ANALYTICAL REPORT

Lab Number:	L2139610
Client:	New Jersey DEP 516 E. State Street Trenton, NJ 08625
ATTN:	Dave Dibblee
Phone:	(609) 376-9415
Project Name:	B0276190
Project Number:	Not Specified
Report Date:	08/04/21

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628324

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2139610-01	[redacted]	DW	Not Specified	07/20/21 09:19	07/23/21
L2139610-02	[redacted]	DW	Not Specified	07/20/21 09:00	07/23/21
L2139610-03	[redacted]	DW	Not Specified	07/20/21 09:41	07/23/21
L2139610-04	[redacted]	DW	Not Specified	07/20/21 10:09	07/23/21
L2139610-05	[redacted]	DW	Not Specified	07/20/21 10:35	07/23/21
L2139610-06	[redacted]	DW	Not Specified	07/20/21 11:16	07/23/21
L2139610-07	[redacted]	DW	Not Specified	07/20/21 11:39	07/23/21
L2139610-08	[redacted]	DW	Not Specified	07/20/21 12:05	07/23/21
L2139610-09	[redacted]	DW	Not Specified	07/20/21 12:39	07/23/21
L2139610-10	[redacted]	DW	Not Specified	07/20/21 13:15	07/23/21
L2139610-11	[redacted]	DW	Not Specified	07/20/21 13:41	07/23/21
L2139610-12	[redacted]	DW	Not Specified	07/20/21 14:03	07/23/21
L2139610-13	[redacted]	DW	Not Specified	07/20/21 14:51	07/23/21
L2139610-14	[redacted]	DW	Not Specified	07/20/21 15:23	07/23/21
L2139610-15	[redacted]	DW	Not Specified	07/21/21 08:45	07/23/21
L2139610-16	[redacted]	DW	Not Specified	07/21/21 09:20	07/23/21
L2139610-17	[redacted]	DW	Not Specified	07/21/21 09:48	07/23/21
L2139610-18	[redacted]	DW	Not Specified	07/21/21 10:08	07/23/21
L2139610-19	[redacted]	DW	Not Specified	07/21/21 10:31	07/23/21
L2139610-20	[redacted]	DW	Not Specified	07/21/21 10:39	07/23/21
L2139610-21	[redacted]	DW	Not Specified	07/21/21 11:03	07/23/21
L2139610-22	[redacted]	DW	Not Specified	07/21/21 11:12	07/23/21
L2139610-23	[redacted]	DW	Not Specified	07/21/21 11:31	07/23/21
L2139610-24	[redacted]	DW	Not Specified	07/21/21 11:58	07/23/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2139610-25	[redacted]	DW	Not Specified	07/21/21 13:08	07/23/21
L2139610-26	[redacted]	DW	Not Specified	07/21/21 13:29	07/23/21
L2139610-27	[redacted]	DW	Not Specified	07/21/21 13:56	07/23/21
L2139610-28	[redacted]	DW	Not Specified	07/21/21 14:14	07/23/21
L2139610-29	[redacted]	DW	Not Specified	07/21/21 14:36	07/23/21
L2139610-30	[redacted]	DW	Not Specified	07/22/21 08:38	07/23/21
L2139610-31	[redacted]	DW	Not Specified	07/22/21 08:28	07/23/21
L2139610-32	[redacted]	DW	Not Specified	07/22/21 09:08	07/23/21
L2139610-33	[redacted]	DW	Not Specified	07/22/21 09:36	07/23/21
L2139610-34	[redacted]	DW	Not Specified	07/22/21 10:02	07/23/21
L2139610-35	[redacted]	DW	Not Specified	07/22/21 10:22	07/23/21
L2139610-36	[redacted]	DW	Not Specified	07/22/21 10:55	07/23/21
L2139610-37	[redacted]	DW	Not Specified	07/22/21 11:05	07/23/21
L2139610-38	[redacted]	DW	Not Specified	07/22/21 11:20	07/23/21
L2139610-39	[redacted]	DW	Not Specified	07/22/21 12:46	07/23/21
L2139610-40	[redacted]	DW	Not Specified	07/22/21 12:52	07/23/21
L2139610-41	[redacted]	DW	Not Specified	07/22/21 10:55	07/23/21
L2139610-42	[redacted]	DW	Not Specified	07/22/21 13:51	07/23/21
L2139610-43	[redacted]	DW	Not Specified	07/22/21 13:02	07/23/21
L2139610-44	[redacted]	DW	Not Specified	07/22/21 13:09	07/23/21
L2139610-45	[redacted]	DW	Not Specified	07/22/21 13:14	07/23/21
L2139610-46	[redacted]	DW	Not Specified	07/22/21 13:06	07/23/21
L2139610-47	[redacted]	DW	Not Specified	07/22/21 13:30	07/23/21
L2139610-48	[redacted]	DW	Not Specified	07/22/21 13:50	07/23/21
L2139610-49	[redacted]	DW	Not Specified	07/22/21 14:03	07/23/21
L2139610-50	[redacted]	DW	Not Specified	07/22/21 14:36	07/23/21
L2139610-51	[redacted]	DW	Not Specified	07/22/21 14:26	07/23/21
L2139610-52	[redacted]	DW	Not Specified	07/22/21 15:00	07/23/21

Project Name:	B0276190	**Lab Number:**	L2139610
Project Number:	Not Specified	**Report Date:**	08/04/21

Case Narrative

The samples were received in accordance with the Chain of Custody and no significant deviations were encountered during the preparation or analysis unless otherwise noted. Sample Receipt, Container Information, and the Chain of Custody are located at the back of the report.

Results contained within this report relate only to the samples submitted under this Alpha Lab Number and meet NELAP requirements for all NELAP accredited parameters unless otherwise noted in the following narrative. The data presented in this report is organized by parameter (i.e. VOC, SVOC, etc.). Sample specific Quality Control data (i.e. Surrogate Spike Recovery) is reported at the end of the target analyte list for each individual sample, followed by the Laboratory Batch Quality Control at the end of each parameter. Tentatively Identified Compounds (TICs), if requested, are reported for compounds identified to be present and are not part of the method/program Target Compound List, even if only a subset of the TCL are being reported. If a sample was re-analyzed or re-extracted due to a required quality control corrective action and if both sets of data are reported, the Laboratory ID of the re-analysis or re-extraction is designated with an "R" or "RE", respectively.

