From:	Susan Petrofske <SPETROFSKE@ramboll.com>
Sent:	Wednesday, July 31, 2024 3:08 PM
To:	Beggs, Tauren R - DNR
Cc:	Kristin Jones (Kristin.Jones@newellco.com); Gabriel M. Rodriguez (gabriel.rodriguez@afslaw.com); Andrew Sawula ; Paul Lindquist; Jeanne Tarvin
Subject:	NR 716.14 Data Transmittal for BRRTS#02-36-594671 (Mirro Co Plt #4 (Former))
Attachments:	02-36-594671_NR 716.14 Data Transmittal-June 2024 GW_07 31 2024.pdf

CAUTION: This email originated from outside the organization.
Do not click links or open attachments unless you recognize the sender and know the content is safe.

Tauren,

Attached for your records is a copy of the data transmittal letter for groundwater samples collected in June 2024 as part of the PFAS focused site investigation activities at the West River Lofts, LLC (Former Mirro 4) site in Two Rivers, WI. Please note, a copy of this letter and attachments has also been uploaded to the WDNR RR Program Submittal Portal.

Kind regards

Susan Petrofske

Senior Managing Consultant

D 262-901-3501
M 262-391-5990
spetrofske@ramboll.com

Ramboll
234 W. Florida Street
Fifth Floor
Milwaukee, WI 53204
USA
https://ramboll.com

Classification: Confidential

ENVIRONMENT
& HEALTH

Sent Via E-Mail and WDNR RR Program Submittal Portal

Mr. Tauren Beggs
Remediation and Redevelopment Program
Wisconsin Department of Natural Resources
2984 Shawano Avenue
Green Bay, WI 54313-6727

West River Lofts LLC
c/o Melissa N. Allen
1420 W. Center Street, Suite 2
Milwaukee, WI 53206

NR 716.14 DATA TRANSMITTAL - GROUNDWATER SAMPLE RESULTS
MIRRO CO PLT #4 (FORMER), 1621 14TH STREET (FORMERLY
1702 13TH STREET), TWO RIVERS, WISCONSIN
WDNR BRRTS NO. 02-36-594671

July 31, 2024

Ramboll
234 W. Florida Street
Fifth Floor
Milwaukee, WI 53204
USA

T +1 414 837 3607
F +1 414 837 3608
www.ramboll.com

Ref. 1690026868

Dear Mr. Beggs and Ms. Allen:

Ramboll Americas Engineering Solutions, Inc. (Ramboll), on behalf of Newell Operating Company (NOC), is providing the Wisconsin Department of Natural Resources (WDNR) and the current property owner with the attached groundwater analytical results for samples collected from the five existing monitoring wells located at the West River Lofts, LLC (WRL) property located at 1621 14th Street (former Mirro Plant No. 4) in Two Rivers, Wisconsin (the "Site"). The samples were collected on June 18, 2024, and analyzed in accordance with the WDNR approved *PFAS Focused NR 716 Site Investigation Work Plan* (the "Work Plan"). The laboratory analytical report, tabulated sample results, and a figure showing the sample locations are attached. These site investigation activities, along with the additional items outlined in the Work Plan, will be formally documented in the *Wisconsin Administrative Code NR 716 Focused Site Investigation Report* prepared at the completion of the site investigation.

If you have any questions or require additional information, feel free to contact the undersigned.

Sincerely,

Susan Petrofske
Senior Managing Consultant

D +1 262 901 3501
spetrofske@ramboll.com

Jeanne Tarvin, PG, CPG
E&H Americas Country Market Director

D +1 262 901 0085
jtarvin@ramboll.com

cc: Kristin Jones, NOC
Gabriel Rodriguez, ArentFox Schiff
Andrew Sawula, ArentFox Schiff
William Nelson, Godfrey & Kahn
Edward Witte, Godfrey & Kahn

ATTACHMENTS

Table 1: June 2024 Groundwater Analytical Results

Figure 1: Monitoring Well Locations

Laboratory Analytical Report (Eurofins TestAmerica)

Table 1. Groundwater Analytical Results

West River Lofts, LLC (Former Mirro Plant No. 4)
1621 14th Street, Two Rivers, Wisconsin
BRRTS No.: 02-36-594671 (ERP) FID: 436010300

		Fluorotelomer sulfonic acid (FTSA)					Perfluoroalkane sulfomides (FASA) and derivatives							Perfluoroalkane sulfonic acid (PFSA)							
Sample ID	Sample Date	4,8-Dioxa-3h-perfluorononanoic acid (ADONA)	4:2 Fluorotelomer sulfonic acid	6:2 Fluorotelomer sulfonic acid	8:2 Fluorotelomer sulfonic acid	HFPO-DA (GenX)	NEtFOSA	NEtFOSAA	NEtFOSE	NMeFOSA	NMeFOSAA	NMeFOSE	Perfluorooctanesulfonamide (FOSA)	Perfluorobutanesulfonic acid (PFBS)	Perfluorodecanesulfonic acid (PFDS)	Perfluorododecane sulfonic acid (PFDoDS)	Perfluoroheptanesulfonic acid (PFHpS)	Perfluorohexanesulfonic acid (PFHxS)	Perfluorononanesulfonic acid (PFNS)	Perfluorooctanesulfonic acid (PFOS)	Perfluoropentanesulfonic acid (PFPeS)
		919005-14-4	757124-72-4	27619-97-2	39108-34-4	13252-13-6	4151-50-2	2991-50-6	1691-99-2	31506-32-8	2355-31-9	24448-09-7	754-91-6	375-73-5	335-77-3	79780-39-5	375-92-8	355-46-4	68259-12-1	1763-23-1	2706-91-4
	Reporting Units:	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
WDHS Recommended GW ES:		**3000**	**NS**	**NS**	**NS**	**300**	**20**	**20**	**20**	**NS**	**NS**	**NS**	**20**	**450000**	**NS**	**NS**	**NS**	**40**	**NS**	**20**	**NS**
WDHS Recommended GW PAL:		600	NS	NS	NS	30	2	2	2	NS	NS	NS	2	90000	NS	NS	NS	4	NS	2	NS
MW-101	4/5/2024	< 1.9 U	< 1.9 U	< 4.7 U	< 1.9 U	< 3.8 U	< 1.9 U	< 4.7 U	< 1.9 U	< 1.9 U	< 4.7 U	< 3.8 U	< 1.9 U	0.92 J	< 1.9 U	< 1.9 U	< 1.9 U	0.80 J	< 1.9 U	**42**	< 1.9 U
MW-101	6/18/2024	< 1.8 U	< 1.8 U	< 4.4 U	< 1.8 U	< 3.5 U	< 1.8 U	< 4.4 U	< 1.8 U	< 1.8 U	< 4.4 U	< 3.5 U	< 1.8 U	1.3 J	< 1.8 U	< 1.8 U	0.33 J	0.63 J	< 1.8 U	**42**	< 1.8 U
MW-102	4/5/2024	< 1.8 U	< 1.8 U	< 4.6 U	0.44 J	< 3.7 U	< 1.8 U	< 4.6 U	< 1.8 U	< 1.8 U	< 4.6 U	< 3.7 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	2.3	< 1.8 U	**150**	< 1.8 U
MW-102	6/18/2024	< 1.8 U	< 1.8 U	< 4.4 UJ	0.65 J	< 3.5 U	< 1.8 U	< 4.4 U	< 1.8 U	< 1.8 U	< 4.4 U	< 3.5 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	2.2	2.1	< 1.8 U	**170**	< 1.8 U
MW-103	4/5/2024	< 1.9 U	< 1.9 U	< 4.7 U	< 1.9 U	< 3.7 U	< 1.9 U	< 4.7 U	< 1.9 U	< 1.9 U	< 4.7 U	< 3.7 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	1.8 J	2.2	< 1.9 U	**160**	< 1.9 U
MW-103	6/18/2024	< 1.9 U	< 1.9 U	< 4.7 U	< 1.9 U	< 3.7 U	< 1.9 U	< 4.7 U	< 1.9 U	< 1.9 U	< 4.7 U	< 3.7 U	< 1.9 U	1.1 J	< 1.9 U	< 1.9 U	1.3 J	2.3	< 1.9 U	**97**	0.52 J
MW-104	4/5/2024	< 1.9 U	< 1.9 U	< 4.9 U	< 1.9 U	< 3.9 U	< 1.9 U	< 4.9 U	< 1.9 U	< 1.9 U	< 4.9 U	< 3.9 U	< 1.9 U	1.4 J	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	**23**	< 1.9 U
MW-104	6/18/2024	< 1.8 U	< 1.8 U	< 4.6 U	< 1.8 U	< 3.7 U	< 1.8 U	< 4.6 U	< 1.8 U	< 1.8 U	< 4.6 U	< 3.7 U	< 1.8 U	2.2	< 1.8 U	< 1.8 U	< 1.8 U	0.71 J	< 1.8 U	**54**	< 1.8 U
MW-105	4/5/2024	< 2.0 U	< 2.0 U	6.3 J-	6.0 J-	< 4.1 U	< 2.0 U	< 5.1 U	< 2.0 U	< 2.0 U	< 5.1 U	< 4.1 U	< 2.0 U	5.9	< 2.0 U	< 2.0 U	5.4	13	< 2.0 U	**530**	2.0
MW-105*	6/18/2024	< 1.7 U	< 1.7 U	19 J-	21 J	< 3.4 U	< 1.7 U	< 4.3 U	< 1.7 U	< 1.7 U	< 4.3 U	< 3.4 U	< 1.7 U	7.7 J	< 1.7 U	< 1.7 U	37	22	< 1.7 U	**1900**	6.0 J

Notes:
Lab comments, additional data qualifiers and definitions can be found in associated laboratory and validation reports.

Bold	is equal to or greater than WDHS Recommended Groundwater ES
Underlined	is equal to or greater than WDHS Recommended Groundwater PAL
Gray Text	analyte not detected

Results & Qualifiers:
< = Concentration is less than the reported limit
J = Estimated concentration
J- = Indicates a concentration estimated with low bias
J+ = Indicates a concentration estimated with high bias
U = Concentration was not detected above the reported limit

Acronyms:
BRRTS = Bureau for Remediation and Redevelopment Tracking System
ES = Enforcement Standard
FID = facility identification number
GW = groundwater
ng/L = nanograms per liter
NS = No Screening Level
PAL = Preventive Action Limit
PFAS = per- and polyfluoroalkyl substances
WDHS = Wisconsin Department of Health Services
WDNR = Wisconsin Department of Natural Resources
* Light non-aqueous phase liquid (LNAPL) was encountered in MW-105 during the June 2024 sampling event.
The groundwater sample was collected below the LNAPL layer.

Screening Levels:
WDHS recommended PAL and ES groundwater quality standards are proposed for PFAS.
(https://www.dhs.wisconsin.gov/water/gws.htm)

RAMBOLL

Table 1. Groundwater Analytical Results

West River Lofts, LLC (Former Mirro Plant No. 4)
1621 14th Street, Two Rivers, Wisconsin
BRRTS No.:02-36-594671 (ERP) FID: 436010300

		Perfluoroalkyl carboxylic acid (PFCA)											Polyfluoroalkyl ether sulfonic acid (PFESA)	
Sample ID	Sample Date	Perfluorobutanoic acid (PFBA)	Perfluorodecanoic acid (PFDA)	Perfluorododecanoic acid (PFDoA)	Perfluoroheptanoic acid (PFHpA)	Perfluorohexanoic acid (PFHxA)	Perfluorononanoic acid (PFNA)	Perfluorooctanoic acid (PFOA)	Perfluoropentanoic acid (PFPeA)	Perfluorotetradecanoic acid (PFTeDA)	Perfluorotridecanoic acid (PFTrDA)	Perfluoroundecanoic acid (PFUnA)	11Cl-PF3OUdS (F-53B Minor)	9Cl-PF3ONS (F-53B Major)
		375-22-4	335-76-2	307-55-1	375-85-9	307-24-4	375-95-1	335-67-1	2706-90-3	376-06-7	72629-94-8	2058-94-8	763051-92-9	756426-58-1
	Reporting Units:	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L	ng/L
WDHS Recommended GW ES:		**10000**	**300**	**500**	**NS**	**150000**	**30**	**20**	**NS**	**10000**	**NS**	**3000**	**NS**	**NS**
WDHS Recommended GW PAL:		2000	60	100	NS	30000	3	2	NS	2000	NS	600	NS	NS
MW-101	4/5/2024	< 22 U	< 1.9 U	< 1.9 U	0.53 J	< 1.9 U	< 1.9 U	15	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U
MW-101	6/18/2024	2.9 J	< 1.8 U	< 1.8 U	1.7 J	2.1 J+	< 1.8 U	**98**	0.75 J	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
MW-102	4/5/2024	< 4.6 UJ	< 1.8 U	< 1.8 U	2.7	< 1.8 U	< 1.8 U	8.9	< 1500 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
MW-102	6/18/2024	< 4.4 UJ	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	4.2	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
MW-103	4/5/2024	< 28 U	< 1.9 U	< 1.9 U	2.4	0.97 J	< 1.9 U	**110**	< 36 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U
MW-103	6/18/2024	6.1	< 1.9 U	< 1.9 U	2.9	< 1.9 U	< 1.9 U	**170**	2.7	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U
MW-104	4/5/2024	< 4.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	2.4	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U	< 1.9 U
MW-104	6/18/2024	< 4.6 U	< 1.8 U	< 1.8 U	0.26 J	< 1.8 U	< 1.8 U	3.2	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U	< 1.8 U
MW-105	4/5/2024	< 5.1 U	0.93 J	< 2.0 U	16	9.8	2.7	**58**	30	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U	< 2.0 U
MW-105*	6/18/2024	< 4.3 U	2.2	< 1.7 U	31	28	8.5	**92**	53	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U	< 1.7 U

Notes:
Lab comments, additional data qualifiers and definitions can be found in associated laboratory and validation reports.

