
d3-NMeFOSA (IS)	55.1	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
d5-EtFOSAA (IS)	75.0	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
d5-NEtFOSA (IS)	50.1	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
d7-NMeFOSE (IS)	75.3	%	50-150		1	04/06/24 17:12	04/11/24 16:03		
d9-NEtFOSE (IS)	74.4	%	50-150		1	04/06/24 17:12	04/11/24 16:03		

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QUALITY CONTROL DATA

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

QC Batch: 324591

Analysis Method: EPA 537 Mod

QC Batch Method: EPA 537 Mod

Analysis Description: PFAS in Water-EPA 537 Mod

Laboratory: Pace Analytical Services - Baton Rouge

Associated Lab Samples: 40276083004, 40276083005

METHOD BLANK: 1555145

Matrix: Water

Associated Lab Samples: 40276083004, 40276083005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
11CI-PF3OUdS	ng/L	<0.90	4.0	04/08/24 17:28	
4:2 FTS	ng/L	<1.2	4.0	04/08/24 17:28	
6:2 FTS	ng/L	<1.5	4.0	04/08/24 17:28	
8:2 FTS	ng/L	<1.1	4.0	04/08/24 17:28	
9CI-PF3ONS	ng/L	<0.90	4.0	04/08/24 17:28	
ADONA	ng/L	<0.86	4.0	04/08/24 17:28	
HFPO-DA	ng/L	<1.7	8.0	04/08/24 17:28	
NEtFOSA	ng/L	<1.4	8.0	04/08/24 17:28	
NEtFOSAA	ng/L	<1.6	8.0	04/08/24 17:28	
NEtFOSE	ng/L	<1.0	8.0	04/08/24 17:28	N2
NMeFOSA	ng/L	<1.7	8.0	04/08/24 17:28	
NMeFOSAA	ng/L	<0.90	8.0	04/08/24 17:28	
NMeFOSE	ng/L	<1.3	8.0	04/08/24 17:28	N2
PFBA	ng/L	<1.5	4.0	04/08/24 17:28	
PFBS	ng/L	<0.62	4.0	04/08/24 17:28	
PFDA	ng/L	<1.4	4.0	04/08/24 17:28	
PFDaA	ng/L	<1.3	4.0	04/08/24 17:28	
PFDoS	ng/L	<1.3	4.0	04/08/24 17:28	
PFDS	ng/L	<1.2	4.0	04/08/24 17:28	
PFHpA	ng/L	<1.2	4.0	04/08/24 17:28	
PFHpS	ng/L	<1.2	4.0	04/08/24 17:28	
PFHxA	ng/L	<0.94	4.0	04/08/24 17:28	
PFHxS	ng/L	<1.2	4.0	04/08/24 17:28	
PFNA	ng/L	<0.98	4.0	04/08/24 17:28	
PFNS	ng/L	<1.7	4.0	04/08/24 17:28	
PFOA	ng/L	<0.84	4.0	04/08/24 17:28	
PFOS	ng/L	<0.76	4.0	04/08/24 17:28	
PFOSA	ng/L	<0.74	4.0	04/08/24 17:28	
PFPeA	ng/L	<0.88	4.0	04/08/24 17:28	
PFPeS	ng/L	<1.0	4.0	04/08/24 17:28	
PFTeDA	ng/L	<1.1	4.0	04/08/24 17:28	
PFTTrDA	ng/L	<1.2	4.0	04/08/24 17:28	
PFUnA	ng/L	<1.2	4.0	04/08/24 17:28	
13C2-PFDaA (IS)	%	93.5	50-150	04/08/24 17:28	
13C2-PFTA (IS)	%	89.8	50-150	04/08/24 17:28	
13C24:2FTS (IS)	%	91.4	50-150	04/08/24 17:28	
13C26:2FTS (IS)	%	68.5	50-150	04/08/24 17:28	
13C28:2FTS (IS)	%	93.0	50-150	04/08/24 17:28	
13C2PFHxDA (IS)	%	87.1	50-150	04/08/24 17:28	
13C3-PFBS (IS)	%	97.1	50-150	04/08/24 17:28	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