When multiple Batch Quality Control elements are reported (e.g. more than one LCS), the associated samples for each element are noted in the grey shaded header line of each data table. Any Laboratory Batch, Sample Specific % recovery or RPD value that is outside the listed Acceptance Criteria is bolded in the report. In reference to questions H (CAM) or 4 (RCP) when "NO" is checked, the performance criteria for CAM and RCP methods allow for some quality control failures to occur and still be within method compliance. In these instances, the specific failure is not narrated but noted in the associated QC Outlier Summary Report, located directly after the Case Narrative. QC information is also incorporated in the Data Usability Assessment table (Format 11) of our Data Merger tool, where it can be reviewed in conjunction with the sample result, associated regulatory criteria and any associated data usability implications.

Soil/sediments, solids and tissues are reported on a dry weight basis unless otherwise noted. Definitions of all data qualifiers and acronyms used in this report are provided in the Glossary located at the back of the report.

HOLD POLICY - For samples submitted on hold, Alpha's policy is to hold samples (with the exception of Air canisters) free of charge for 21 calendar days from the date the project is completed. After 21 calendar days, we will dispose of all samples submitted including those put on hold unless you have contacted your Alpha Project Manager and made arrangements for Alpha to continue to hold the samples. Air canisters will be disposed after 3 business days from the date the project is completed.

Please contact Project Management at 800-624-9220 with any questions.

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Project Number:	Not Specified	**Report Date:**	08/04/21

Case Narrative (continued)

Sample Receipt

L2139610-01: The collection date and time on the chain of custody was 20-JUL-21 09:19; however, the collection date/time on the container label was 20-JUL-21 09:18. At the client's request, the collection date/time is reported as 20-JUL-21 09:19.

Perfluorinated Alkyl Acids

L2139610-01RE: The MS/MSD was inadvertently excluded from the original extraction batch. The sample was re-extracted within holding time and the results of the re-extraction are reported.

L2139610-11RE: The sample was re-extracted within holding time due to surrogate and internal standard failures in the original extraction. The results of the re-extraction are reported.

L2139610-34R: The sample was re-analyzed due to internal standard failures in the original analysis. The results of the re-analysis are reported.

L2139610-35: The sample was received with insufficient preservation. During sample preparation, Trizma was added to meet acceptable pH range for the method.

L2139610-38RE: The sample was re-extracted within holding time due to surrogate failures in the original extraction. The results of the re-extraction are reported.

L2139610-43: The surrogate recovery was outside the acceptance criteria for 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3,3-heptafluoropropoxy]-13c3-propanoic acid (m3hfpo-da) (64%); however, re-extraction achieved similar results: 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3,3-heptafluoropropoxy]-13c3-propanoic acid (m3hfpo-da) (68%). The results of the original extraction are reported; however, all associated compounds are considered to have a potential bias.

L2139610-44: The surrogate recovery was outside the acceptance criteria for 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3,3-heptafluoropropoxy]-13c3-propanoic acid (m3hfpo-da) (69%); however, re-extraction achieved similar results: 2,3,3,3-tetrafluoro-2-[1,1,2,2,3,3,3-heptafluoropropoxy]-13c3-propanoic acid (m3hfpo-da) (69%). The results of the original extraction are reported; however, all associated compounds are considered to have a potential bias.

L2139610-45R: The sample was re-analyzed due to surrogate failures in the original analysis. The results of

Project Name:	B0276190	**Lab Number:**	L2139610
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Case Narrative (continued)

the re-analysis are reported.

The WG1528693-4 MS recovery, performed on L2139610-16, is outside the 70-130% acceptance criteria for perfluorooctanesulfonic acid (pfos) (158%) due to possible matrix interference. All other supporting QC were within acceptable limits.

I, the undersigned, attest under the pains and penalties of perjury that, to the best of my knowledge and belief and based upon my personal inquiry of those responsible for providing the information contained in this analytical report, such information is accurate and complete. This certificate of analysis is not complete unless this page accompanies any and all pages of this report.

Authorized Signature: Susan E O'Neil Susan O' Neil

Title: Technical Director/Representative Date: 08/04/21

ORGANICS

SEMIVOLATILES

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-01 RE

Client ID: [redacted]

Sample Location: Not Specified

Sample Depth:

Matrix: Dw

Analytical Method: 133,537.1

Analytical Date: 07/30/21 13:19

Analyst: LV

Date Collected: 07/20/21 09:19

Date Received: 07/23/21

Field Prep: Not Specified

Extraction Method: EPA 537.1

Extraction Date: 07/30/21 05:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.85	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.85	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.85	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.85	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.85	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.85	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.85	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.85	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.85	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.85	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.85	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.85	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.85	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.85	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.85	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.85	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.85	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.85	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	97		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	85		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	100		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-02
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 09:00
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 12:16
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/27/21 17:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.80	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.80	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.80	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.80	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.80	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.80	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.80	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.80	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.80	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.80	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.80	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.80	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.80	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.80	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.80	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.80	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.80	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	94		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	93		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	100		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	95		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-03
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 09:41
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 12:25
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/27/21 17:20