Bold	is equal to or greater than WDHS Recommended Groundwater ES
Underlined	is equal to or greater than WDHS Recommended Groundwater PAL
Gray Text	analyte not detected

Results & Qualifiers:
< = Concentration is less than the Limit of Detection (LOD)
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J- = Indicates a concentration estimated with low bias
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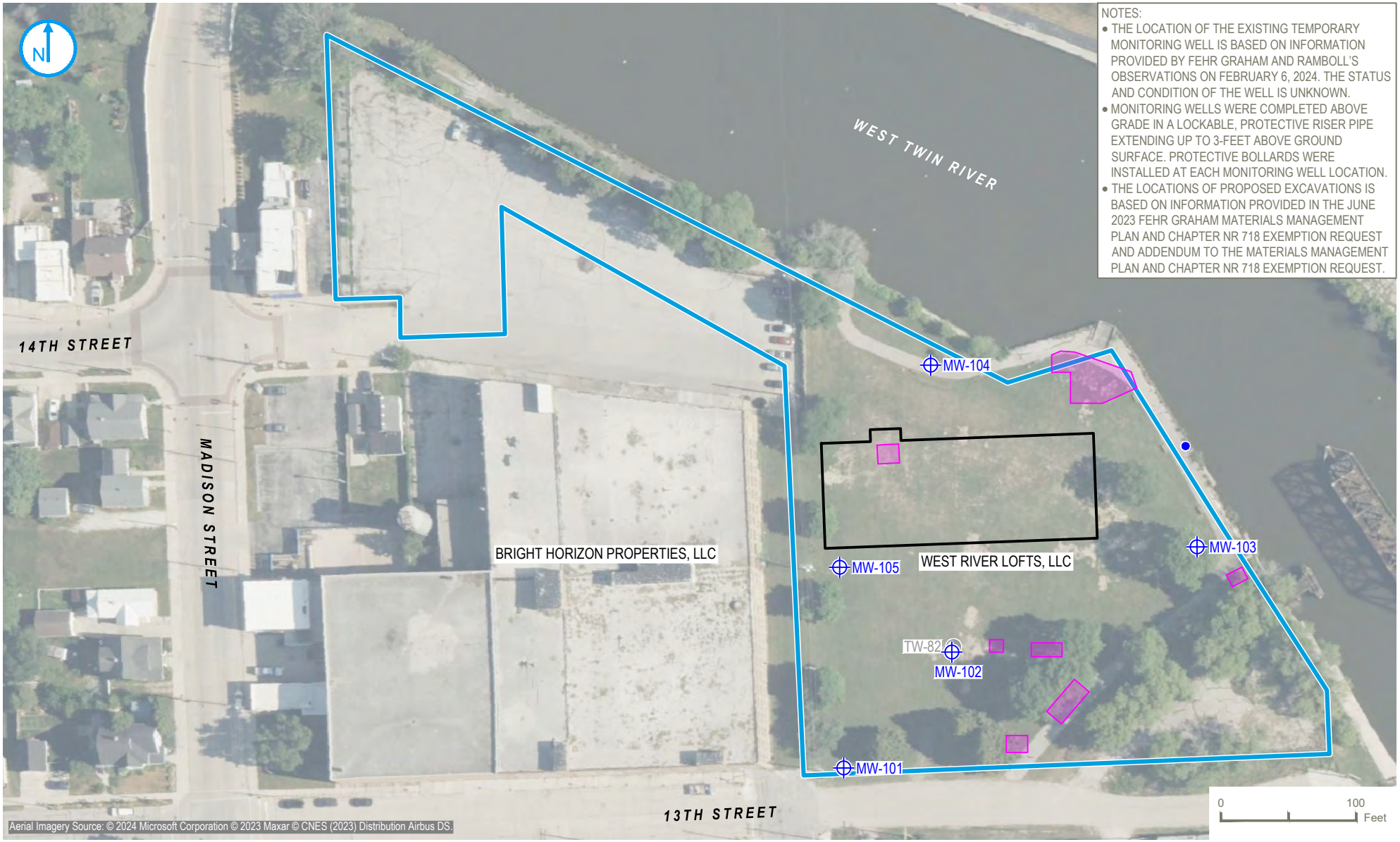
Acronyms:
BRRTS = Bureau for Remediation and Redevelopment Tracking System
ES = Enforcement Standard
FID = facility identification number
GW = groundwater
ng/L = nanograms per liter
NS = No Screening Level
PAL = Preventive Action Limit
PFAS = per- and polyfluoroalkyl substances
WDHS = Wisconsin Department of Health Services
WDNR = Wisconsin Department of Natural Resources
* Light non-aqueous phase liquid (LNAPL) was encountered in MW-105 during the June 2024 sampling event.
The groundwater sample was collected below the LNAPL layer.

Screening Levels:
WDHS recommended PAL and ES groundwater quality standards are proposed for PFAS.
(https://www.dhs.wisconsin.gov/water/gws.htm)

RAMBOLL

PROJECT: 1690026868 DATED: 4/17/2024 DESIGNER: HJWARD L:\Loop Project Files_CAD\1690026868_Mirro4_PHII\2024-03\01_MW Locations.dwg



NOTES:
- THE LOCATION OF THE EXISTING TEMPORARY MONITORING WELL IS BASED ON INFORMATION PROVIDED BY FEHR GRAHAM AND RAMBOLL'S OBSERVATIONS ON FEBRUARY 6, 2024. THE STATUS AND CONDITION OF THE WELL IS UNKNOWN.
- MONITORING WELLS WERE COMPLETED ABOVE GRADE IN A LOCKABLE, PROTECTIVE RISER PIPE EXTENDING UP TO 3-FEET ABOVE GROUND SURFACE. PROTECTIVE BOLLARDS WERE INSTALLED AT EACH MONITORING WELL LOCATION.
- THE LOCATIONS OF PROPOSED EXCAVATIONS IS BASED ON INFORMATION PROVIDED IN THE JUNE 2023 FEHR GRAHAM MATERIALS MANAGEMENT PLAN AND CHAPTER NR 718 EXEMPTION REQUEST AND ADDENDUM TO THE MATERIALS MANAGEMENT PLAN AND CHAPTER NR 718 EXEMPTION REQUEST.

PROPERTY BOUNDARY (APPROXIMATE)

MONITORING WELL/TEMPORARY MONITORING WELL (INSTALLED BY OTHERS)

MONITORING WELL

APPROXIMATE LOCATION OF THE FUTURE EXCAVATION AREAS AS DESCRIBED IN THE MATERIALS MANAGEMENT PLAN AND ADDENDUM TO THE MATERIALS MANAGEMENT PLAN

WRL ANTICIPATED BUILDING FOOTPRINT (APPROXIMATE)

RIVER ELEVATION MEASUREMENT LOCATION

MONITORING WELL LOCATIONS

WEST RIVER LOFTS, LLC
(FORMER MIRRO PLANT NO. 4)
1621 14TH STREET
TWO RIVERS, WISCONSIN

FIGURE 1

RAMBOLL AMERICAS
ENGINEERING SOLUTIONS, INC.
A RAMBOLL COMPANY

RAMBOLL

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ANALYTICAL REPORT

PREPARED FOR

Attn: Paul Lindquist
Ramboll Americas Engineering Solutions
234 W. Florida Street
Fifth Floor
Milwaukee, Wisconsin 53204

Generated 7/13/2024 1:31:30 PM

JOB DESCRIPTION

Mirro 4 - 1690026868_Conv GW

JOB NUMBER

500-252455-1

Eurofins Chicago
2417 Bond Street
University Park IL 60484

See page two for job notes and contact information.

my EOL

Eurofins Chicago

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Chicago Project Manager.

Compliance Statement

The LOD and LOQ reported are adjusted by the dilution factor when a dilution factor greater than 1 is needed. Additionally, where results are indicated as being reported on a dry weight basis, the LOD and LOQ are adjusted for moisture content as well.

Definitions of Limits
- LOD = Limit of Detection = MDL as defined by 40 CFR part 136 Appendix B
- LOQ = Limit of Quantitation = 3.33 x LOD as defined by Wisconsin
- RL = Report Limit = a concentration supported by a standard in the calibration curves

Authorization

Generated
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Authorized for release by
Sandie Fredrick, Senior Project Manager
Sandra.Fredrick@et.eurofinsus.com
(920)261-1660

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Isotope Dilution Summary 40

Job Narrative
500-252455-1

Receipt
The samples were received on 6/20/2024 9:20 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.3º C.

LCMS
Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit: MW-102 (500-252455-2). The samples were reanalyzed with concurring results. Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for the following samples: MW-102 (500-252455-2) and MW-105 (500-252455-5). The samples were reanalyzed with concurring results. Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method 537 (modified): The "I" qualifier means the transition mass ratio for the indicated analyte was outside the established ratio limits. The qualitative identification of the analyte has some degree of uncertainty. However, analyst judgment was used to positively identify the analyte: MW-105 (500-252455-5).

Method 537 (modified): Results for sample MW-105 (500-252455-5) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method 3535: The following samples were yellow and orange in color prior to extraction: MW-102 (500-252455-2), MW-103 (500-252455-3) and MW-105 (500-252455-5).

Method 3535: The following sample in preparation batch 320-773611 was observed to have floating particulates present in the sample bottle prior to extraction: MW-105 (500-252455-5)

Method 3535: During the solid phase extraction process, the following samples MW-102 (500-252455-2) and MW-105 (500-252455-5) in preparation batch 320-773611 contained non-settable particulates which clogged the solid phase extraction column.

Method 3535: The following samples were yellow in color after extraction/final volume: MW-102 (500-252455-2), MW-103 (500-252455-3) and MW-105 (500-252455-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: MW-101 — Lab Sample ID: 500-252455-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.9	J	4.4	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.75	J	1.8	0.43	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1	B	1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.7	J	1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	98		1.8	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.3	J	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.63	J	1.8	0.51	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.33	J	1.8	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	42		1.8	0.48	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-102 — Lab Sample ID: 500-252455-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	4.2		1.8	0.75	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.1		1.8	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	2.2		1.8	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	170		1.8	0.47	ng/L	1		537 (modified)	Total/NA
8:2 FTS	0.65	J	1.8	0.40	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-103 — Lab Sample ID: 500-252455-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.1		4.7	2.2	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.7		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	1.4	J B	1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	2.9		1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	170		1.9	0.79	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.1	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	0.52	J	1.9	0.28	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.3		1.9	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	1.3	J	1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	97		1.9	0.51	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-104 — Lab Sample ID: 500-252455-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	1.4	J B	1.8	0.53	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.26	J	1.8	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.2		1.8	0.78	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2		1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.71	J	1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	54		1.8	0.49	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-105 — Lab Sample ID: 500-252455-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluoropentanoic acid (PFPeA)	53		1.7	0.42	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	28	B	1.7	0.50	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	31		1.7	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	92		1.7	0.73	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: MW-105 (Continued) — Lab Sample ID: 500-252455-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorononanoic acid (PFNA)	8.5		1.7	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	2.2		1.7	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	7.7	I	1.7	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	6.0	I	1.7	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	22		1.7	0.49	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	37		1.7	0.16	ng/L	1		537 (modified)	Total/NA
6:2 FTS	19		4.3	2.2	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	1900		86	23	ng/L	50		537 (modified)	Total/NA
8:2 FTS - DL	21	J	86	20	ng/L	50		537 (modified)	Total/NA

Client Sample ID: FB-01 — Lab Sample ID: 500-252455-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.72	J B	1.8	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: EB-01 — Lab Sample ID: 500-252455-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	0.90	J B	1.9	0.54	ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-101 Dup — Lab Sample ID: 500-252455-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.1	J	4.5	2.1	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.83	J	1.8	0.44	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1	B	1.8	0.52	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.8		1.8	0.22	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	97		1.8	0.76	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.3	J	1.8	0.18	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic acid (PFHpS)	0.44	J	1.8	0.17	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	41		1.8	0.48	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Method Summary