METHOD BLANK: 1555145

Matrix: Water

Associated Lab Samples: 40276083004, 40276083005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
13C3-PFHxS (IS)	%	95.8	50-150	04/08/24 17:28	
13C3HFPO-DA(IS)	%	99.0	50-150	04/08/24 17:28	
13C4-PFBA (IS)	%	101	50-150	04/08/24 17:28	
13C4-PFHpA (IS)	%	98.4	50-150	04/08/24 17:28	
13C5-PFHxA (IS)	%	99.6	50-150	04/08/24 17:28	
13C5-PFPeA (IS)	%	99.7	50-150	04/08/24 17:28	
13C6-PFDA (IS)	%	96.6	50-150	04/08/24 17:28	
13C7-PFUdA (IS)	%	93.7	50-150	04/08/24 17:28	
13C8-PFOA (IS)	%	101	50-150	04/08/24 17:28	
13C8-PFOS (IS)	%	93.8	50-150	04/08/24 17:28	
13C8-PFOSA (IS)	%	90.0	50-150	04/08/24 17:28	
13C9-PFNA (IS)	%	101	50-150	04/08/24 17:28	
d3-MeFOSAA (IS)	%	86.6	50-150	04/08/24 17:28	
d3-NMeFOSA (IS)	%	65.3	50-150	04/08/24 17:28	
d5-EtFOSAA (IS)	%	86.3	50-150	04/08/24 17:28	
d5-NEtFOSA (IS)	%	69.6	50-150	04/08/24 17:28	
d7-NMeFOSE (IS)	%	91.6	50-150	04/08/24 17:28	
d9-NEtFOSE (IS)	%	88.9	50-150	04/08/24 17:28	

LABORATORY CONTROL SAMPLE & LCSD: 1555146

1555147

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
11CI-PF3OUdS	ng/L	75.6	66.2	62.0	88	82	70-130	7	30	
4:2 FTS	ng/L	74.8	76.7	70.5	103	94	70-130	8	30	
6:2 FTS	ng/L	76	75.9	69.5	100	91	70-130	9	30	
8:2 FTS	ng/L	76.8	75.0	70.5	98	92	70-130	6	30	
9CI-PF3ONS	ng/L	74.8	70.0	64.3	94	86	70-130	8	30	
ADONA	ng/L	75.6	74.2	67.3	98	89	70-130	10	30	
HFPO-DA	ng/L	160	163	151	102	94	70-130	8	30	
NEtFOSA	ng/L	80	76.5	72.6	96	91	70-130	5	30	
NEtFOSAA	ng/L	80	72.6	68.2	91	85	70-130	6	30	
NEtFOSE	ng/L	80	78.9	74.5	99	93	70-130	6	30	N2
NMeFOSA	ng/L	80	77.3	72.6	97	91	70-130	6	30	
NMeFOSAA	ng/L	80	82.1	76.1	103	95	70-130	8	30	
NMeFOSE	ng/L	80	77.8	73.5	97	92	70-130	6	30	N2
PFBA	ng/L	80	78.8	73.4	99	92	70-130	7	30	
PFBS	ng/L	70.8	70.3	65.5	99	92	70-130	7	30	
PFDA	ng/L	80	79.0	73.9	99	92	70-130	7	30	
PFDoA	ng/L	80	77.4	72.1	97	90	70-130	7	30	
PFDoS	ng/L	77.6	71.3	66.5	92	86	70-130	7	30	
PFDS	ng/L	77.2	72.9	68.1	94	88	70-130	7	30	
PFHpA	ng/L	80	77.3	72.7	97	91	70-130	6	30	
PFHpS	ng/L	76.4	76.3	70.8	100	93	70-130	7	30	
PFHxA	ng/L	80	78.5	73.1	98	91	70-130	7	30	