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	2.49		ng/l	1.81	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.81	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.81	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.81	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.81	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.81	--	1
Perfluorooctanoic Acid (PFOA)	3.65		ng/l	1.81	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.81	--	1
Perfluorooctanesulfonic Acid (PFOS)	2.75		ng/l	1.81	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.81	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.81	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.81	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.81	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.81	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.81	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.81	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.81	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.81	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	75		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	95		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	101		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-04
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 10:09
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 18:10
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 05:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	7.40		ng/l	1.83	--	1
Perfluorohexanoic Acid (PFHxA)	18.4		ng/l	1.83	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.83	--	1
Perfluoroheptanoic Acid (PFHpA)	7.54		ng/l	1.83	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.71		ng/l	1.83	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.83	--	1
Perfluorooctanoic Acid (PFOA)	32.8		ng/l	1.83	--	1
Perfluorononanoic Acid (PFNA)	3.30		ng/l	1.83	--	1
Perfluorooctanesulfonic Acid (PFOS)	21.0		ng/l	1.83	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.83	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.83	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.83	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.83	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	94		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	100		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	103		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-05
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 10:35
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 18:19
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 05:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	3.50		ng/l	1.77	--	1
Perfluorohexanoic Acid (PFHxA)	10.2		ng/l	1.77	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.77	--	1
Perfluoroheptanoic Acid (PFHpA)	5.09		ng/l	1.77	--	1
Perfluorohexanesulfonic Acid (PFHxS)	3.61		ng/l	1.77	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.77	--	1
Perfluorooctanoic Acid (PFOA)	25.8		ng/l	1.77	--	1
Perfluorononanoic Acid (PFNA)	3.54		ng/l	1.77	--	1
Perfluorooctanesulfonic Acid (PFOS)	19.4		ng/l	1.77	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.77	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.77	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.77	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.77	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.77	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.77	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.77	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.77	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.77	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	86		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	72		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	103		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	104		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-06
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 11:16
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 18:28
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 05:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.84	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.84	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	4.99		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	4.88		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	86		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	78		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	92		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	101		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-07
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 11:39
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 18:36
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 05:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	3.64		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	15.1		ng/l	1.84	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	5.74		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.00		ng/l	1.84	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	31.8		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	12.2		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	30.0		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	84		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	75		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	105		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	98		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-08
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 12:05
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 18:45
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 05:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	3.12		ng/l	1.83	--	1
Perfluorohexanoic Acid (PFHxA)	28.0		ng/l	1.83	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.83	--	1
Perfluoroheptanoic Acid (PFHpA)	9.27		ng/l	1.83	--	1
Perfluorohexanesulfonic Acid (PFHxS)	7.51		ng/l	1.83	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.83	--	1
Perfluorooctanoic Acid (PFOA)	42.9		ng/l	1.83	--	1
Perfluorononanoic Acid (PFNA)	32.2		ng/l	1.83	--	1
Perfluorooctanesulfonic Acid (PFOS)	51.6		ng/l	1.83	--	1
Perfluorodecanoic Acid (PFDA)	3.63		ng/l	1.83	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.83	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.83	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.83	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	90		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	104		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	98		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-09
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 12:39
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 18:53
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 05:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	6.70		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	7.52		ng/l	1.84	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	2.84		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	3.79		ng/l	1.84	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	16.8		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	1.92		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	8.55		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	81		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	75		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	94		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	107		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-10
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 13:15
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 19:02
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 05:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	3.40		ng/l	1.83	--	1
Perfluorohexanoic Acid (PFHxA)	15.3		ng/l	1.83	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.83	--	1
Perfluoroheptanoic Acid (PFHpA)	4.21		ng/l	1.83	--	1
Perfluorohexanesulfonic Acid (PFHxS)	1.94		ng/l	1.83	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.83	--	1
Perfluorooctanoic Acid (PFOA)	27.3		ng/l	1.83	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.83	--	1
Perfluorooctanesulfonic Acid (PFOS)	22.8		ng/l	1.83	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.83	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.83	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.83	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.83	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	76		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	71		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	105		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-11 RE

Client ID: [redacted]

Sample Location: Not Specified

Sample Depth:

Matrix: Dw

Analytical Method: 133,537.1

Analytical Date: 08/03/21 11:40

Analyst: JW

Date Collected: 07/20/21 13:41

Date Received: 07/23/21

Field Prep: Not Specified

Extraction Method: EPA 537.1

Extraction Date: 08/03/21 04:05

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	8.09		ng/l	1.92	--	1
Perfluorohexanoic Acid (PFHxA)	7.24		ng/l	1.92	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.92	--	1
Perfluoroheptanoic Acid (PFHpA)	4.89		ng/l	1.92	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.12		ng/l	1.92	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.92	--	1
Perfluorooctanoic Acid (PFOA)	23.0		ng/l	1.92	--	1
Perfluorononanoic Acid (PFNA)	4.62		ng/l	1.92	--	1
Perfluorooctanesulfonic Acid (PFOS)	22.4		ng/l	1.92	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.92	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.92	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.92	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.92	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.92	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.92	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.92	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.92	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.92	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	100		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	96		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	100		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	108		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-12
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 14:03
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 19:28
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 05:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	1.88		ng/l	1.84	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	2.73		ng/l	1.84	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	3.95		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	3.58		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	5.06		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	83		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	100		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-13
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 14:51
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 19:37
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 05:40

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	4.41		ng/l	1.88	--	1
Perfluorohexanoic Acid (PFHxA)	5.35		ng/l	1.88	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.88	--	1
Perfluoroheptanoic Acid (PFHpA)	2.49		ng/l	1.88	--	1
Perfluorohexanesulfonic Acid (PFHxS)	3.24		ng/l	1.88	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.88	--	1
Perfluorooctanoic Acid (PFOA)	12.0		ng/l	1.88	--	1
Perfluorononanoic Acid (PFNA)	3.05		ng/l	1.88	--	1
Perfluorooctanesulfonic Acid (PFOS)	8.21		ng/l	1.88	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.88	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.88	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.88	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.88	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.88	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.88	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.88	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.88	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.88	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	93		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	78		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	101		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-14
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/20/21 15:23
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 21:20
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	7.24		ng/l	1.86	--	1
Perfluorohexanoic Acid (PFHxA)	6.23		ng/l	1.86	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.86	--	1
Perfluoroheptanoic Acid (PFHpA)	3.82		ng/l	1.86	--	1
Perfluorohexanesulfonic Acid (PFHxS)	4.30		ng/l	1.86	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.86	--	1
Perfluorooctanoic Acid (PFOA)	21.7		ng/l	1.86	--	1
Perfluorononanoic Acid (PFNA)	4.79		ng/l	1.86	--	1
Perfluorooctanesulfonic Acid (PFOS)	22.2		ng/l	1.86	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.86	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.86	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.86	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.86	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	81		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	77		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	91		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	95		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-15
Client ID: [redacted]
Sample Location: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 21:29
Analyst: LV