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET SAC
3535	Solid-Phase Extraction (SPE)	SW846	EET SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
500-252455-1	MW-101	Water	06/18/24 12:56	06/20/24 09:20
500-252455-2	MW-102	Water	06/18/24 14:01	06/20/24 09:20
500-252455-3	MW-103	Water	06/18/24 11:18	06/20/24 09:20
500-252455-4	MW-104	Water	06/18/24 12:04	06/20/24 09:20
500-252455-5	MW-105	Water	06/18/24 14:50	06/20/24 09:20
500-252455-6	FB-01	Water	06/18/24 14:37	06/20/24 09:20
500-252455-7	EB-01	Water	06/18/24 14:40	06/20/24 09:20
500-252455-8	MW-101 Dup	Water	06/18/24 12:58	06/20/24 09:20

Client Sample Results

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: MW-101

Date Collected: 06/18/24 12:56
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-1

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.9**	**J**	4.4	2.1	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluoropentanoic acid (PFPeA)	**0.75**	**J**	1.8	0.43	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorohexanoic acid (PFHxA)	**2.1**	**B**	1.8	0.51	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluoroheptanoic acid (PFHpA)	**1.7**	**J**	1.8	0.22	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorooctanoic acid (PFOA)	**98**		1.8	0.75	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorononanoic acid (PFNA)	<0.24		1.8	0.24	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorodecanoic acid (PFDA)	<0.28		1.8	0.28	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluoroundecanoic acid (PFUnA)	<0.98		1.8	0.98	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorododecanoic acid (PFDoA)	<0.49		1.8	0.49	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.8	1.2	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorotetradecanoic acid (PFTeA)	<0.65		1.8	0.65	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorobutanesulfonic acid (PFBS)	**1.3**	**J**	1.8	0.18	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluoropentanesulfonic acid (PFPeS)	<0.27		1.8	0.27	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorohexanesulfonic acid (PFHxS)	**0.63**	**J**	1.8	0.51	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.33**	**J**	1.8	0.17	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorooctanesulfonic acid (PFOS)	**42**		1.8	0.48	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorononanesulfonic acid (PFNS)	<0.33		1.8	0.33	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorodecanesulfonic acid (PFDS)	<0.28		1.8	0.28	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorododecanesulfonic acid (PFDoS)	<0.86		1.8	0.86	ng/L		06/21/24 05:40	06/22/24 20:08	1
Perfluorooctanesulfonamide (FOSA)	<0.87		1.8	0.87	ng/L		06/21/24 05:40	06/22/24 20:08	1
NEtFOSA	<0.77		1.8	0.77	ng/L		06/21/24 05:40	06/22/24 20:08	1
NMeFOSA	<0.38		1.8	0.38	ng/L		06/21/24 05:40	06/22/24 20:08	1
NMeFOSAA	<1.1		4.4	1.1	ng/L		06/21/24 05:40	06/22/24 20:08	1
NEtFOSAA	<1.2		4.4	1.2	ng/L		06/21/24 05:40	06/22/24 20:08	1
NMeFOSE	<1.2		3.5	1.2	ng/L		06/21/24 05:40	06/22/24 20:08	1
NEtFOSE	<0.75		1.8	0.75	ng/L		06/21/24 05:40	06/22/24 20:08	1
4:2 FTS	<0.21		1.8	0.21	ng/L		06/21/24 05:40	06/22/24 20:08	1
6:2 FTS	<2.2		4.4	2.2	ng/L		06/21/24 05:40	06/22/24 20:08	1
8:2 FTS	<0.41		1.8	0.41	ng/L		06/21/24 05:40	06/22/24 20:08	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.35		1.8	0.35	ng/L		06/21/24 05:40	06/22/24 20:08	1
HFPO-DA (GenX)	<1.3		3.5	1.3	ng/L		06/21/24 05:40	06/22/24 20:08	1
9Cl-PF3ONS	<0.21		1.8	0.21	ng/L		06/21/24 05:40	06/22/24 20:08	1
11Cl-PF3OUdS	<0.28		1.8	0.28	ng/L		06/21/24 05:40	06/22/24 20:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*81*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:08*	*1*
13C5 PFPeA	*90*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:08*	*1*
13C2 PFHxA	*96*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:08*	*1*
13C4 PFHpA	*97*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:08*	*1*
13C4 PFOA	*97*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:08*	*1*
13C5 PFNA	*100*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:08*	*1*
13C2 PFDA	*98*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:08*	*1*
13C2 PFUnA	*93*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:08*	*1*
13C2 PFDoA	*96*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:08*	*1*
13C2 PFTeDA	*88*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:08*	*1*

Client Sample ID: MW-101
Lab Sample ID: 500-252455-1

Date Collected: 06/18/24 12:56
Matrix: Water
Date Received: 06/20/24 09:20

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	85		25 - 150	06/21/24 05:40	06/22/24 20:08	1
18O2 PFHxS	96		25 - 150	06/21/24 05:40	06/22/24 20:08	1
13C4 PFOS	91		25 - 150	06/21/24 05:40	06/22/24 20:08	1
13C8 FOSA	95		10 - 150	06/21/24 05:40	06/22/24 20:08	1
d3-NMeFOSAA	103		25 - 150	06/21/24 05:40	06/22/24 20:08	1
d5-NEtFOSAA	103		25 - 150	06/21/24 05:40	06/22/24 20:08	1
d-N-MeFOSA-M	89		10 - 150	06/21/24 05:40	06/22/24 20:08	1
d-N-EtFOSA-M	91		10 - 150	06/21/24 05:40	06/22/24 20:08	1
d7-N-MeFOSE-M	78		10 - 150	06/21/24 05:40	06/22/24 20:08	1
d9-N-EtFOSE-M	84		10 - 150	06/21/24 05:40	06/22/24 20:08	1
M2-4:2 FTS	136		25 - 150	06/21/24 05:40	06/22/24 20:08	1
M2-6:2 FTS	130		25 - 150	06/21/24 05:40	06/22/24 20:08	1
M2-8:2 FTS	112		25 - 150	06/21/24 05:40	06/22/24 20:08	1
13C3 HFPO-DA	93		25 - 150	06/21/24 05:40	06/22/24 20:08	1
13C2 10:2 FTS	102		25 - 150	06/21/24 05:40	06/22/24 20:08	1

Client Sample Results

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: MW-102

Date Collected: 06/18/24 14:01
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-2

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.1		4.4	2.1	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluoropentanoic acid (PFPeA)	<0.43		1.8	0.43	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorohexanoic acid (PFHxA)	<0.51		1.8	0.51	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluoroheptanoic acid (PFHpA)	<0.22		1.8	0.22	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorooctanoic acid (PFOA)	**4.2**		1.8	0.75	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorononanoic acid (PFNA)	<0.24		1.8	0.24	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorodecanoic acid (PFDA)	<0.27		1.8	0.27	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluoroundecanoic acid (PFUnA)	<0.97		1.8	0.97	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorododecanoic acid (PFDoA)	<0.48		1.8	0.48	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorotridecanoic acid (PFTrDA)	<1.1		1.8	1.1	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorotetradecanoic acid (PFTeA)	<0.64		1.8	0.64	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorobutanesulfonic acid (PFBS)	<0.18		1.8	0.18	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluoropentanesulfonic acid (PFPeS)	<0.26		1.8	0.26	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorohexanesulfonic acid (PFHxS)	**2.1**		1.8	0.50	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluoroheptanesulfonic acid (PFHpS)	**2.2**		1.8	0.17	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorooctanesulfonic acid (PFOS)	**170**		1.8	0.47	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorononanesulfonic acid (PFNS)	<0.32		1.8	0.32	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorodecanesulfonic acid (PFDS)	<0.28		1.8	0.28	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorododecanesulfonic acid (PFDoS)	<0.85		1.8	0.85	ng/L		06/21/24 05:40	06/22/24 20:18	1
Perfluorooctanesulfonamide (FOSA)	<0.86		1.8	0.86	ng/L		06/21/24 05:40	06/22/24 20:18	1
NEtFOSA	<0.76		1.8	0.76	ng/L		06/21/24 05:40	06/22/24 20:18	1
NMeFOSA	<0.38		1.8	0.38	ng/L		06/21/24 05:40	06/22/24 20:18	1
NMeFOSAA	<1.1		4.4	1.1	ng/L		06/21/24 05:40	06/22/24 20:18	1
NEtFOSAA	<1.1		4.4	1.1	ng/L		06/21/24 05:40	06/22/24 20:18	1
NMeFOSE	<1.2		3.5	1.2	ng/L		06/21/24 05:40	06/22/24 20:18	1
NEtFOSE	<0.75		1.8	0.75	ng/L		06/21/24 05:40	06/22/24 20:18	1
4:2 FTS	<0.21		1.8	0.21	ng/L		06/21/24 05:40	06/22/24 20:18	1
6:2 FTS	<2.2		4.4	2.2	ng/L		06/21/24 05:40	06/22/24 20:18	1
8:2 FTS	**0.65**	**J**	1.8	0.40	ng/L		06/21/24 05:40	06/22/24 20:18	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.35		1.8	0.35	ng/L		06/21/24 05:40	06/22/24 20:18	1
HFPO-DA (GenX)	<1.3		3.5	1.3	ng/L		06/21/24 05:40	06/22/24 20:18	1
9Cl-PF3ONS	<0.21		1.8	0.21	ng/L		06/21/24 05:40	06/22/24 20:18	1
11Cl-PF3OUdS	<0.28		1.8	0.28	ng/L		06/21/24 05:40	06/22/24 20:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*24*	**5-*	*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*
13C5 PFPeA	*41*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*
13C2 PFHxA	*60*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*
13C4 PFHpA	*70*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*
13C4 PFOA	*69*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*
13C5 PFNA	*83*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*
13C2 PFDA	*80*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*
13C2 PFUnA	*75*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*
13C2 PFDoA	*66*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*
13C2 PFTeDA	*61*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*
13C3 PFBS	*68*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:18*	*1*

Client Sample ID: MW-102
Lab Sample ID: 500-252455-2

Date Collected: 06/18/24 14:01
Matrix: Water
Date Received: 06/20/24 09:20

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	70		25 - 150	06/21/24 05:40	06/22/24 20:18	1
13C4 PFOS	76		25 - 150	06/21/24 05:40	06/22/24 20:18	1
13C8 FOSA	69		10 - 150	06/21/24 05:40	06/22/24 20:18	1
d3-NMeFOSAA	84		25 - 150	06/21/24 05:40	06/22/24 20:18	1
d5-NEtFOSAA	93		25 - 150	06/21/24 05:40	06/22/24 20:18	1
d-N-MeFOSA-M	58		10 - 150	06/21/24 05:40	06/22/24 20:18	1
d-N-EtFOSA-M	59		10 - 150	06/21/24 05:40	06/22/24 20:18	1
d7-N-MeFOSE-M	51		10 - 150	06/21/24 05:40	06/22/24 20:18	1
d9-N-EtFOSE-M	56		10 - 150	06/21/24 05:40	06/22/24 20:18	1
M2-4:2 FTS	174	*5+	25 - 150	06/21/24 05:40	06/22/24 20:18	1
M2-6:2 FTS	179	*5+	25 - 150	06/21/24 05:40	06/22/24 20:18	1
M2-8:2 FTS	161	*5+	25 - 150	06/21/24 05:40	06/22/24 20:18	1
13C3 HFPO-DA	83		25 - 150	06/21/24 05:40	06/22/24 20:18	1
13C2 10:2 FTS	105		25 - 150	06/21/24 05:40	06/22/24 20:18	1

Client Sample Results

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: MW-103

Date Collected: 06/18/24 11:18
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-3