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QUALITY CONTROL DATA

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

LABORATORY CONTROL SAMPLE & LCSD:		1555146	1555147		LCS	LCSD	% Rec		Max	
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	% Rec	% Rec	% Rec Limits	RPD	RPD	Qualifiers
PFHxS	ng/L	73.2	71.5	67.2	98	92	70-130	6	30	
PFNA	ng/L	80	77.8	73.3	97	92	70-130	6	30	
PFNS	ng/L	76.8	76.4	70.0	99	91	70-130	9	30	
PFOA	ng/L	80	78.1	71.5	98	89	70-130	9	30	
PFOS	ng/L	74.4	72.6	66.5	98	89	70-130	9	30	
PFOSA	ng/L	80	80.1	75.5	100	94	70-130	6	30	
PFPeA	ng/L	80	78.3	73.5	98	92	70-130	6	30	
PFPeS	ng/L	75.2	75.5	70.1	100	93	70-130	7	30	
PFTeDA	ng/L	80	76.6	71.7	96	90	70-130	7	30	
PFTrDA	ng/L	80	75.2	70.4	94	88	70-130	7	30	
PFUnA	ng/L	80	80.4	74.5	100	93	70-130	8	30	
13C2-PFDoA (IS)	%				88	92.1	50-150			
13C2-PFTA (IS)	%				85.5	87.4	50-150			
13C24:2FTS (IS)	%				80.2	81.6	50-150			
13C26:2FTS (IS)	%				60.3	62.5	50-150			
13C28:2FTS (IS)	%				86.1	85.7	50-150			
13C2PFHxDA(IS)	%				76.6	83.5	50-150			
13C3-PFBS (IS)	%				89.2	92.9	50-150			
13C3-PFHxS (IS)	%				89.1	92.1	50-150			
13C3HFPO-DA(IS)	%				93.3	95.1	50-150			
13C4-PFBA (IS)	%				95.3	96.8	50-150			
13C4-PFHpA (IS)	%				93	94	50-150			
13C5-PFHxA (IS)	%				93.9	96.3	50-150			
13C5-PFPeA (IS)	%				95.5	96.3	50-150			
13C6-PFDA (IS)	%				92.7	94.2	50-150			
13C7-PFUdA (IS)	%				89.2	91.2	50-150			
13C8-PFOA (IS)	%				92.5	96.3	50-150			
13C8-PFOS (IS)	%				87.1	90.6	50-150			
13C8-PFOSA (IS)	%				81	85.2	50-150			
13C9-PFNA (IS)	%				94	95.4	50-150			
d3-MeFOSAA (IS)	%				78.5	82	50-150			
d3-NMeFOSA (IS)	%				63.8	74.2	50-150			
d5-EtFOSAA (IS)	%				81.2	83	50-150			
d5-NEtFOSA (IS)	%				62.5	74.1	50-150			
d7-NMeFOSE (IS)	%				82.9	89	50-150			
d9-NEtFOSE (IS)	%				80.2	86.2	50-150			