Date Collected: 07/21/21 08:45
Date Received: 07/23/21
Field Prep: Not Specified

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.78	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.78	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.78	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.78	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.78	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.78	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.78	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.78	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.78	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.78	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.78	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.78	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.78	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.78	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.78	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.78	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.78	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.78	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	103		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	98		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-16
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 09:20
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 21:38
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	3.21		ng/l	1.82	--	1
Perfluorohexanoic Acid (PFHxA)	4.85		ng/l	1.82	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.82	--	1
Perfluoroheptanoic Acid (PFHpA)	3.86		ng/l	1.82	--	1
Perfluorohexanesulfonic Acid (PFHxS)	7.33		ng/l	1.82	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	--	1
Perfluorooctanoic Acid (PFOA)	16.8		ng/l	1.82	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	--	1
Perfluorooctanesulfonic Acid (PFOS)	15.6		ng/l	1.82	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	93		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	84		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	99		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-17
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 09:48
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 22:03
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.85	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.85	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.85	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.85	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.85	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.85	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.85	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.85	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.85	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.85	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.85	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.85	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.85	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.85	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.85	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.85	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.85	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.85	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	87		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	87		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	97		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	106		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-18
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 10:08
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 22:12
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.82	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.82	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.82	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.82	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.82	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.82	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.82	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	79		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	72		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	89		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	92		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-19
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 10:31
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 22:21
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	2.92		ng/l	1.94	--	1
Perfluorohexanoic Acid (PFHxA)	1.94		ng/l	1.94	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.94	--	1
Perfluoroheptanoic Acid (PFHpA)	2.56		ng/l	1.94	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.94	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.94	--	1
Perfluorooctanoic Acid (PFOA)	8.86		ng/l	1.94	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.94	--	1
Perfluorooctanesulfonic Acid (PFOS)	1.94		ng/l	1.94	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.94	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.94	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.94	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.94	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.94	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.94	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.94	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.94	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.94	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	81		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	77		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	103		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	111		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-20
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 10:39
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 22:29
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.83	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.83	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.83	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.83	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.83	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.83	--	1
Perfluorooctanoic Acid (PFOA)	2.86		ng/l	1.83	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.83	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.83	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.83	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.83	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.83	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.83	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	85		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	99		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	107		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-21
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 11:03
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 22:38
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	4.03		ng/l	1.86	--	1
Perfluorohexanoic Acid (PFHxA)	4.89		ng/l	1.86	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.86	--	1
Perfluoroheptanoic Acid (PFHpA)	2.65		ng/l	1.86	--	1
Perfluorohexanesulfonic Acid (PFHxS)	2.20		ng/l	1.86	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.86	--	1
Perfluorooctanoic Acid (PFOA)	17.0		ng/l	1.86	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.86	--	1
Perfluorooctanesulfonic Acid (PFOS)	9.85		ng/l	1.86	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.86	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.86	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.86	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.86	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	82		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	98		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-22
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 11:12
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 22:47
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.84	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.84	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	89		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	92		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-23
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 11:31
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 22:55
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.84	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.84	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	4.82		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	2.13		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	77		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	72		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	90		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	87		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-24
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 11:58
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 23:12
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	4.36		ng/l	1.83	--	1
Perfluorohexanoic Acid (PFHxA)	11.6		ng/l	1.83	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.83	--	1
Perfluoroheptanoic Acid (PFHpA)	4.36		ng/l	1.83	--	1
Perfluorohexanesulfonic Acid (PFHxS)	3.78		ng/l	1.83	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.83	--	1
Perfluorooctanoic Acid (PFOA)	24.8		ng/l	1.83	--	1
Perfluorononanoic Acid (PFNA)	6.97		ng/l	1.83	--	1
Perfluorooctanesulfonic Acid (PFOS)	31.5		ng/l	1.83	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.83	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.83	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.83	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.83	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	91		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	94		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-25
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 13:08
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 23:21
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	4.25		ng/l	1.78	--	1
Perfluorohexanoic Acid (PFHxA)	12.1		ng/l	1.78	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.78	--	1
Perfluoroheptanoic Acid (PFHpA)	4.71		ng/l	1.78	--	1
Perfluorohexanesulfonic Acid (PFHxS)	4.14		ng/l	1.78	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.78	--	1
Perfluorooctanoic Acid (PFOA)	28.0		ng/l	1.78	--	1
Perfluorononanoic Acid (PFNA)	6.46		ng/l	1.78	--	1
Perfluorooctanesulfonic Acid (PFOS)	31.7		ng/l	1.78	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.78	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.78	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.78	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.78	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.78	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.78	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.78	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.78	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.78	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	85		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	76		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	93		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-26
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 13:29
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 23:30
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	10.4		ng/l	1.88	--	1
Perfluorohexanoic Acid (PFHxA)	6.19		ng/l	1.88	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.88	--	1
Perfluoroheptanoic Acid (PFHpA)	3.98		ng/l	1.88	--	1
Perfluorohexanesulfonic Acid (PFHxS)	2.44		ng/l	1.88	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.88	--	1
Perfluorooctanoic Acid (PFOA)	22.0		ng/l	1.88	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.88	--	1
Perfluorooctanesulfonic Acid (PFOS)	14.1		ng/l	1.88	--	1
Perfluorodecanoic Acid (PFDA)	2.18		ng/l	1.88	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.88	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.88	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.88	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.88	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.88	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.88	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.88	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.88	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	84		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	80		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	93		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	95		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-27
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 13:56
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 23:38
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	3.96		ng/l	1.80	--	1
Perfluorohexanoic Acid (PFHxA)	18.1		ng/l	1.80	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.80	--	1
Perfluoroheptanoic Acid (PFHpA)	6.09		ng/l	1.80	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.16		ng/l	1.80	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.80	--	1
Perfluorooctanoic Acid (PFOA)	35.3		ng/l	1.80	--	1
Perfluorononanoic Acid (PFNA)	8.36		ng/l	1.80	--	1
Perfluorooctanesulfonic Acid (PFOS)	33.4		ng/l	1.80	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.80	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.80	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.80	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.80	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.80	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.80	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.80	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.80	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	90		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	81		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	100		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-28
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 14:14
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 23:47
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	6.06		ng/l	1.80	--	1
Perfluorohexanoic Acid (PFHxA)	7.36		ng/l	1.80	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.80	--	1
Perfluoroheptanoic Acid (PFHpA)	4.26		ng/l	1.80	--	1
Perfluorohexanesulfonic Acid (PFHxS)	3.07		ng/l	1.80	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.80	--	1
Perfluorooctanoic Acid (PFOA)	22.0		ng/l	1.80	--	1
Perfluorononanoic Acid (PFNA)	2.20		ng/l	1.80	--	1
Perfluorooctanesulfonic Acid (PFOS)	15.6		ng/l	1.80	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.80	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.80	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.80	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.80	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.80	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.80	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.80	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.80	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	83		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	71		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	107		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	107		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-29
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/21/21 14:36
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/28/21 23:56
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	54.8		ng/l	1.81	--	1
Perfluorohexanoic Acid (PFHxA)	23.8		ng/l	1.81	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.81	--	1
Perfluoroheptanoic Acid (PFHpA)	8.02		ng/l	1.81	--	1
Perfluorohexanesulfonic Acid (PFHxS)	4.57		ng/l	1.81	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.81	--	1
Perfluorooctanoic Acid (PFOA)	33.0		ng/l	1.81	--	1
Perfluorononanoic Acid (PFNA)	4.10		ng/l	1.81	--	1
Perfluorooctanesulfonic Acid (PFOS)	43.2		ng/l	1.81	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.81	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.81	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	4.93		ng/l	1.81	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.81	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.81	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.81	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.81	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.81	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.81	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	78		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	72		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	123		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	108		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-30
Client ID: [redacted]
Sample Location: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 01:13
Analyst: LV