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.1**		4.7	2.2	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluoropentanoic acid (PFPeA)	**2.7**		1.9	0.46	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorohexanoic acid (PFHxA)	**1.4**	**J B**	1.9	0.54	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluoroheptanoic acid (PFHpA)	**2.9**		1.9	0.23	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorooctanoic acid (PFOA)	**170**		1.9	0.79	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorononanoic acid (PFNA)	<0.25		1.9	0.25	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorodecanoic acid (PFDA)	<0.29		1.9	0.29	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluoroundecanoic acid (PFUnA)	<1.0		1.9	1.0	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorododecanoic acid (PFDoA)	<0.51		1.9	0.51	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.9	1.2	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorotetradecanoic acid (PFTeA)	<0.68		1.9	0.68	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorobutanesulfonic acid (PFBS)	**1.1**	**J**	1.9	0.19	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluoropentanesulfonic acid (PFPeS)	**0.52**	**J**	1.9	0.28	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorohexanesulfonic acid (PFHxS)	**2.3**		1.9	0.53	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluoroheptanesulfonic acid (PFHpS)	**1.3**	**J**	1.9	0.18	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorooctanesulfonic acid (PFOS)	**97**		1.9	0.51	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorononanesulfonic acid (PFNS)	<0.35		1.9	0.35	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorodecanesulfonic acid (PFDS)	<0.30		1.9	0.30	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorododecanesulfonic acid (PFDoS)	<0.91		1.9	0.91	ng/L		06/21/24 05:40	06/22/24 20:29	1
Perfluorooctanesulfonamide (FOSA)	<0.92		1.9	0.92	ng/L		06/21/24 05:40	06/22/24 20:29	1
NEtFOSA	<0.81		1.9	0.81	ng/L		06/21/24 05:40	06/22/24 20:29	1
NMeFOSA	<0.40		1.9	0.40	ng/L		06/21/24 05:40	06/22/24 20:29	1
NMeFOSAA	<1.1		4.7	1.1	ng/L		06/21/24 05:40	06/22/24 20:29	1
NEtFOSAA	<1.2		4.7	1.2	ng/L		06/21/24 05:40	06/22/24 20:29	1
NMeFOSE	<1.3		3.7	1.3	ng/L		06/21/24 05:40	06/22/24 20:29	1
NEtFOSE	<0.79		1.9	0.79	ng/L		06/21/24 05:40	06/22/24 20:29	1
6:2 FTS	<2.3		4.7	2.3	ng/L		06/21/24 05:40	06/22/24 20:29	1
8:2 FTS	<0.43		1.9	0.43	ng/L		06/21/24 05:40	06/22/24 20:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.37		1.9	0.37	ng/L		06/21/24 05:40	06/22/24 20:29	1
HFPO-DA (GenX)	<1.4		3.7	1.4	ng/L		06/21/24 05:40	06/22/24 20:29	1
9Cl-PF3ONS	<0.22		1.9	0.22	ng/L		06/21/24 05:40	06/22/24 20:29	1
11Cl-PF3OUdS	<0.30		1.9	0.30	ng/L		06/21/24 05:40	06/22/24 20:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*67*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*
13C5 PFPeA	*86*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*
13C2 PFHxA	*96*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*
13C4 PFHpA	*95*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*
13C4 PFOA	*98*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*
13C5 PFNA	*104*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*
13C2 PFDA	*99*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*
13C2 PFUnA	*97*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*
13C2 PFDoA	*97*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*
13C2 PFTeDA	*83*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*
13C3 PFBS	*91*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:29*	*1*

Client Sample ID: MW-103
Lab Sample ID: 500-252455-3

Date Collected: 06/18/24 11:18
Matrix: Water
Date Received: 06/20/24 09:20

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	91		25 - 150	06/21/24 05:40	06/22/24 20:29	1
13C4 PFOS	94		25 - 150	06/21/24 05:40	06/22/24 20:29	1
13C8 FOSA	101		10 - 150	06/21/24 05:40	06/22/24 20:29	1
d3-NMeFOSAA	108		25 - 150	06/21/24 05:40	06/22/24 20:29	1
d5-NEtFOSAA	108		25 - 150	06/21/24 05:40	06/22/24 20:29	1
d-N-MeFOSA-M	94		10 - 150	06/21/24 05:40	06/22/24 20:29	1
d-N-EtFOSA-M	95		10 - 150	06/21/24 05:40	06/22/24 20:29	1
d7-N-MeFOSE-M	88		10 - 150	06/21/24 05:40	06/22/24 20:29	1
d9-N-EtFOSE-M	92		10 - 150	06/21/24 05:40	06/22/24 20:29	1
M2-6:2 FTS	125		25 - 150	06/21/24 05:40	06/22/24 20:29	1
M2-8:2 FTS	108		25 - 150	06/21/24 05:40	06/22/24 20:29	1
13C3 HFPO-DA	102		25 - 150	06/21/24 05:40	06/22/24 20:29	1
13C2 10:2 FTS	115		25 - 150	06/21/24 05:40	06/22/24 20:29	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - RA

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
4:2 FTS	<0.22		1.9	0.22	ng/L		06/21/24 05:40	06/24/24 14:54	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-4:2 FTS	141		25 - 150	06/21/24 05:40	06/24/24 14:54	1

Client Sample Results

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: MW-104

Date Collected: 06/18/24 12:04
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-4

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.2		4.6	2.2	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluoropentanoic acid (PFPeA)	<0.45		1.8	0.45	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorohexanoic acid (PFHxA)	**1.4**	**J B**	1.8	0.53	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluoroheptanoic acid (PFHpA)	**0.26**	**J**	1.8	0.23	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorooctanoic acid (PFOA)	**3.2**		1.8	0.78	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorononanoic acid (PFNA)	<0.25		1.8	0.25	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorodecanoic acid (PFDA)	<0.28		1.8	0.28	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluoroundecanoic acid (PFUnA)	<1.0		1.8	1.0	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorododecanoic acid (PFDoA)	<0.50		1.8	0.50	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.8	1.2	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorotetradecanoic acid (PFTeA)	<0.67		1.8	0.67	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**		1.8	0.18	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluoropentanesulfonic acid (PFPeS)	<0.27		1.8	0.27	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorohexanesulfonic acid (PFHxS)	**0.71**	**J**	1.8	0.52	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.17		1.8	0.17	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorooctanesulfonic acid (PFOS)	**54**		1.8	0.49	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorononanesulfonic acid (PFNS)	<0.34		1.8	0.34	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorodecanesulfonic acid (PFDS)	<0.29		1.8	0.29	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorododecanesulfonic acid (PFDoS)	<0.89		1.8	0.89	ng/L		06/21/24 05:40	06/22/24 20:39	1
Perfluorooctanesulfonamide (FOSA)	<0.90		1.8	0.90	ng/L		06/21/24 05:40	06/22/24 20:39	1
NEtFOSA	<0.80		1.8	0.80	ng/L		06/21/24 05:40	06/22/24 20:39	1
NMeFOSA	<0.39		1.8	0.39	ng/L		06/21/24 05:40	06/22/24 20:39	1
NMeFOSAA	<1.1		4.6	1.1	ng/L		06/21/24 05:40	06/22/24 20:39	1
NEtFOSAA	<1.2		4.6	1.2	ng/L		06/21/24 05:40	06/22/24 20:39	1
NMeFOSE	<1.3		3.7	1.3	ng/L		06/21/24 05:40	06/22/24 20:39	1
NEtFOSE	<0.78		1.8	0.78	ng/L		06/21/24 05:40	06/22/24 20:39	1
4:2 FTS	<0.22		1.8	0.22	ng/L		06/21/24 05:40	06/22/24 20:39	1
6:2 FTS	<2.3		4.6	2.3	ng/L		06/21/24 05:40	06/22/24 20:39	1
8:2 FTS	<0.42		1.8	0.42	ng/L		06/21/24 05:40	06/22/24 20:39	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.37		1.8	0.37	ng/L		06/21/24 05:40	06/22/24 20:39	1
HFPO-DA (GenX)	<1.4		3.7	1.4	ng/L		06/21/24 05:40	06/22/24 20:39	1
9Cl-PF3ONS	<0.22		1.8	0.22	ng/L		06/21/24 05:40	06/22/24 20:39	1
11Cl-PF3OUdS	<0.29		1.8	0.29	ng/L		06/21/24 05:40	06/22/24 20:39	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*77*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:39*	*1*
13C5 PFPeA	*89*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:39*	*1*
13C2 PFHxA	*92*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:39*	*1*
13C4 PFHpA	*93*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:39*	*1*
13C4 PFOA	*94*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:39*	*1*
13C5 PFNA	*100*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:39*	*1*
13C2 PFDA	*96*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:39*	*1*
13C2 PFUnA	*92*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:39*	*1*
13C2 PFDoA	*87*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:39*	*1*
13C2 PFTeDA	*90*		*25 - 150*	*06/21/24 05:40*	*06/22/24 20:39*	*1*

Client Sample ID: MW-104
Lab Sample ID: 500-252455-4

Date Collected: 06/18/24 12:04
Matrix: Water
Date Received: 06/20/24 09:20

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 PFBS	92		25 - 150	06/21/24 05:40	06/22/24 20:39	1
18O2 PFHxS	89		25 - 150	06/21/24 05:40	06/22/24 20:39	1
13C4 PFOS	87		25 - 150	06/21/24 05:40	06/22/24 20:39	1
13C8 FOSA	93		10 - 150	06/21/24 05:40	06/22/24 20:39	1
d3-NMeFOSAA	98		25 - 150	06/21/24 05:40	06/22/24 20:39	1
d5-NEtFOSAA	99		25 - 150	06/21/24 05:40	06/22/24 20:39	1
d-N-MeFOSA-M	88		10 - 150	06/21/24 05:40	06/22/24 20:39	1
d-N-EtFOSA-M	90		10 - 150	06/21/24 05:40	06/22/24 20:39	1
d7-N-MeFOSE-M	81		10 - 150	06/21/24 05:40	06/22/24 20:39	1
d9-N-EtFOSE-M	89		10 - 150	06/21/24 05:40	06/22/24 20:39	1
M2-4:2 FTS	123		25 - 150	06/21/24 05:40	06/22/24 20:39	1
M2-6:2 FTS	107		25 - 150	06/21/24 05:40	06/22/24 20:39	1
M2-8:2 FTS	92		25 - 150	06/21/24 05:40	06/22/24 20:39	1
13C3 HFPO-DA	85		25 - 150	06/21/24 05:40	06/22/24 20:39	1
13C2 10:2 FTS	103		25 - 150	06/21/24 05:40	06/22/24 20:39	1

Client Sample Results

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: MW-105

Date Collected: 06/18/24 14:50
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-5

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.1		4.3	2.1	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluoropentanoic acid (PFPeA)	**53**		1.7	0.42	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorohexanoic acid (PFHxA)	**28**	**B**	1.7	0.50	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluoroheptanoic acid (PFHpA)	**31**		1.7	0.22	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorooctanoic acid (PFOA)	**92**		1.7	0.73	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorononanoic acid (PFNA)	**8.5**		1.7	0.23	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorodecanoic acid (PFDA)	**2.2**		1.7	0.27	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluoroundecanoic acid (PFUnA)	<0.95		1.7	0.95	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorododecanoic acid (PFDoA)	<0.47		1.7	0.47	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorotridecanoic acid (PFTrDA)	<1.1		1.7	1.1	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorotetradecanoic acid (PFTeA)	<0.63		1.7	0.63	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorobutanesulfonic acid (PFBS)	**7.7**	**I**	1.7	0.17	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluoropentanesulfonic acid (PFPeS)	**6.0**	**I**	1.7	0.26	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorohexanesulfonic acid (PFHxS)	**22**		1.7	0.49	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluoroheptanesulfonic acid (PFHpS)	**37**		1.7	0.16	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorononanesulfonic acid (PFNS)	<0.32		1.7	0.32	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorodecanesulfonic acid (PFDS)	<0.28		1.7	0.28	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorododecanesulfonic acid (PFDoS)	<0.83		1.7	0.83	ng/L		06/21/24 05:40	06/22/24 21:10	1
Perfluorooctanesulfonamide (FOSA)	<0.84		1.7	0.84	ng/L		06/21/24 05:40	06/22/24 21:10	1
NEtFOSA	<0.75		1.7	0.75	ng/L		06/21/24 05:40	06/22/24 21:10	1
NMeFOSA	<0.37		1.7	0.37	ng/L		06/21/24 05:40	06/22/24 21:10	1
NMeFOSAA	<1.0		4.3	1.0	ng/L		06/21/24 05:40	06/22/24 21:10	1
NEtFOSAA	<1.1		4.3	1.1	ng/L		06/21/24 05:40	06/22/24 21:10	1
NMeFOSE	<1.2		3.4	1.2	ng/L		06/21/24 05:40	06/22/24 21:10	1
NEtFOSE	<0.73		1.7	0.73	ng/L		06/21/24 05:40	06/22/24 21:10	1
4:2 FTS	<0.21		1.7	0.21	ng/L		06/21/24 05:40	06/22/24 21:10	1
6:2 FTS	**19**		4.3	2.2	ng/L		06/21/24 05:40	06/22/24 21:10	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.34		1.7	0.34	ng/L		06/21/24 05:40	06/22/24 21:10	1
HFPO-DA (GenX)	<1.3		3.4	1.3	ng/L		06/21/24 05:40	06/22/24 21:10	1
9Cl-PF3ONS	<0.21		1.7	0.21	ng/L		06/21/24 05:40	06/22/24 21:10	1
11Cl-PF3OUdS	<0.28		1.7	0.28	ng/L		06/21/24 05:40	06/22/24 21:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*40*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C5 PFPeA	*73*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C2 PFHxA	*87*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C4 PFHpA	*99*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C4 PFOA	*89*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C5 PFNA	*100*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C2 PFDA	*104*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C2 PFUnA	*110*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C2 PFDoA	*106*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C2 PFTeDA	*94*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C3 PFBS	*92*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
18O2 PFHxS	*93*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*
13C4 PFOS	*100*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:10*	*1*