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QUALITY CONTROL DATA

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

QC Batch: 325018

Analysis Method: EPA 537 Mod

QC Batch Method: EPA 537 Mod

Analysis Description: PFAS in Water-EPA 537 Mod

Laboratory: Pace Analytical Services - Baton Rouge

Associated Lab Samples: 40276083001, 40276083002, 40276083003

METHOD BLANK: 1557347

Matrix: Water

Associated Lab Samples: 40276083001, 40276083002, 40276083003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
11CI-PF3OUdS	ng/L	<0.90	4.0	04/12/24 18:12	
4:2 FTS	ng/L	<1.2	4.0	04/12/24 18:12	
6:2 FTS	ng/L	<1.5	4.0	04/12/24 18:12	
8:2 FTS	ng/L	<1.1	4.0	04/12/24 18:12	
9CI-PF3ONS	ng/L	<0.90	4.0	04/12/24 18:12	
ADONA	ng/L	<0.86	4.0	04/12/24 18:12	
HFPO-DA	ng/L	<1.7	8.0	04/12/24 18:12	
NEtFOSA	ng/L	<1.4	8.0	04/12/24 18:12	
NEtFOSAA	ng/L	<1.6	8.0	04/12/24 18:12	
NEtFOSE	ng/L	<1.0	8.0	04/12/24 18:12	N2
NMeFOSA	ng/L	<1.7	8.0	04/12/24 18:12	
NMeFOSAA	ng/L	<0.90	8.0	04/12/24 18:12	
NMeFOSE	ng/L	<1.3	8.0	04/12/24 18:12	N2
PFBA	ng/L	<1.5	4.0	04/12/24 18:12	
PFBS	ng/L	<0.62	4.0	04/12/24 18:12	
PFDA	ng/L	<1.4	4.0	04/12/24 18:12	
PFDaA	ng/L	<1.3	4.0	04/12/24 18:12	
PFDoS	ng/L	<1.3	4.0	04/12/24 18:12	
PFDS	ng/L	<1.2	4.0	04/12/24 18:12	
PFHpA	ng/L	<1.2	4.0	04/12/24 18:12	
PFHpS	ng/L	<1.2	4.0	04/12/24 18:12	
PFHxA	ng/L	<0.94	4.0	04/12/24 18:12	
PFHxS	ng/L	<1.2	4.0	04/12/24 18:12	
PFNA	ng/L	<0.98	4.0	04/12/24 18:12	
PFNS	ng/L	<1.7	4.0	04/12/24 18:12	
PFOA	ng/L	<0.84	4.0	04/12/24 18:12	
PFOS	ng/L	<0.76	4.0	04/12/24 18:12	
PFOSA	ng/L	<0.74	4.0	04/12/24 18:12	
PFPeA	ng/L	<0.88	4.0	04/12/24 18:12	
PFPeS	ng/L	<1.0	4.0	04/12/24 18:12	
PFTeDA	ng/L	<1.1	4.0	04/12/24 18:12	
PFTTrDA	ng/L	<1.2	4.0	04/12/24 18:12	
PFUnA	ng/L	<1.2	4.0	04/12/24 18:12	
13C2-PFDaA (IS)	%	87.8	50-150	04/12/24 18:12	
13C2-PFTA (IS)	%	84.8	50-150	04/12/24 18:12	
13C24:2FTS (IS)	%	102	50-150	04/12/24 18:12	
13C26:2FTS (IS)	%	107	50-150	04/12/24 18:12	
13C28:2FTS (IS)	%	87.4	50-150	04/12/24 18:12	
13C2PFHxDA (IS)	%	85.4	50-150	04/12/24 18:12	
13C3-PFBS (IS)	%	92.4	50-150	04/12/24 18:12	

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QUALITY CONTROL DATA

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

METHOD BLANK: 1557347

Matrix: Water

Associated Lab Samples: 40276083001, 40276083002, 40276083003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
13C3-PFHxS (IS)	%	92.8	50-150	04/12/24 18:12	
13C3HFPO-DA(IS)	%	95.0	50-150	04/12/24 18:12	
13C4-PFBA (IS)	%	92.7	50-150	04/12/24 18:12	
13C4-PFHpA (IS)	%	94.9	50-150	04/12/24 18:12	
13C5-PFHxA (IS)	%	94.5	50-150	04/12/24 18:12	
13C5-PFPeA (IS)	%	93.9	50-150	04/12/24 18:12	
13C6-PFDA (IS)	%	91.1	50-150	04/12/24 18:12	
13C7-PFUdA (IS)	%	93.2	50-150	04/12/24 18:12	
13C8-PFOA (IS)	%	97.7	50-150	04/12/24 18:12	
13C8-PFOS (IS)	%	90.6	50-150	04/12/24 18:12	
13C8-PFOSA (IS)	%	87.8	50-150	04/12/24 18:12	
13C9-PFNA (IS)	%	94.8	50-150	04/12/24 18:12	
d3-MeFOSAA (IS)	%	99.5	50-150	04/12/24 18:12	
d3-NMeFOSA (IS)	%	34.0	50-150	04/12/24 18:12	IS
d5-EtFOSAA (IS)	%	92.4	50-150	04/12/24 18:12	
d5-NEtFOSA (IS)	%	26.9	50-150	04/12/24 18:12	IS
d7-NMeFOSE (IS)	%	74.2	50-150	04/12/24 18:12	
d9-NEtFOSE (IS)	%	72.0	50-150	04/12/24 18:12	