Date Collected: 07/22/21 08:38
Date Received: 07/23/21
Field Prep: Not Specified

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	10.6		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	7.57		ng/l	1.84	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	3.79		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.37		ng/l	1.84	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	25.5		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	2.54		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	25.6		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	84		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	76		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	116		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-31
Client ID: [redacted]
Sample Location: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 01:39
Analyst: LV

Date Collected: 07/22/21 08:28
Date Received: 07/23/21
Field Prep: Not Specified

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.80	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.80	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.80	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.80	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.80	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.80	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.80	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.80	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.80	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.80	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.80	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.80	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.80	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.80	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.80	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.80	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.80	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	96		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	94		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	103		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	107		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-32
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 09:08
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 01:48
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.83	--	1
Perfluorohexanoic Acid (PFHxA)	2.49		ng/l	1.83	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.83	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.83	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.83	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.83	--	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.83	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.83	--	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.83	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.83	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.83	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.83	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.83	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	95		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	99		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	109		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-33
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 09:36
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 01:56
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	5.02		ng/l	1.86	--	1
Perfluorohexanoic Acid (PFHxA)	25.8		ng/l	1.86	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.86	--	1
Perfluoroheptanoic Acid (PFHpA)	8.74		ng/l	1.86	--	1
Perfluorohexanesulfonic Acid (PFHxS)	6.54		ng/l	1.86	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.86	--	1
Perfluorooctanoic Acid (PFOA)	43.4		ng/l	1.86	--	1
Perfluorononanoic Acid (PFNA)	38.4		ng/l	1.86	--	1
Perfluorooctanesulfonic Acid (PFOS)	63.3		ng/l	1.86	--	1
Perfluorodecanoic Acid (PFDA)	5.43		ng/l	1.86	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.86	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.86	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.86	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.86	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	83		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	76		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	98		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	107		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-34 R

Client ID: [redacted]

Sample Location: Not Specified

Sample Depth:

Matrix: Dw

Analytical Method: 133,537.1

Analytical Date: 07/29/21 09:07

Analyst: LV

Date Collected: 07/22/21 10:02

Date Received: 07/23/21

Field Prep: Not Specified

Extraction Method: EPA 537.1

Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	5.64		ng/l	1.82	--	1
Perfluorohexanoic Acid (PFHxA)	19.4		ng/l	1.82	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.82	--	1
Perfluoroheptanoic Acid (PFHpA)	8.00		ng/l	1.82	--	1
Perfluorohexanesulfonic Acid (PFHxS)	6.54		ng/l	1.82	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	--	1
Perfluorooctanoic Acid (PFOA)	39.3		ng/l	1.82	--	1
Perfluorononanoic Acid (PFNA)	22.4		ng/l	1.82	--	1
Perfluorooctanesulfonic Acid (PFOS)	46.4		ng/l	1.82	--	1
Perfluorodecanoic Acid (PFDA)	3.49		ng/l	1.82	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	83		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	105		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-35
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 10:22
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 02:14
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	5.31		ng/l	1.80	--	1
Perfluorohexanoic Acid (PFHxA)	19.0		ng/l	1.80	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.80	--	1
Perfluoroheptanoic Acid (PFHpA)	7.87		ng/l	1.80	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.38		ng/l	1.80	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.80	--	1
Perfluorooctanoic Acid (PFOA)	45.8		ng/l	1.80	--	1
Perfluorononanoic Acid (PFNA)	16.0		ng/l	1.80	--	1
Perfluorooctanesulfonic Acid (PFOS)	33.1		ng/l	1.80	--	1
Perfluorodecanoic Acid (PFDA)	2.20		ng/l	1.80	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.80	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.80	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.80	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.80	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.80	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.80	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.80	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	79		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	70		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-36
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 10:55
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 02:22
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	4.14		ng/l	1.82	--	1
Perfluorohexanoic Acid (PFHxA)	5.85		ng/l	1.82	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.82	--	1
Perfluoroheptanoic Acid (PFHpA)	3.45		ng/l	1.82	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.45		ng/l	1.82	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	--	1
Perfluorooctanoic Acid (PFOA)	17.3		ng/l	1.82	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	--	1
Perfluorooctanesulfonic Acid (PFOS)	19.7		ng/l	1.82	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	97		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	103		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-37
Client ID: [redacted]
Sample Location: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 02:31
Analyst: LV

Date Collected: 07/22/21 11:05
Date Received: 07/23/21
Field Prep: Not Specified

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.85	--	1
Perfluorohexanoic Acid (PFHxA)	2.04		ng/l	1.85	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.85	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.85	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.85	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.85	--	1
Perfluorooctanoic Acid (PFOA)	7.96		ng/l	1.85	--	1
Perfluorononanoic Acid (PFNA)	2.48		ng/l	1.85	--	1
Perfluorooctanesulfonic Acid (PFOS)	3.74		ng/l	1.85	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.85	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.85	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.85	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.85	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.85	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.85	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.85	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.85	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.85	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	78		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	71		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	112		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	91		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-38 RE

Client ID: [redacted]

Sample Location: Not Specified

Sample Depth:

Matrix: Dw

Analytical Method: 133,537.1

Analytical Date: 07/30/21 13:44

Analyst: LV

Date Collected: 07/22/21 11:20

Date Received: 07/23/21

Field Prep: Not Specified

Extraction Method: EPA 537.1

Extraction Date: 07/30/21 05:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	2.29		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	3.61		ng/l	1.84	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	2.47		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.84	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	11.3		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	2.14		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	6.45		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	82		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	76		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	110		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	95		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-39
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 12:46
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 02:48
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	6.14		ng/l	1.80	--	1
Perfluorohexanoic Acid (PFHxA)	7.47		ng/l	1.80	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.80	--	1
Perfluoroheptanoic Acid (PFHpA)	3.90		ng/l	1.80	--	1
Perfluorohexanesulfonic Acid (PFHxS)	7.15		ng/l	1.80	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.80	--	1
Perfluorooctanoic Acid (PFOA)	18.1		ng/l	1.80	--	1
Perfluorononanoic Acid (PFNA)	8.48		ng/l	1.80	--	1
Perfluorooctanesulfonic Acid (PFOS)	19.0		ng/l	1.80	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.80	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.80	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.80	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.80	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.80	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.80	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.80	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.80	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	87		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	76		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	95		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-40
Client ID: [redacted]
Sample Location: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 03:05
Analyst: LV