Client Sample ID: MW-105
Lab Sample ID: 500-252455-5

Date Collected: 06/18/24 14:50
Matrix: Water
Date Received: 06/20/24 09:20

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 FOSA	91		10 - 150	06/21/24 05:40	06/22/24 21:10	1
d3-NMeFOSAA	107		25 - 150	06/21/24 05:40	06/22/24 21:10	1
d5-NEtFOSAA	143		25 - 150	06/21/24 05:40	06/22/24 21:10	1
d-N-MeFOSA-M	86		10 - 150	06/21/24 05:40	06/22/24 21:10	1
d-N-EtFOSA-M	89		10 - 150	06/21/24 05:40	06/22/24 21:10	1
d7-N-MeFOSE-M	81		10 - 150	06/21/24 05:40	06/22/24 21:10	1
d9-N-EtFOSE-M	86		10 - 150	06/21/24 05:40	06/22/24 21:10	1
M2-4:2 FTS	260	*5+	25 - 150	06/21/24 05:40	06/22/24 21:10	1
M2-6:2 FTS	256	*5+	25 - 150	06/21/24 05:40	06/22/24 21:10	1
13C3 HFPO-DA	118		25 - 150	06/21/24 05:40	06/22/24 21:10	1
13C2 10:2 FTS	155	*5+	25 - 150	06/21/24 05:40	06/22/24 21:10	1

Method: EPA 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	1900		86	23	ng/L		06/21/24 05:40	06/25/24 13:14	50
8:2 FTS	21	J	86	20	ng/L		06/21/24 05:40	06/25/24 13:14	50

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	116		25 - 150	06/21/24 05:40	06/25/24 13:14	50

Client Sample Results

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: FB-01

Date Collected: 06/18/24 14:37
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-6

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.2		4.5	2.2	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluoropentanoic acid (PFPeA)	<0.45		1.8	0.45	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorohexanoic acid (PFHxA)	**0.72**	**J B**	1.8	0.53	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluoroheptanoic acid (PFHpA)	<0.23		1.8	0.23	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorooctanoic acid (PFOA)	<0.77		1.8	0.77	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorononanoic acid (PFNA)	<0.25		1.8	0.25	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorodecanoic acid (PFDA)	<0.28		1.8	0.28	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluoroundecanoic acid (PFUnA)	<1.0		1.8	1.0	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorododecanoic acid (PFDoA)	<0.50		1.8	0.50	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.8	1.2	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorotetradecanoic acid (PFTeA)	<0.66		1.8	0.66	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorobutanesulfonic acid (PFBS)	<0.18		1.8	0.18	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluoropentanesulfonic acid (PFPeS)	<0.27		1.8	0.27	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorohexanesulfonic acid (PFHxS)	<0.52		1.8	0.52	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.17		1.8	0.17	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorooctanesulfonic acid (PFOS)	<0.49		1.8	0.49	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorononanesulfonic acid (PFNS)	<0.34		1.8	0.34	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorodecanesulfonic acid (PFDS)	<0.29		1.8	0.29	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorododecanesulfonic acid (PFDoS)	<0.88		1.8	0.88	ng/L		06/21/24 05:40	06/22/24 21:21	1
Perfluorooctanesulfonamide (FOSA)	<0.89		1.8	0.89	ng/L		06/21/24 05:40	06/22/24 21:21	1
NEtFOSA	<0.79		1.8	0.79	ng/L		06/21/24 05:40	06/22/24 21:21	1
NMeFOSA	<0.39		1.8	0.39	ng/L		06/21/24 05:40	06/22/24 21:21	1
NMeFOSAA	<1.1		4.5	1.1	ng/L		06/21/24 05:40	06/22/24 21:21	1
NEtFOSAA	<1.2		4.5	1.2	ng/L		06/21/24 05:40	06/22/24 21:21	1
NMeFOSE	<1.3		3.6	1.3	ng/L		06/21/24 05:40	06/22/24 21:21	1
NEtFOSE	<0.77		1.8	0.77	ng/L		06/21/24 05:40	06/22/24 21:21	1
4:2 FTS	<0.22		1.8	0.22	ng/L		06/21/24 05:40	06/22/24 21:21	1
6:2 FTS	<2.3		4.5	2.3	ng/L		06/21/24 05:40	06/22/24 21:21	1
8:2 FTS	<0.42		1.8	0.42	ng/L		06/21/24 05:40	06/22/24 21:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.36		1.8	0.36	ng/L		06/21/24 05:40	06/22/24 21:21	1
HFPO-DA (GenX)	<1.4		3.6	1.4	ng/L		06/21/24 05:40	06/22/24 21:21	1
9Cl-PF3ONS	<0.22		1.8	0.22	ng/L		06/21/24 05:40	06/22/24 21:21	1
11Cl-PF3OUdS	<0.29		1.8	0.29	ng/L		06/21/24 05:40	06/22/24 21:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
13C5 PFPeA	*103*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
13C2 PFHxA	*110*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
13C4 PFHpA	*108*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
13C4 PFOA	*104*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
13C5 PFNA	*113*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
13C2 PFDA	*103*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
13C2 PFUnA	*107*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
13C2 PFDoA	*99*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
13C2 PFTeDA	*106*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
13C3 PFBS	*105*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*
18O2 PFHxS	*105*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:21*	*1*

Client Sample ID: FB-01
Lab Sample ID: 500-252455-6

Date Collected: 06/18/24 14:37
Matrix: Water
Date Received: 06/20/24 09:20

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	96		25 - 150	06/21/24 05:40	06/22/24 21:21	1
13C8 FOSA	106		10 - 150	06/21/24 05:40	06/22/24 21:21	1
d3-NMeFOSAA	109		25 - 150	06/21/24 05:40	06/22/24 21:21	1
d5-NEtFOSAA	110		25 - 150	06/21/24 05:40	06/22/24 21:21	1
d-N-MeFOSA-M	100		10 - 150	06/21/24 05:40	06/22/24 21:21	1
d-N-EtFOSA-M	107		10 - 150	06/21/24 05:40	06/22/24 21:21	1
d7-N-MeFOSE-M	97		10 - 150	06/21/24 05:40	06/22/24 21:21	1
d9-N-EtFOSE-M	106		10 - 150	06/21/24 05:40	06/22/24 21:21	1
M2-4:2 FTS	110		25 - 150	06/21/24 05:40	06/22/24 21:21	1
M2-6:2 FTS	109		25 - 150	06/21/24 05:40	06/22/24 21:21	1
M2-8:2 FTS	109		25 - 150	06/21/24 05:40	06/22/24 21:21	1
13C3 HFPO-DA	99		25 - 150	06/21/24 05:40	06/22/24 21:21	1
13C2 10:2 FTS	113		25 - 150	06/21/24 05:40	06/22/24 21:21	1

Client Sample Results

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: EB-01

Date Collected: 06/18/24 14:40
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-7

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.2		4.6	2.2	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluoropentanoic acid (PFPeA)	<0.45		1.9	0.45	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorohexanoic acid (PFHxA)	**0.90**	**J B**	1.9	0.54	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluoroheptanoic acid (PFHpA)	<0.23		1.9	0.23	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorooctanoic acid (PFOA)	<0.79		1.9	0.79	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorononanoic acid (PFNA)	<0.25		1.9	0.25	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorodecanoic acid (PFDA)	<0.29		1.9	0.29	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluoroundecanoic acid (PFUnA)	<1.0		1.9	1.0	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorododecanoic acid (PFDoA)	<0.51		1.9	0.51	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.9	1.2	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorotetradecanoic acid (PFTeA)	<0.68		1.9	0.68	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorobutanesulfonic acid (PFBS)	<0.19		1.9	0.19	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluoropentanesulfonic acid (PFPeS)	<0.28		1.9	0.28	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorohexanesulfonic acid (PFHxS)	<0.53		1.9	0.53	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.18		1.9	0.18	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorooctanesulfonic acid (PFOS)	<0.50		1.9	0.50	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorononanesulfonic acid (PFNS)	<0.34		1.9	0.34	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorodecanesulfonic acid (PFDS)	<0.30		1.9	0.30	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorododecanesulfonic acid (PFDoS)	<0.90		1.9	0.90	ng/L		06/21/24 05:40	06/22/24 21:52	1
Perfluorooctanesulfonamide (FOSA)	<0.91		1.9	0.91	ng/L		06/21/24 05:40	06/22/24 21:52	1
NEtFOSA	<0.81		1.9	0.81	ng/L		06/21/24 05:40	06/22/24 21:52	1
NMeFOSA	<0.40		1.9	0.40	ng/L		06/21/24 05:40	06/22/24 21:52	1
NMeFOSAA	<1.1		4.6	1.1	ng/L		06/21/24 05:40	06/22/24 21:52	1
NEtFOSAA	<1.2		4.6	1.2	ng/L		06/21/24 05:40	06/22/24 21:52	1
NMeFOSE	<1.3		3.7	1.3	ng/L		06/21/24 05:40	06/22/24 21:52	1
NEtFOSE	<0.79		1.9	0.79	ng/L		06/21/24 05:40	06/22/24 21:52	1
4:2 FTS	<0.22		1.9	0.22	ng/L		06/21/24 05:40	06/22/24 21:52	1
6:2 FTS	<2.3		4.6	2.3	ng/L		06/21/24 05:40	06/22/24 21:52	1
8:2 FTS	<0.43		1.9	0.43	ng/L		06/21/24 05:40	06/22/24 21:52	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.37		1.9	0.37	ng/L		06/21/24 05:40	06/22/24 21:52	1
HFPO-DA (GenX)	<1.4		3.7	1.4	ng/L		06/21/24 05:40	06/22/24 21:52	1
9Cl-PF3ONS	<0.22		1.9	0.22	ng/L		06/21/24 05:40	06/22/24 21:52	1
11Cl-PF3OUdS	<0.30		1.9	0.30	ng/L		06/21/24 05:40	06/22/24 21:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*95*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
13C5 PFPeA	*95*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
13C2 PFHxA	*103*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
13C4 PFHpA	*105*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
13C4 PFOA	*102*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
13C5 PFNA	*106*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
13C2 PFDA	*105*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
13C2 PFUnA	*101*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
13C2 PFDoA	*105*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
13C2 PFTeDA	*106*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
13C3 PFBS	*98*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*
18O2 PFHxS	*98*		*25 - 150*	*06/21/24 05:40*	*06/22/24 21:52*	*1*

Client Sample ID: EB-01
Lab Sample ID: 500-252455-7

Date Collected: 06/18/24 14:40
Matrix: Water
Date Received: 06/20/24 09:20

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	95		25 - 150	06/21/24 05:40	06/22/24 21:52	1
13C8 FOSA	101		10 - 150	06/21/24 05:40	06/22/24 21:52	1
d3-NMeFOSAA	105		25 - 150	06/21/24 05:40	06/22/24 21:52	1
d5-NEtFOSAA	109		25 - 150	06/21/24 05:40	06/22/24 21:52	1
d-N-MeFOSA-M	94		10 - 150	06/21/24 05:40	06/22/24 21:52	1
d-N-EtFOSA-M	100		10 - 150	06/21/24 05:40	06/22/24 21:52	1
d7-N-MeFOSE-M	95		10 - 150	06/21/24 05:40	06/22/24 21:52	1
d9-N-EtFOSE-M	100		10 - 150	06/21/24 05:40	06/22/24 21:52	1
M2-4:2 FTS	113		25 - 150	06/21/24 05:40	06/22/24 21:52	1
M2-6:2 FTS	105		25 - 150	06/21/24 05:40	06/22/24 21:52	1
M2-8:2 FTS	100		25 - 150	06/21/24 05:40	06/22/24 21:52	1
13C3 HFPO-DA	95		25 - 150	06/21/24 05:40	06/22/24 21:52	1
13C2 10:2 FTS	112		25 - 150	06/21/24 05:40	06/22/24 21:52	1

Client Sample Results

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: MW-101 Dup

Date Collected: 06/18/24 12:58
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-8