LABORATORY CONTROL SAMPLE & LCSD: 1557348

1557349

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
11CI-PF3OUdS	ng/L	75.6	69.6	66.0	92	87	70-130	5	30	
4:2 FTS	ng/L	74.8	79.6	76.5	106	102	70-130	4	30	
6:2 FTS	ng/L	76	80.0	76.2	105	100	70-130	5	30	
8:2 FTS	ng/L	76.8	77.3	76.2	101	99	70-130	1	30	
9CI-PF3ONS	ng/L	74.8	72.6	70.1	97	94	70-130	4	30	
ADONA	ng/L	75.6	74.0	71.9	98	95	70-130	3	30	
HFPO-DA	ng/L	160	157	153	98	96	70-130	3	30	
NEtFOSA	ng/L	80	69.2	67.7	87	85	70-130	2	30	
NEtFOSAA	ng/L	80	80.4	75.4	100	94	70-130	6	30	
NEtFOSE	ng/L	80	76.7	75.4	96	94	70-130	2	30	N2
NMeFOSA	ng/L	80	92.2	84.1	115	105	70-130	9	30	
NMeFOSAA	ng/L	80	84.7	83.0	106	104	70-130	2	30	
NMeFOSE	ng/L	80	62.9	62.6	79	78	70-130	1	30	N2
PFBA	ng/L	80	81.4	79.1	102	99	70-130	3	30	
PFBS	ng/L	70.8	71.9	69.4	102	98	70-130	4	30	
PFDA	ng/L	80	80.4	78.1	101	98	70-130	3	30	
PFDoA	ng/L	80	80.7	77.4	101	97	70-130	4	30	
PFDoS	ng/L	77.6	73.0	67.4	94	87	70-130	8	30	
PFDS	ng/L	77.2	74.0	71.4	96	92	70-130	4	30	
PFHpA	ng/L	80	81.1	77.7	101	97	70-130	4	30	
PFHpS	ng/L	76.4	77.2	76.4	101	100	70-130	1	30	
PFHxA	ng/L	80	80.5	79.1	101	99	70-130	2	30	

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QUALITY CONTROL DATA

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

LABORATORY CONTROL SAMPLE & LCSD:		1557348	1557349							
Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
PFHxS	ng/L	73.2	73.7	71.4	101	97	70-130	3	30	
PFNA	ng/L	80	81.1	78.9	101	99	70-130	3	30	
PFNS	ng/L	76.8	75.7	71.7	99	93	70-130	5	30	
PFOA	ng/L	80	79.6	78.1	99	98	70-130	2	30	
PFOS	ng/L	74.4	74.4	72.1	100	97	70-130	3	30	
PFOSA	ng/L	80	82.1	82.0	103	102	70-130	0	30	
PFPeA	ng/L	80	81.4	79.4	102	99	70-130	3	30	
PFPeS	ng/L	75.2	77.2	74.7	103	99	70-130	3	30	
PFTeDA	ng/L	80	79.4	79.2	99	99	70-130	0	30	
PFTrDA	ng/L	80	78.8	76.6	99	96	70-130	3	30	
PFUnA	ng/L	80	78.7	79.7	98	100	70-130	1	30	
13C2-PFDoA (IS)	%				91.6	87.7	50-150			
13C2-PFTA (IS)	%				91	85.7	50-150			
13C24:2FTS (IS)	%				96.5	92.9	50-150			
13C26:2FTS (IS)	%				101	99.8	50-150			
13C28:2FTS (IS)	%				90.4	80.9	50-150			
13C2PFHxDA(IS)	%				91.9	88.3	50-150			
13C3-PFBS (IS)	%				96.4	92.8	50-150			
13C3-PFHxS (IS)	%				95.4	92.1	50-150			
13C3HFPO-DA(IS)	%				98.5	94	50-150			
13C4-PFBA (IS)	%				97.3	93.8	50-150			
13C4-PFHpA (IS)	%				96.4	94.8	50-150			
13C5-PFHxA (IS)	%				96.6	94.1	50-150			
13C5-PFPeA (IS)	%				96.7	92.7	50-150			
13C6-PFDA (IS)	%				94.3	90.4	50-150			
13C7-PFUdA (IS)	%				97	91.2	50-150			
13C8-PFOA (IS)	%				98	95.8	50-150			
13C8-PFOS (IS)	%				94.3	91.6	50-150			
13C8-PFOSA (IS)	%				90.1	84.4	50-150			
13C9-PFNA (IS)	%				96.2	93.4	50-150			
d3-MeFOSAA (IS)	%				97.6	96.4	50-150			
d3-NMeFOSA (IS)	%				33.6	29.7	50-150			IS
d5-EtFOSAA (IS)	%				89.3	88.2	50-150			
d5-NEtFOSA (IS)	%				29.8	26.6	50-150			IS
d7-NMeFOSE (IS)	%				71.7	71.8	50-150			
d9-NEtFOSE (IS)	%				66.8	69.8	50-150			

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QUALIFIERS

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above LOD.