Date Collected: 07/22/21 12:52
Date Received: 07/23/21
Field Prep: Not Specified

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	2.33		ng/l	1.79	--	1
Perfluorohexanoic Acid (PFHxA)	32.2		ng/l	1.79	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.79	--	1
Perfluoroheptanoic Acid (PFHpA)	8.03		ng/l	1.79	--	1
Perfluorohexanesulfonic Acid (PFHxS)	5.81		ng/l	1.79	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.79	--	1
Perfluorooctanoic Acid (PFOA)	35.6		ng/l	1.79	--	1
Perfluorononanoic Acid (PFNA)	41.9		ng/l	1.79	--	1
Perfluorooctanesulfonic Acid (PFOS)	74.7		ng/l	1.79	--	1
Perfluorodecanoic Acid (PFDA)	7.49		ng/l	1.79	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.79	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.79	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.79	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.79	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.79	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.79	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.79	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.79	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	79		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	71		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-41
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 10:55
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 03:14
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	5.20		ng/l	1.78	--	1
Perfluorohexanoic Acid (PFHxA)	9.11		ng/l	1.78	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.78	--	1
Perfluoroheptanoic Acid (PFHpA)	4.77		ng/l	1.78	--	1
Perfluorohexanesulfonic Acid (PFHxS)	4.13		ng/l	1.78	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.78	--	1
Perfluorooctanoic Acid (PFOA)	23.1		ng/l	1.78	--	1
Perfluorononanoic Acid (PFNA)	3.02		ng/l	1.78	--	1
Perfluorooctanesulfonic Acid (PFOS)	15.8		ng/l	1.78	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.78	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.78	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.78	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.78	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.78	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.78	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.78	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.78	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.78	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	83		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	76		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	111		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	105		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-42
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 13:51
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 03:23
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	2.98		ng/l	1.82	--	1
Perfluorohexanoic Acid (PFHxA)	4.18		ng/l	1.82	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.82	--	1
Perfluoroheptanoic Acid (PFHpA)	2.44		ng/l	1.82	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.82	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	--	1
Perfluorooctanoic Acid (PFOA)	17.8		ng/l	1.82	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	--	1
Perfluorooctanesulfonic Acid (PFOS)	8.36		ng/l	1.82	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	84		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	75		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	99		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	82		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-43
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 13:02
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 03:31
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.82	--	1
Perfluorohexanoic Acid (PFHxA)	2.74		ng/l	1.82	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.82	--	1
Perfluoroheptanoic Acid (PFHpA)	2.30		ng/l	1.82	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.82	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	--	1
Perfluorooctanoic Acid (PFOA)	10.6		ng/l	1.82	--	1
Perfluorononanoic Acid (PFNA)	2.41		ng/l	1.82	--	1
Perfluorooctanesulfonic Acid (PFOS)	5.14		ng/l	1.82	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	70		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	**64**	Q	70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	123		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	104		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-44
Client ID: [redacted]
Sample Location: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 03:40
Analyst: LV

Date Collected: 07/22/21 13:09
Date Received: 07/23/21
Field Prep: Not Specified

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.79	--	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.79	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.79	--	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.79	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.79	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.79	--	1
Perfluorooctanoic Acid (PFOA)	7.38		ng/l	1.79	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.79	--	1
Perfluorooctanesulfonic Acid (PFOS)	2.51		ng/l	1.79	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.79	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.79	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.79	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.79	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.79	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.79	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.79	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.79	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.79	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	77		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	**69**	Q	70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	114		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	104		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-45 R

Client ID: [redacted]

Sample Location: Not Specified

Sample Depth:

Matrix: Dw

Analytical Method: 133,537.1

Analytical Date: 07/29/21 09:41

Analyst: LV

Date Collected: 07/22/21 13:14

Date Received: 07/23/21

Field Prep: Not Specified

Extraction Method: EPA 537.1

Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	3.02		ng/l	1.84	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	2.73		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.84	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	11.3		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	2.99		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	8.04		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	78		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	70		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	120		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	94		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-46
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 13:06
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 03:57
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	3.47		ng/l	1.84	--	1
Perfluorohexanoic Acid (PFHxA)	3.73		ng/l	1.84	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.84	--	1
Perfluoroheptanoic Acid (PFHpA)	2.36		ng/l	1.84	--	1
Perfluorohexanesulfonic Acid (PFHxS)	4.87		ng/l	1.84	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	--	1
Perfluorooctanoic Acid (PFOA)	13.2		ng/l	1.84	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.84	--	1
Perfluorooctanesulfonic Acid (PFOS)	17.2		ng/l	1.84	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.84	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.84	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.84	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.84	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	82		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	80		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	97		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	110		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-47
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 13:30
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 04:06
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	4.78		ng/l	1.86	--	1
Perfluorohexanoic Acid (PFHxA)	4.81		ng/l	1.86	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.86	--	1
Perfluoroheptanoic Acid (PFHpA)	2.80		ng/l	1.86	--	1
Perfluorohexanesulfonic Acid (PFHxS)	2.35		ng/l	1.86	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.86	--	1
Perfluorooctanoic Acid (PFOA)	16.9		ng/l	1.86	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.86	--	1
Perfluorooctanesulfonic Acid (PFOS)	12.6		ng/l	1.86	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.86	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.86	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.86	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.86	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	86		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	76		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	94		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-48
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 13:50
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 04:14
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	4.13		ng/l	1.81	--	1
Perfluorohexanoic Acid (PFHxA)	5.18		ng/l	1.81	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.81	--	1
Perfluoroheptanoic Acid (PFHpA)	3.19		ng/l	1.81	--	1
Perfluorohexanesulfonic Acid (PFHxS)	8.22		ng/l	1.81	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.81	--	1
Perfluorooctanoic Acid (PFOA)	14.2		ng/l	1.81	--	1
Perfluorononanoic Acid (PFNA)	4.71		ng/l	1.81	--	1
Perfluorooctanesulfonic Acid (PFOS)	11.7		ng/l	1.81	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.81	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.81	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.81	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.81	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.81	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.81	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.81	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.81	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.81	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	95		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	89		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	102		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	108		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-49
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 14:03
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 04:23
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	5.60		ng/l	1.82	--	1
Perfluorohexanoic Acid (PFHxA)	6.91		ng/l	1.82	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.82	--	1
Perfluoroheptanoic Acid (PFHpA)	4.00		ng/l	1.82	--	1
Perfluorohexanesulfonic Acid (PFHxS)	6.69		ng/l	1.82	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	--	1
Perfluorooctanoic Acid (PFOA)	17.4		ng/l	1.82	--	1
Perfluorononanoic Acid (PFNA)	8.25		ng/l	1.82	--	1
Perfluorooctanesulfonic Acid (PFOS)	18.7		ng/l	1.82	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	89		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	84		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	99		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	116		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-50
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 14:36
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 15:33
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/29/21 05:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	9.18		ng/l	1.83	--	1
Perfluorohexanoic Acid (PFHxA)	5.42		ng/l	1.83	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.83	--	1
Perfluoroheptanoic Acid (PFHpA)	2.85		ng/l	1.83	--	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.83	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.83	--	1
Perfluorooctanoic Acid (PFOA)	15.4		ng/l	1.83	--	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.83	--	1
Perfluorooctanesulfonic Acid (PFOS)	9.77		ng/l	1.83	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.83	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.83	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.83	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.83	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.83	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.83	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.83	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.83	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.83	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	96		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	104		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	117		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-51
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 14:26
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 15:41
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/29/21 05:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	21.0		ng/l	1.80	--	1
Perfluorohexanoic Acid (PFHxA)	14.3		ng/l	1.80	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.80	--	1
Perfluoroheptanoic Acid (PFHpA)	5.59		ng/l	1.80	--	1
Perfluorohexanesulfonic Acid (PFHxS)	4.72		ng/l	1.80	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.80	--	1
Perfluorooctanoic Acid (PFOA)	29.7		ng/l	1.80	--	1
Perfluorononanoic Acid (PFNA)	2.70		ng/l	1.80	--	1
Perfluorooctanesulfonic Acid (PFOS)	30.8		ng/l	1.80	--	1
Perfluorodecanoic Acid (PFDA)	3.39		ng/l	1.80	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.80	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	3.68		ng/l	1.80	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.80	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.80	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.80	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.80	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.80	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.80	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	87		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	77		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	127		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	113		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

SAMPLE RESULTS

Lab ID: L2139610-52
Client ID: [redacted]
Sample Location: Not Specified

Date Collected: 07/22/21 15:00
Date Received: 07/23/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 07/29/21 15:50
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/29/21 05:27

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	4.16		ng/l	1.82	--	1
Perfluorohexanoic Acid (PFHxA)	21.4		ng/l	1.82	--	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.82	--	1
Perfluoroheptanoic Acid (PFHpA)	7.30		ng/l	1.82	--	1
Perfluorohexanesulfonic Acid (PFHxS)	8.69		ng/l	1.82	--	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	--	1
Perfluorooctanoic Acid (PFOA)	35.3		ng/l	1.82	--	1
Perfluorononanoic Acid (PFNA)	21.5		ng/l	1.82	--	1
Perfluorooctanesulfonic Acid (PFOS)	38.0		ng/l	1.82	--	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	--	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	--	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	--	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	--	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	--	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	--	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	--	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	--	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	--	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	105		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	93		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	116		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	117		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 07/28/21 09:05
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/27/21 17:20

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 02-03 Batch: WG1528514-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	90		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	88		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	98		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 07/28/21 17:18
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 05:40

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 04-10,12-13 Batch: WG1528664-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	88		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	90		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	100		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 07/28/21 21:03
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 09:14

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 14-29 Batch: WG1528693-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	85		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	95		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	100		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 07/29/21 00:56
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/28/21 12:00

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 30-37,39-49 Batch: WG1528820-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	94		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	87		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 07/29/21 15:15
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/29/21 05:27

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 50-52 Batch: WG1529189-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	101		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	98		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	104		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	111		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 07/30/21 13:01
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 07/30/21 05:10

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01,38 Batch: WG1529667-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	92		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	86		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	100		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	104		70-130

Project Name: B0276190 **Lab Number:** L2139610

Project Number: Not Specified **Report Date:** 08/04/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 08/03/21 11:22
Analyst: JW

Extraction Method: EPA 537.1
Extraction Date: 08/03/21 04:05

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 11 Batch: WG1530761-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	--
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	--
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	--
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	--
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	--
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	--
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	--
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	--
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	--
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	--
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	--
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	--
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	--
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	--
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	--
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	--
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	--
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	--

Surrogate	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	105		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	112		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	116		70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 02-03 Batch: WG1528514-2								
Perfluorobutanesulfonic Acid (PFBS)	101		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	92		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	99		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	113		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	104		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	110		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	110		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	107		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	98		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	107		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	95		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	98		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	110		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	105		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	111		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	94		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	112		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	114		-		70-130	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: B0276190

Project Number: Not Specified

Lab Number: L2139610

Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 02-03 Batch: WG1528514-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	84				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	87				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102				70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 04-10,12-13 Batch: WG1528664-2								
Perfluorobutanesulfonic Acid (PFBS)	103		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	95		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	95		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	106		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	99		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	109		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	105		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	102		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	97		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	107		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	100		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	93		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	102		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	99		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	106		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	99		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	108		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	113		-		70-130	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: B0276190

Project Number: Not Specified

Lab Number: L2139610

Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 04-10,12-13 Batch: WG1528664-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	93				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	89				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	102				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	103				70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 14-29 Batch: WG1528693-2								
Perfluorobutanesulfonic Acid (PFBS)	102		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	95		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	98		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	106		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	104		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	107		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	106		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	99		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	95		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	98		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	95		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	97		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	101		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	102		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	105		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	90		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	103		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	108		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 14-29 Batch: WG1528693-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	89				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	91				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	92				70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 30-37,39-49 Batch: WG1528820-2								
Perfluorobutanesulfonic Acid (PFBS)	106		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	92		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	96		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	112		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	101		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	117		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	109		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	102		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	102		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	108		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	103		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	93		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	106		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	93		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	107		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	108		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	114		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	105		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 30-37,39-49 Batch: WG1528820-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	85				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	95				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	98				70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 50-52 Batch: WG1529189-2								
Perfluorobutanesulfonic Acid (PFBS)	106		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	108		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	112		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	120		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	117		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	125		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	122		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	117		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	103		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	105		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	108		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	103		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	111		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	114		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	122		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	102		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	120		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	126		-		70-130	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: B0276190