Matrix: Water

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.1**	**J**	4.5	2.1	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluoropentanoic acid (PFPeA)	**0.83**	**J**	1.8	0.44	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorohexanoic acid (PFHxA)	**2.1**	**B**	1.8	0.52	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluoroheptanoic acid (PFHpA)	**1.8**		1.8	0.22	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorooctanoic acid (PFOA)	**97**		1.8	0.76	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorononanoic acid (PFNA)	<0.24		1.8	0.24	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorodecanoic acid (PFDA)	<0.28		1.8	0.28	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluoroundecanoic acid (PFUnA)	<0.98		1.8	0.98	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorododecanoic acid (PFDoA)	<0.49		1.8	0.49	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorotridecanoic acid (PFTrDA)	<1.2		1.8	1.2	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorotetradecanoic acid (PFTeA)	<0.65		1.8	0.65	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorobutanesulfonic acid (PFBS)	**1.3**	**J**	1.8	0.18	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluoropentanesulfonic acid (PFPeS)	<0.27		1.8	0.27	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorohexanesulfonic acid (PFHxS)	<0.51		1.8	0.51	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluoroheptanesulfonic acid (PFHpS)	**0.44**	**J**	1.8	0.17	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorooctanesulfonic acid (PFOS)	**41**		1.8	0.48	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorononanesulfonic acid (PFNS)	<0.33		1.8	0.33	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorodecanesulfonic acid (PFDS)	<0.29		1.8	0.29	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorododecanesulfonic acid (PFDoS)	<0.86		1.8	0.86	ng/L		06/21/24 05:40	06/22/24 22:03	1
Perfluorooctanesulfonamide (FOSA)	<0.87		1.8	0.87	ng/L		06/21/24 05:40	06/22/24 22:03	1
NEtFOSA	<0.77		1.8	0.77	ng/L		06/21/24 05:40	06/22/24 22:03	1
NMeFOSA	<0.38		1.8	0.38	ng/L		06/21/24 05:40	06/22/24 22:03	1
NMeFOSAA	<1.1		4.5	1.1	ng/L		06/21/24 05:40	06/22/24 22:03	1
NEtFOSAA	<1.2		4.5	1.2	ng/L		06/21/24 05:40	06/22/24 22:03	1
NMeFOSE	<1.2		3.6	1.2	ng/L		06/21/24 05:40	06/22/24 22:03	1
NEtFOSE	<0.76		1.8	0.76	ng/L		06/21/24 05:40	06/22/24 22:03	1
4:2 FTS	<0.21		1.8	0.21	ng/L		06/21/24 05:40	06/22/24 22:03	1
6:2 FTS	<2.2		4.5	2.2	ng/L		06/21/24 05:40	06/22/24 22:03	1
8:2 FTS	<0.41		1.8	0.41	ng/L		06/21/24 05:40	06/22/24 22:03	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.36		1.8	0.36	ng/L		06/21/24 05:40	06/22/24 22:03	1
HFPO-DA (GenX)	<1.3		3.6	1.3	ng/L		06/21/24 05:40	06/22/24 22:03	1
9Cl-PF3ONS	<0.21		1.8	0.21	ng/L		06/21/24 05:40	06/22/24 22:03	1
11Cl-PF3OUdS	<0.29		1.8	0.29	ng/L		06/21/24 05:40	06/22/24 22:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*
13C5 PFPeA	*99*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*
13C2 PFHxA	*97*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*
13C4 PFHpA	*97*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*
13C4 PFOA	*96*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*
13C5 PFNA	*104*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*
13C2 PFDA	*101*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*
13C2 PFUnA	*99*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*
13C2 PFDoA	*101*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*
13C2 PFTeDA	*97*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*
13C3 PFBS	*93*		*25 - 150*	*06/21/24 05:40*	*06/22/24 22:03*	*1*

Client Sample ID: MW-101 Dup
Lab Sample ID: 500-252455-8

Date Collected: 06/18/24 12:58
Matrix: Water
Date Received: 06/20/24 09:20

Method: EPA 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	97		25 - 150	06/21/24 05:40	06/22/24 22:03	1
13C4 PFOS	98		25 - 150	06/21/24 05:40	06/22/24 22:03	1
13C8 FOSA	99		10 - 150	06/21/24 05:40	06/22/24 22:03	1
d3-NMeFOSAA	107		25 - 150	06/21/24 05:40	06/22/24 22:03	1
d5-NEtFOSAA	112		25 - 150	06/21/24 05:40	06/22/24 22:03	1
d-N-MeFOSA-M	92		10 - 150	06/21/24 05:40	06/22/24 22:03	1
d-N-EtFOSA-M	93		10 - 150	06/21/24 05:40	06/22/24 22:03	1
d7-N-MeFOSE-M	83		10 - 150	06/21/24 05:40	06/22/24 22:03	1
d9-N-EtFOSE-M	94		10 - 150	06/21/24 05:40	06/22/24 22:03	1
M2-4:2 FTS	143		25 - 150	06/21/24 05:40	06/22/24 22:03	1
M2-6:2 FTS	129		25 - 150	06/21/24 05:40	06/22/24 22:03	1
M2-8:2 FTS	112		25 - 150	06/21/24 05:40	06/22/24 22:03	1
13C3 HFPO-DA	95		25 - 150	06/21/24 05:40	06/22/24 22:03	1
13C2 10:2 FTS	118		25 - 150	06/21/24 05:40	06/22/24 22:03	1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
*5+	Isotope dilution analyte is outside acceptance limits, high biased.
4	MS, MSD: The analyte present in the original sample is greater than 4 times the matrix spike concentration; therefore, control limits are not applicable.
B	Compound was found in the blank and sample.
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

LCMS

Prep Batch: 773611

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-252455-1	MW-101	Total/NA	Water	3535	
500-252455-2	MW-102	Total/NA	Water	3535	
500-252455-3 - RA	MW-103	Total/NA	Water	3535	
500-252455-3	MW-103	Total/NA	Water	3535	
500-252455-4	MW-104	Total/NA	Water	3535	
500-252455-5	MW-105	Total/NA	Water	3535	
500-252455-5 - DL	MW-105	Total/NA	Water	3535	
500-252455-6	FB-01	Total/NA	Water	3535	
500-252455-7	EB-01	Total/NA	Water	3535	
500-252455-8	MW-101 Dup	Total/NA	Water	3535	
MB 320-773611/1-A	Method Blank	Total/NA	Water	3535	
LLCS 320-773611/2-A	Lab Control Sample	Total/NA	Water	3535	
500-252455-4 LMS	MW-104	Total/NA	Water	3535	
500-252455-4 LMSD	MW-104	Total/NA	Water	3535	

Analysis Batch: 773820

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-252455-1	MW-101	Total/NA	Water	537 (modified)	773611
500-252455-2	MW-102	Total/NA	Water	537 (modified)	773611
500-252455-3	MW-103	Total/NA	Water	537 (modified)	773611
500-252455-4	MW-104	Total/NA	Water	537 (modified)	773611
500-252455-5	MW-105	Total/NA	Water	537 (modified)	773611
500-252455-6	FB-01	Total/NA	Water	537 (modified)	773611
500-252455-7	EB-01	Total/NA	Water	537 (modified)	773611
500-252455-8	MW-101 Dup	Total/NA	Water	537 (modified)	773611
MB 320-773611/1-A	Method Blank	Total/NA	Water	537 (modified)	773611
LLCS 320-773611/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	773611
500-252455-4 LMS	MW-104	Total/NA	Water	537 (modified)	773611
500-252455-4 LMSD	MW-104	Total/NA	Water	537 (modified)	773611

Analysis Batch: 774129

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-252455-3 - RA	MW-103	Total/NA	Water	537 (modified)	773611

Analysis Batch: 774362

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
500-252455-5 - DL	MW-105	Total/NA	Water	537 (modified)	773611

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-773611/1-A
Matrix: Water
Analysis Batch: 773820

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 773611

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<2.4		5.0	2.4	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluoropentanoic acid (PFPeA)	<0.49		2.0	0.49	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorohexanoic acid (PFHxA)	0.915	J	2.0	0.58	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluoroheptanoic acid (PFHpA)	<0.25		2.0	0.25	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorooctanoic acid (PFOA)	<0.85		2.0	0.85	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorononanoic acid (PFNA)	<0.27		2.0	0.27	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorodecanoic acid (PFDA)	<0.31		2.0	0.31	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluoroundecanoic acid (PFUnA)	<1.1		2.0	1.1	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorododecanoic acid (PFDoA)	<0.55		2.0	0.55	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorotridecanoic acid (PFTrDA)	<1.3		2.0	1.3	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorotetradecanoic acid (PFTeA)	<0.73		2.0	0.73	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorobutanesulfonic acid (PFBS)	<0.20		2.0	0.20	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluoropentanesulfonic acid (PFPeS)	<0.30		2.0	0.30	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorohexanesulfonic acid (PFHxS)	<0.57		2.0	0.57	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluoroheptanesulfonic acid (PFHpS)	<0.19		2.0	0.19	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorooctanesulfonic acid (PFOS)	<0.54		2.0	0.54	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorononanesulfonic acid (PFNS)	<0.37		2.0	0.37	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorodecanesulfonic acid (PFDS)	<0.32		2.0	0.32	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorododecanesulfonic acid (PFDoS)	<0.97		2.0	0.97	ng/L		06/21/24 05:40	06/22/24 19:47	1
Perfluorooctanesulfonamide (FOSA)	<0.98		2.0	0.98	ng/L		06/21/24 05:40	06/22/24 19:47	1
NEtFOSA	<0.87		2.0	0.87	ng/L		06/21/24 05:40	06/22/24 19:47	1
NMeFOSA	<0.43		2.0	0.43	ng/L		06/21/24 05:40	06/22/24 19:47	1
NMeFOSAA	<1.2		5.0	1.2	ng/L		06/21/24 05:40	06/22/24 19:47	1
NEtFOSAA	<1.3		5.0	1.3	ng/L		06/21/24 05:40	06/22/24 19:47	1
NMeFOSE	<1.4		4.0	1.4	ng/L		06/21/24 05:40	06/22/24 19:47	1
NEtFOSE	<0.85		2.0	0.85	ng/L		06/21/24 05:40	06/22/24 19:47	1
4:2 FTS	<0.24		2.0	0.24	ng/L		06/21/24 05:40	06/22/24 19:47	1
6:2 FTS	<2.5		5.0	2.5	ng/L		06/21/24 05:40	06/22/24 19:47	1
8:2 FTS	<0.46		2.0	0.46	ng/L		06/21/24 05:40	06/22/24 19:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.40		2.0	0.40	ng/L		06/21/24 05:40	06/22/24 19:47	1
HFPO-DA (GenX)	<1.5		4.0	1.5	ng/L		06/21/24 05:40	06/22/24 19:47	1
9Cl-PF3ONS	<0.24		2.0	0.24	ng/L		06/21/24 05:40	06/22/24 19:47	1
11Cl-PF3OUdS	<0.32		2.0	0.32	ng/L		06/21/24 05:40	06/22/24 19:47	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*93*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C5 PFPeA	*99*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C2 PFHxA	*97*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C4 PFHpA	*101*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C4 PFOA	*99*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C5 PFNA	*99*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C2 PFDA	*104*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C2 PFUnA	*100*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C2 PFDoA	*98*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C2 PFTeDA	*99*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-773611/1-A
Matrix: Water
Analysis Batch: 773820

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 773611

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 PFBS	*92*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
18O2 PFHxS	*95*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C4 PFOS	*92*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C8 FOSA	*98*		*10 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
d3-NMeFOSAA	*106*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
d5-NEtFOSAA	*106*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
d-N-MeFOSA-M	*89*		*10 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
d-N-EtFOSA-M	*95*		*10 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
d7-N-MeFOSE-M	*90*		*10 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
d9-N-EtFOSE-M	*95*		*10 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
M2-4:2 FTS	*107*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
M2-6:2 FTS	*104*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
M2-8:2 FTS	*97*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C3 HFPO-DA	*94*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*
13C2 10:2 FTS	*106*		*25 - 150*	*06/21/24 05:40*	*06/22/24 19:47*	*1*

Lab Sample ID: LLCS 320-773611/2-A
Matrix: Water
Analysis Batch: 773820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 773611

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	8.00	7.95		ng/L		99	50 - 150
Perfluoropentanoic acid (PFPeA)	8.00	7.97		ng/L		100	50 - 150
Perfluorohexanoic acid (PFHxA)	8.00	8.41		ng/L		105	50 - 150
Perfluoroheptanoic acid (PFHpA)	8.00	8.40		ng/L		105	50 - 150
Perfluorooctanoic acid (PFOA)	8.00	7.67		ng/L		96	50 - 150
Perfluorononanoic acid (PFNA)	8.00	8.17		ng/L		102	50 - 150
Perfluorodecanoic acid (PFDA)	8.00	7.75		ng/L		97	50 - 150
Perfluoroundecanoic acid (PFUnA)	8.00	8.41		ng/L		105	50 - 150
Perfluorododecanoic acid (PFDoA)	8.00	8.60		ng/L		108	50 - 150
Perfluorotridecanoic acid (PFTrDA)	8.00	8.58		ng/L		107	50 - 150
Perfluorotetradecanoic acid (PFTeA)	8.00	7.68		ng/L		96	50 - 150
Perfluorobutanesulfonic acid (PFBS)	7.10	7.57		ng/L		107	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	7.52	8.21		ng/L		109	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	7.30	7.04		ng/L		96	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	7.63	8.02		ng/L		105	50 - 150
Perfluorooctanesulfonic acid (PFOS)	7.44	7.84		ng/L		105	50 - 150
Perfluorononanesulfonic acid (PFNS)	7.70	8.38		ng/L		109	50 - 150
Perfluorodecanesulfonic acid (PFDS)	7.71	7.34		ng/L		95	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	7.76	7.04		ng/L		91	50 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LLCS 320-773611/2-A
Matrix: Water
Analysis Batch: 773820