J - The reported result is an estimated value.

LOD - Limit of Detection adjusted for dilution factor, percent moisture, initial weight and final volume.

LOQ - Limit of Quantitation adjusted for dilution factor, percent moisture, initial weight and final volume.

DL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Analyte was not detected and is reported as less than the LOD or as defined by the customer.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 40276083004

[1] For method EPA 537 Mod, extraction batch 324591 was not extracted with a low-level LCS per Wisconsin requirements. There was no additional sample available for re-extraction.

Sample: 40276083005

[1] For method EPA 537 Mod, extraction batch 324591 was not extracted with a low-level LCS per Wisconsin requirements. There was no additional sample available for re-extraction.

ANALYTE QUALIFIERS

B Analyte was detected in the associated method blank.

IO The internal standard response was outside the laboratory acceptance limits confirmed by reanalysis. The results reported are from the most QC compliant analysis.

IR The internal standard recovery associated with this sample exceeds the upper control limit. The reported results should be considered an estimated value.

IS The internal standard response is below criteria. Results may be biased high.

N2 The lab does not hold NELAC/TNI accreditation for this parameter but other accreditations/certifications may apply. A complete list of accreditations/certifications is available upon request.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: 0383990 TWO RIVERS

Pace Project No.: 40276083

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
40276083001	MW-32S-WG-20240328	EPA 537 Mod	325018	EPA 537 Mod	325216
40276083002	MW-33S-WG-20240328	EPA 537 Mod	325018	EPA 537 Mod	325216
40276083003	MW-34S-WG-20240328	EPA 537 Mod	325018	EPA 537 Mod	325216
40276083004	TB-01-WQ-20240328	EPA 537 Mod	324591	EPA 537 Mod	324754
40276083005	FB-01-WQ-20240328	EPA 537 Mod	324591	EPA 537 Mod	324754

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, LLC.

Sample Condition Upon Receipt Form (SCUR)

Project #:

Client Name: ERM, Inc.

WO#: 40276083

Courier: CS Logistics Fed Ex Speedee UPS Waltco
 Client Pace Other: _____



Tracking #: _____

Custody Seal on Cooler/Box Present: yes no Seals intact: yes no

Custody Seal on Samples Present: yes no Seals intact: yes no

Packing Material: Bubble Wrap Bubble Bags None Other

Thermometer Used SR - 131 Type of Ice: Wet Blue Dry None Meltwater Only

Cooler Temperature Un/corr: 1.0 /Corr: 0.5

Temp Blank Present: yes no Biological Tissue is Frozen: yes no

Person examining contents:
 Date: 03/28/2024 /Initials: mjs
 Labeled By Initials: NK

Temp should be above freezing to 6°C
 Biota Samples may be received at ≤ 0°C if shipped on Dry Ice

Chain of Custody Present:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	1.
Chain of Custody Filled Out:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	2.
Chain of Custody Relinquished:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	3.
Sampler Name & Signature on COC:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A	4.
Samples Arrived within Hold Time:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	5.
- DI VOA Samples frozen upon receipt	<input type="checkbox"/> Yes <input type="checkbox"/> No	Date/Time
Short Hold Time Analysis (<72hr):	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	6.
Rush Turn Around Time Requested:	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	7.
Sufficient Volume:		8.
For Analysis: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No MS/MSD: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> N/A		
Correct Containers Used:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	9.
Correct Type: <u>Pace Green Bay</u> Pace IR, Non-Pace		
Containers Intact:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	10.
Filtered volume received for Dissolved tests	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	11.
Sample Labels match COC:	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> N/A	12.
-Includes date/time/ID/Analysis Matrix: <u>W</u>		
Trip Blank Present:	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	13.
Trip Blank Custody Seals Present	<input type="checkbox"/> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: _____ If checked, see attached form for additional comments

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

PM Review is documented electronically in LIMs. By releasing the project, the PM acknowledges they have reviewed the sample log