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 773611

Analyte	Spike Added	LLCS Result	LLCS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorooctanesulfonamide (FOSA)	8.00	7.80		ng/L		98	50 - 150
NEtFOSA	8.00	7.68		ng/L		96	50 - 150
NMeFOSA	8.00	7.38		ng/L		92	50 - 150
NMeFOSAA	8.00	7.75		ng/L		97	50 - 150
NEtFOSAA	8.00	7.42		ng/L		93	50 - 150
NMeFOSE	8.00	7.87		ng/L		98	50 - 150
NEtFOSE	8.00	7.06		ng/L		88	50 - 150
4:2 FTS	7.50	7.89		ng/L		105	50 - 150
6:2 FTS	7.62	7.36		ng/L		97	50 - 150
8:2 FTS	7.68	8.34		ng/L		109	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	7.57	8.11		ng/L		107	50 - 150
HFPO-DA (GenX)	8.00	8.27		ng/L		103	50 - 150
9Cl-PF3ONS	7.47	8.03		ng/L		107	50 - 150
11Cl-PF3OUdS	7.55	7.95		ng/L		105	50 - 150

Isotope Dilution	*LLCS %Recovery*	*LLCS Qualifier*	*Limits*
13C4 PFBA	*93*		*25 - 150*
13C5 PFPeA	*93*		*25 - 150*
13C2 PFHxA	*100*		*25 - 150*
13C4 PFHpA	*104*		*25 - 150*
13C4 PFOA	*96*		*25 - 150*
13C5 PFNA	*100*		*25 - 150*
13C2 PFDA	*102*		*25 - 150*
13C2 PFUnA	*101*		*25 - 150*
13C2 PFDoA	*94*		*25 - 150*
13C2 PFTeDA	*98*		*25 - 150*
13C3 PFBS	*91*		*25 - 150*
18O2 PFHxS	*98*		*25 - 150*
13C4 PFOS	*94*		*25 - 150*
13C8 FOSA	*96*		*10 - 150*
d3-NMeFOSAA	*102*		*25 - 150*
d5-NEtFOSAA	*103*		*25 - 150*
d-N-MeFOSA-M	*83*		*10 - 150*
d-N-EtFOSA-M	*87*		*10 - 150*
d7-N-MeFOSE-M	*86*		*10 - 150*
d9-N-EtFOSE-M	*95*		*10 - 150*
M2-4:2 FTS	*89*		*25 - 150*
M2-6:2 FTS	*102*		*25 - 150*
M2-8:2 FTS	*101*		*25 - 150*
13C3 HFPO-DA	*91*		*25 - 150*
13C2 10:2 FTS	*98*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 500-252455-4 LMS
Matrix: Water
Analysis Batch: 773820

Client Sample ID: MW-104
Prep Type: Total/NA
Prep Batch: 773611

Analyte	Sample Result	Sample Qualifier	Spike Added	LMS Result	LMS Qualifier	Unit	D	%Rec	%Rec Limits
Perfluorobutanoic acid (PFBA)	<2.2		7.23	8.54		ng/L		118	50 - 150
Perfluoropentanoic acid (PFPeA)	<0.45		7.23	8.80		ng/L		122	50 - 150
Perfluorohexanoic acid (PFHxA)	1.4	J B	7.23	8.57		ng/L		100	50 - 150
Perfluoroheptanoic acid (PFHpA)	0.26	J	7.23	7.69		ng/L		103	50 - 150
Perfluorooctanoic acid (PFOA)	3.2		7.23	9.57		ng/L		88	50 - 150
Perfluorononanoic acid (PFNA)	<0.25		7.23	7.02		ng/L		97	50 - 150
Perfluorodecanoic acid (PFDA)	<0.28		7.23	7.27		ng/L		101	50 - 150
Perfluoroundecanoic acid (PFUnA)	<1.0		7.23	7.41		ng/L		102	50 - 150
Perfluorododecanoic acid (PFDoA)	<0.50		7.23	7.32		ng/L		101	50 - 150
Perfluorotridecanoic acid (PFTrDA)	<1.2		7.23	6.94		ng/L		96	50 - 150
Perfluorotetradecanoic acid (PFTeA)	<0.67		7.23	6.55		ng/L		91	50 - 150
Perfluorobutanesulfonic acid (PFBS)	2.2		6.42	9.37		ng/L		112	50 - 150
Perfluoropentanesulfonic acid (PFPeS)	<0.27		6.80	7.18		ng/L		106	50 - 150
Perfluorohexanesulfonic acid (PFHxS)	0.71	J	6.59	7.11		ng/L		97	50 - 150
Perfluoroheptanesulfonic acid (PFHpS)	<0.17		6.90	7.43		ng/L		108	50 - 150
Perfluorooctanesulfonic acid (PFOS)	54		6.72	62.0	4	ng/L		118	50 - 150
Perfluorononanesulfonic acid (PFNS)	<0.34		6.96	6.76		ng/L		97	50 - 150
Perfluorodecanesulfonic acid (PFDS)	<0.29		6.97	5.83		ng/L		84	50 - 150
Perfluorododecanesulfonic acid (PFDoS)	<0.89		7.01	5.42		ng/L		77	50 - 150
Perfluorooctanesulfonamide (FOSA)	<0.90		7.23	6.94		ng/L		96	50 - 150
NEtFOSA	<0.80		7.23	6.25		ng/L		86	50 - 150
NMeFOSA	<0.39		7.23	6.17		ng/L		85	50 - 150
NMeFOSAA	<1.1		7.23	6.77		ng/L		94	50 - 150
NEtFOSAA	<1.2		7.23	6.49		ng/L		90	50 - 150
NMeFOSE	<1.3		7.23	7.12		ng/L		99	50 - 150
NEtFOSE	<0.78		7.23	6.69		ng/L		92	50 - 150
4:2 FTS	<0.22		6.78	7.26		ng/L		107	50 - 150
6:2 FTS	<2.3		6.88	7.39		ng/L		107	50 - 150
8:2 FTS	<0.42		6.94	7.43		ng/L		107	50 - 150
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.37		6.84	7.50		ng/L		110	50 - 150
HFPO-DA (GenX)	<1.4		7.23	7.72		ng/L		107	50 - 150
9Cl-PF3ONS	<0.22		6.75	7.30		ng/L		108	50 - 150
11Cl-PF3OUdS	<0.29		6.83	6.51		ng/L		95	50 - 150

Isotope Dilution	*LMS %Recovery*	*LMS Qualifier*	*Limits*
13C4 PFBA	*81*		*25 - 150*
13C5 PFPeA	*95*		*25 - 150*
13C2 PFHxA	*98*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 500-252455-4 LMS
Matrix: Water
Analysis Batch: 773820

Client Sample ID: MW-104
Prep Type: Total/NA
Prep Batch: 773611

Isotope Dilution	*LMS %Recovery*	*LMS Qualifier*	*Limits*
13C4 PFHpA	*102*		*25 - 150*
13C4 PFOA	*96*		*25 - 150*
13C5 PFNA	*104*		*25 - 150*
13C2 PFDA	*94*		*25 - 150*
13C2 PFUnA	*92*		*25 - 150*
13C2 PFDoA	*92*		*25 - 150*
13C2 PFTeDA	*96*		*25 - 150*
13C3 PFBS	*92*		*25 - 150*
18O2 PFHxS	*94*		*25 - 150*
13C4 PFOS	*92*		*25 - 150*
13C8 FOSA	*97*		*10 - 150*
d3-NMeFOSAA	*98*		*25 - 150*
d5-NEtFOSAA	*104*		*25 - 150*
d-N-MeFOSA-M	*90*		*10 - 150*
d-N-EtFOSA-M	*92*		*10 - 150*
d7-N-MeFOSE-M	*80*		*10 - 150*
d9-N-EtFOSE-M	*87*		*10 - 150*
M2-4:2 FTS	*116*		*25 - 150*
M2-6:2 FTS	*115*		*25 - 150*
M2-8:2 FTS	*92*		*25 - 150*
13C3 HFPO-DA	*90*		*25 - 150*
13C2 10:2 FTS	*96*		*25 - 150*

Lab Sample ID: 500-252455-4 LMSD
Matrix: Water
Analysis Batch: 773820

Client Sample ID: MW-104
Prep Type: Total/NA
Prep Batch: 773611

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	<2.2		7.15	8.63		ng/L		121	50 - 150	1	30
Perfluoropentanoic acid (PFPeA)	<0.45		7.15	7.88		ng/L		110	50 - 150	11	30
Perfluorohexanoic acid (PFHxA)	1.4	J B	7.15	9.45		ng/L		113	50 - 150	10	30
Perfluoroheptanoic acid (PFHpA)	0.26	J	7.15	7.66		ng/L		103	50 - 150	0	30
Perfluorooctanoic acid (PFOA)	3.2		7.15	10.1		ng/L		97	50 - 150	5	30
Perfluorononanoic acid (PFNA)	<0.25		7.15	7.82		ng/L		109	50 - 150	11	30
Perfluorodecanoic acid (PFDA)	<0.28		7.15	7.05		ng/L		99	50 - 150	3	30
Perfluoroundecanoic acid (PFUnA)	<1.0		7.15	7.78		ng/L		109	50 - 150	5	30
Perfluorododecanoic acid (PFDoA)	<0.50		7.15	7.78		ng/L		109	50 - 150	6	30
Perfluorotridecanoic acid (PFTrDA)	<1.2		7.15	7.43		ng/L		104	50 - 150	7	30
Perfluorotetradecanoic acid (PFTeA)	<0.67		7.15	6.59		ng/L		92	50 - 150	1	30
Perfluorobutanesulfonic acid (PFBS)	2.2		6.35	9.46		ng/L		114	50 - 150	1	30
Perfluoropentanesulfonic acid (PFPeS)	<0.27		6.72	7.16		ng/L		107	50 - 150	0	30
Perfluorohexanesulfonic acid (PFHxS)	0.71	J	6.52	7.38		ng/L		102	50 - 150	4	30
Perfluoroheptanesulfonic acid (PFHpS)	<0.17		6.82	7.95		ng/L		116	50 - 150	7	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 500-252455-4 LMSD
Matrix: Water
Analysis Batch: 773820

Client Sample ID: MW-104
Prep Type: Total/NA
Prep Batch: 773611

Analyte	Sample Result	Sample Qualifier	Spike Added	LMSD Result	LMSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorooctanesulfonic acid (PFOS)	54		6.65	61.2	4	ng/L		107	50 - 150	1	30
Perfluorononanesulfonic acid (PFNS)	<0.34		6.88	7.21		ng/L		105	50 - 150	7	30
Perfluorodecanesulfonic acid (PFDS)	<0.29		6.90	6.60		ng/L		96	50 - 150	12	30
Perfluorododecanesulfonic acid (PFDoS)	<0.89		6.94	6.55		ng/L		94	50 - 150	19	30
Perfluorooctanesulfonamide (FOSA)	<0.90		7.15	7.11		ng/L		99	50 - 150	2	30
NEtFOSA	<0.80		7.15	6.56		ng/L		92	50 - 150	5	30
NMeFOSA	<0.39		7.15	6.52		ng/L		91	50 - 150	5	30
NMeFOSAA	<1.1		7.15	7.02		ng/L		98	50 - 150	4	30
NEtFOSAA	<1.2		7.15	6.81		ng/L		95	50 - 150	5	30
NMeFOSE	<1.3		7.15	7.19		ng/L		101	50 - 150	1	30
NEtFOSE	<0.78		7.15	6.90		ng/L		96	50 - 150	3	30
4:2 FTS	<0.22		6.71	7.26		ng/L		108	50 - 150	0	30
6:2 FTS	<2.3		6.81	7.95		ng/L		117	50 - 150	7	30
8:2 FTS	<0.42		6.87	7.51		ng/L		109	50 - 150	1	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<0.37		6.77	7.94		ng/L		117	50 - 150	6	30
HFPO-DA (GenX)	<1.4		7.15	7.18		ng/L		100	50 - 150	7	30
9Cl-PF3ONS	<0.22		6.68	7.51		ng/L		112	50 - 150	3	30
11Cl-PF3OUdS	<0.29		6.75	6.67		ng/L		99	50 - 150	2	30

Isotope Dilution	*LMSD %Recovery*	*LMSD Qualifier*	*Limits*
13C4 PFBA	*80*		*25 - 150*
13C5 PFPeA	*90*		*25 - 150*
13C2 PFHxA	*87*		*25 - 150*
13C4 PFHpA	*98*		*25 - 150*
13C4 PFOA	*97*		*25 - 150*
13C5 PFNA	*93*		*25 - 150*
13C2 PFDA	*96*		*25 - 150*
13C2 PFUnA	*91*		*25 - 150*
13C2 PFDoA	*89*		*25 - 150*
13C2 PFTeDA	*91*		*25 - 150*
13C3 PFBS	*88*		*25 - 150*
18O2 PFHxS	*88*		*25 - 150*
13C4 PFOS	*86*		*25 - 150*
13C8 FOSA	*92*		*10 - 150*
d3-NMeFOSAA	*96*		*25 - 150*
d5-NEtFOSAA	*103*		*25 - 150*
d-N-MeFOSA-M	*85*		*10 - 150*
d-N-EtFOSA-M	*88*		*10 - 150*
d7-N-MeFOSE-M	*81*		*10 - 150*
d9-N-EtFOSE-M	*86*		*10 - 150*
M2-4:2 FTS	*114*		*25 - 150*
M2-6:2 FTS	*107*		*25 - 150*
M2-8:2 FTS	*93*		*25 - 150*
13C3 HFPO-DA	*91*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 500-252455-4 LMSD
Client Sample ID: MW-104
Matrix: Water
Prep Type: Total/NA
Analysis Batch: 773820
Prep Batch: 773611

Isotope Dilution	*LMSD %Recovery*	*LMSD Qualifier*	*Limits*
13C2 10:2 FTS	*100*		*25 - 150*

Lab Chronicle

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: MW-101
Date Collected: 06/18/24 12:56
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3535			773611	SJ	EET SAC	06/21/24 05:40
Total/NA	Analysis	537 (modified)		1	773820	K1S	EET SAC	06/22/24 20:08

Client Sample ID: MW-102
Date Collected: 06/18/24 14:01
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3535			773611	SJ	EET SAC	06/21/24 05:40
Total/NA	Analysis	537 (modified)		1	773820	K1S	EET SAC	06/22/24 20:18

Client Sample ID: MW-103
Date Collected: 06/18/24 11:18
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3535			773611	SJ	EET SAC	06/21/24 05:40
Total/NA	Analysis	537 (modified)		1	773820	K1S	EET SAC	06/22/24 20:29
Total/NA	Prep	3535	RA		773611	SJ	EET SAC	06/21/24 05:40
Total/NA	Analysis	537 (modified)	RA	1	774129	P1P	EET SAC	06/24/24 14:54

Client Sample ID: MW-104
Date Collected: 06/18/24 12:04
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3535			773611	SJ	EET SAC	06/21/24 05:40
Total/NA	Analysis	537 (modified)		1	773820	K1S	EET SAC	06/22/24 20:39

Client Sample ID: MW-105
Date Collected: 06/18/24 14:50
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3535			773611	SJ	EET SAC	06/21/24 05:40
Total/NA	Analysis	537 (modified)		1	773820	K1S	EET SAC	06/22/24 21:10
Total/NA	Prep	3535	DL		773611	SJ	EET SAC	06/21/24 05:40
Total/NA	Analysis	537 (modified)	DL	50	774362	P1P	EET SAC	06/25/24 13:14

Client Sample ID: FB-01
Date Collected: 06/18/24 14:37
Date Received: 06/20/24 09:20

Lab Sample ID: 500-252455-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3535			773611	SJ	EET SAC	06/21/24 05:40
Total/NA	Analysis	537 (modified)		1	773820	K1S	EET SAC	06/22/24 21:21

Lab Chronicle

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Client Sample ID: EB-01

Lab Sample ID: 500-252455-7

Date Collected: 06/18/24 14:40
Matrix: Water
Date Received: 06/20/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3535			773611	SJ	EET SAC	06/21/24 05:40
Total/NA	Analysis	537 (modified)		1	773820	K1S	EET SAC	06/22/24 21:52

Client Sample ID: MW-101 Dup

Lab Sample ID: 500-252455-8

Date Collected: 06/18/24 12:58
Matrix: Water
Date Received: 06/20/24 09:20

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	3535			773611	SJ	EET SAC	06/21/24 05:40
Total/NA	Analysis	537 (modified)		1	773820	K1S	EET SAC	06/22/24 22:03

Laboratory References:

EET SAC = Eurofins Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Laboratory: Eurofins Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Wisconsin	State	998204680	08-31-25

Eurofins Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Phone 916-373-5600 Fax: 916-372-1059

Chain of Custody Record

eurofins | Environment Testing

Client Information	Sampler: Sarah J. Martens	Lab PM: Fredrick, Sandie	Carrier Tracking No(s):	COC No: 500-125137-49976 1
Client Contact: Paul Lindquist	Phone:	E-Mail: Sandra Fredrick@et.eurofinsus.com	State of Origin: WI	Page: Page 1 of ~~2~~ 1
Company: Ramboll Americas Engineering Solutions	PWSID:			Job #:
Address: 234 W Florida Street Fifth Floor	Due Date Requested			
City: Milwaukee	TAT Requested (days): Standard			
State, Zip: WI, 53204	Compliance Project: Δ Yes Δ No			
Phone: 262-901-3510(Tel)	PO #: MIRRO 4			
Email: plindquist@ramboll.com	WO #:			
Project Name: Mirro 4 - 1690026868_Conv	Project #: 50022917			
Site:	SSOW#:			

Analysis Requested

Preservation Codes. N None

500-252455 Chain of Custody

Sample Identification	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA_WI - PFAS, Standard List (33 analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
MW-101	6-18-24	1256	G	Water	N		X	2	
MW-102		1401		Water	N		X	2	
MW-103		1118		Water	N		X	2	
MW-104		1204		Water	N	X	X	4	Extra Vol for MS/MSD
MW-105		1450		Water	N		X	2	
FB-01		1437		Water	N		X	2	
EB-01		1440		Water	N		X	2	
MW-101 Dup		1258		Water	N		X	2	
				Water					
				Water					
				Water					

Other:

Possible Hazard Identification
☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☐ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested I, II, III IV Other (specify)

Special Instructions/QC Requirements

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by	Date/Time	Company	Received by	Date/Time	Company
[signature]	6-19-2024 11:00	Ramboll	[signature]	06/20/24 0920	EESCO

Custody Seals Intact: Δ Yes Δ No
Custody Seal No 2578274
Cooler Temperature(s) °C and Other Remarks: 1.3°C

Ver: 04/02/2024

Login Sample Receipt Checklist

Client: Ramboll Americas Engineering Solutions

Job Number: 500-252455-1

Login Number: 252455
List Number: 1
Creator: Nelson, Dirk

List Source: Eurofins Chicago

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.		
The cooler's custody seal, if present, is intact.		
Sample custody seals, if present, are intact.		
The cooler or samples do not appear to have been compromised or tampered with.		
Samples were received on ice.		
Cooler Temperature is acceptable.		
Cooler Temperature is recorded.		
COC is present.		
COC is filled out in ink and legible.		
COC is filled out with all pertinent information.		
Is the Field Sampler's name present on COC?		
There are no discrepancies between the containers received and the COC.		
Samples are received within Holding Time (excluding tests with immediate HTs)		
Sample containers have legible labels.		
Containers are not broken or leaking.		
Sample collection date/times are provided.		
Appropriate sample containers are used.		
Sample bottles are completely filled.		
Sample Preservation Verified.		
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs		
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").		
Multiphasic samples are not present.		
Samples do not require splitting or compositing.		
Residual Chlorine Checked.		

Login Sample Receipt Checklist

Client: Ramboll Americas Engineering Solutions

Job Number: 500-252455-1

Login Number: 252455
List Number: 2
Creator: Simmons, Jason C

List Source: Eurofins Sacramento
List Creation: 06/20/24 03:20 PM

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	2578274
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	1.3c
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

Isotope Dilution Summary

Client: Ramboll Americas Engineering Solutions
Project/Site: Mirro 4 - 1690026868_Conv GW

Job ID: 500-252455-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
500-252455-1	MW-101	81	90	96	97	97	100	98	93
500-252455-2	MW-102	24 *5-	41	60	70	69	83	80	75
500-252455-3	MW-103	67	86	96	95	98	104	99	97
500-252455-3 - RA	MW-103								
500-252455-4	MW-104	77	89	92	93	94	100	96	92
500-252455-4 LMS	MW-104	81	95	98	102	96	104	94	92
500-252455-4 LMSD	MW-104	80	90	87	98	97	93	96	91
500-252455-5	MW-105	40	73	87	99	89	100	104	110
500-252455-5 - DL	MW-105								
500-252455-6	FB-01	95	103	110	108	104	113	103	107
500-252455-7	EB-01	95	95	103	105	102	106	105	101
500-252455-8	MW-101 Dup	85	99	97	97	96	104	101	99
LLCS 320-773611/2-A	Lab Control Sample	93	93	100	104	96	100	102	101
MB 320-773611/1-A	Method Blank	93	99	97	101	99	99	104	100

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	C3PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (10-150)	d3NMFOS (25-150)	d5NEFOS (25-150)
500-252455-1	MW-101	96	88	85	96	91	95	103	103
500-252455-2	MW-102	66	61	68	70	76	69	84	93
500-252455-3	MW-103	97	83	91	91	94	101	108	108
500-252455-3 - RA	MW-103								
500-252455-4	MW-104	87	90	92	89	87	93	98	99
500-252455-4 LMS	MW-104	92	96	92	94	92	97	98	104
500-252455-4 LMSD	MW-104	89	91	88	88	86	92	96	103
500-252455-5	MW-105	106	94	92	93	100	91	107	143
500-252455-5 - DL	MW-105								
500-252455-6	FB-01	99	106	105	105	96	106	109	110
500-252455-7	EB-01	105	106	98	98	95	101	105	109
500-252455-8	MW-101 Dup	101	97	93	97	98	99	107	112
LLCS 320-773611/2-A	Lab Control Sample	94	98	91	98	94	96	102	103
MB 320-773611/1-A	Method Blank	98	99	92	95	92	98	106	106

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	dMeFOSA (10-150)	dEtFOSA (10-150)	NMFM (10-150)	NEFM (10-150)	M242FTS (25-150)	M262FTS (25-150)	M282FTS (25-150)	HFPODA (25-150)
500-252455-1	MW-101	89	91	78	84	136	130	112	93
500-252455-2	MW-102	58	59	51	56	174 *5+	179 *5+	161 *5+	83
500-252455-3	MW-103	94	95	88	92		125	108	102
500-252455-3 - RA	MW-103					141			
500-252455-4	MW-104	88	90	81	89	123	107	92	85
500-252455-4 LMS	MW-104	90	92	80	87	116	115	92	90
500-252455-4 LMSD	MW-104	85	88	81	86	114	107	93	91
500-252455-5	MW-105	86	89	81	86	260 *5+	256 *5+		118
500-252455-5 - DL	MW-105							116	
500-252455-6	FB-01	100	107	97	106	110	109	109	99
500-252455-7	EB-01	94	100	95	100	113	105	100	95
500-252455-8	MW-101 Dup	92	93	83	94	143	129	112	95
LLCS 320-773611/2-A	Lab Control Sample	83	87	86	95	89	102	101	91
MB 320-773611/1-A	Method Blank	89	95	90	95	107	104	97	94

Isotope Dilution Summary

Client: Ramboll Americas Engineering Solutions
Job ID: 500-252455-1
Project/Site: Mirro 4 - 1690026868_Conv GW

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	**Client Sample ID**	**M102FTS (25-150)**							
500-252455-1	MW-101	102							
500-252455-2	MW-102	105							
500-252455-3	MW-103	115							
500-252455-3 - RA	MW-103								
500-252455-4	MW-104	103							
500-252455-4 LMS	MW-104	96							
500-252455-4 LMSD	MW-104	100							
500-252455-5	MW-105	155 *5+							
500-252455-5 - DL	MW-105								
500-252455-6	FB-01	113							
500-252455-7	EB-01	112							
500-252455-8	MW-101 Dup	118							
LLCS 320-773611/2-A	Lab Control Sample	98							
MB 320-773611/1-A	Method Blank	106							

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
C3PFBS = 13C3 PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
dMeFOSA = d-N-MeFOSA-M
dEtFOSA = d-N-EtFOSA-M
NMFM = d7-N-MeFOSE-M
NEFM = d9-N-EtFOSE-M
M242FTS = M2-4:2 FTS
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
HFPODA = 13C3 HFPO-DA
M102FTS = 13C2 10:2 FTS