Project Number: Not Specified

Lab Number: L2139610

Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 50-52 Batch: WG1529189-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	104				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	103				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	102				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	116				70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01,38 Batch: WG1529667-2								
Perfluorobutanesulfonic Acid (PFBS)	101		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	98		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	91		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	107		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	98		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	112		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	104		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	105		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	98		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	105		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	101		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	88		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	104		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	98		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	105		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	98		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	108		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	118		-		70-130	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: B0276190

Project Number: Not Specified

Lab Number: L2139610

Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01,38 Batch: WG1529667-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	96				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	98				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96				70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 11 Batch: WG1530761-2								
Perfluorobutanesulfonic Acid (PFBS)	112		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	108		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	112		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	115		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	114		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	127		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	112		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	113		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	96		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	104		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	114		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	99		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	105		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	112		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	101		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	116		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	111		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	117		-		70-130	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: B0276190

Project Number: Not Specified

Lab Number: L2139610

Report Date: 08/04/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 11 Batch: WG1530761-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	113				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	120				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	101				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	110				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 02-03 QC Batch ID: WG1528514-3 QC Sample: L2139445-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	32.6	27.3	84		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	10.2	36.6	41.6	86		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	36.6	29.5	80		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	7.54	36.6	43.6	98		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	3.28	33.5	33.2	89		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	34.6	34.6	100		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	8.20	36.6	47.4	107		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	36.6	41.8	114		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	6.72	34	37.4	90		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	36.6	38.8	106		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	34.2	31.3	92		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	36.6	33.2	91		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	36.6	35.4	97		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	36.6	35.4	97		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	36.6	35.8	98		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	34.6	28.7	83		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	36.6	36.0	98		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	36.6	36.1	98		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 02-03 QC Batch ID: WG1528514-3 QC Sample: L2139445-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	71				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	90				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	89				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	80				70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	*Native Sample*	*MS Added*	*MS Found*	*MS %Recovery*	*Qual*	*MSD Found*	*MSD %Recovery*	*Qual*	*Recovery Limits*	*RPD*	*Qual*	*RPD Limits*
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 04-10,12-13 QC Batch ID: WG1528664-3 QC Sample: L2139220-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	2.70	122	131	105		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	2.77	138	140	100		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	138	125	91		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	138	139	101		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	2.09	126	120	94		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	130	138	106		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	5.25	138	148	104		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	138	136	99		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	2.66	128	130	100		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	138	147	107		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	128	123	96		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	138	127	92		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	138	143	104		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	138	140	102		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	138	139	101		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	130	127	98		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	138	147	107		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	138	143	104		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 04-10,12-13 QC Batch ID: WG1528664-3 QC Sample: L2139220-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	88				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	103				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	98				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	99				70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 14-29 QC Batch ID: WG1528693-3 WG1528693-4 QC Sample: L2139610-16 Client ID: 7 COL RD												
Perfluorobutanesulfonic Acid (PFBS)	3.21	32.8	31.3	86		30.7	86		70-130	2		30
Perfluorohexanoic Acid (PFHxA)	4.85	37	37.8	89		36.5	88		70-130	3		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	37	32.8	89		30.0	84		70-130	9		30
Perfluoroheptanoic Acid (PFHpA)	3.86	37	41.2	101		42.4	108		70-130	3		30
Perfluorohexanesulfonic Acid (PFHxS)	7.33	33.8	39.0	94		48.5	126		70-130	22		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	34.9	36.8	105		36.3	107		70-130	1		30
Perfluorooctanoic Acid (PFOA)	16.8	37	57.6	110		56.2	110		70-130	2		30
Perfluorononanoic Acid (PFNA)	ND	37	41.6	113		38.7	108		70-130	7		30
Perfluorooctanesulfonic Acid (PFOS)	15.6	34.3	52.4	107		68.2	**158**	Q	70-130	26		30
Perfluorodecanoic Acid (PFDA)	ND	37	37.9	103		39.2	109		70-130	3		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	34.5	33.4	97		30.1	90		70-130	10		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	37	32.5	88		34.2	95		70-130	5		30
Perfluoroundecanoic Acid (PFUnA)	ND	37	37.3	101		36.7	102		70-130	2		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	37	36.6	99		39.5	110		70-130	8		30
Perfluorododecanoic Acid (PFDoA)	ND	37	43.3	117		42.3	118		70-130	2		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	34.9	31.4	90		32.1	95		70-130	2		30
Perfluorotridecanoic Acid (PFTrDA)	ND	37	38.0	103		37.3	104		70-130	2		30
Perfluorotetradecanoic Acid (PFTA)	ND	37	38.3	104		37.9	106		70-130	1		30

Matrix Spike Analysis

Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 14-29 QC Batch ID: WG1528693-3 WG1528693-4 QC Sample: L2139610-16 Client ID: 7 COL RD												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		94		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	93		92		70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88		84		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	79		76		70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 30-37,39-49 QC Batch ID: WG1528820-3 WG1528820-4 QC Sample: L2139610-30 Client ID: 54 OSLO DR												
Perfluorobutanesulfonic Acid (PFBS)	10.6	130	117	82		128	90		70-130	9		30
Perfluorohexanoic Acid (PFHxA)	7.57	146	133	86		131	84		70-130	2		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	146	120	82		115	78		70-130	4		30
Perfluoroheptanoic Acid (PFHpA)	3.79	146	132	88		130	86		70-130	2		30
Perfluorohexanesulfonic Acid (PFHxS)	5.37	133	120	86		122	87		70-130	2		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	138	134	97		129	93		70-130	4		30
Perfluorooctanoic Acid (PFOA)	25.5	146	181	107		176	102		70-130	3		30
Perfluorononanoic Acid (PFNA)	2.54	146	154	104		162	108		70-130	5		30
Perfluorooctanesulfonic Acid (PFOS)	25.6	135	158	98		162	100		70-130	3		30
Perfluorodecanoic Acid (PFDA)	ND	146	169	116		150	102		70-130	12		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	136	133	98		131	96		70-130	2		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	146	138	94		151	103		70-130	9		30
Perfluoroundecanoic Acid (PFUnA)	ND	146	165	113		163	111		70-130	1		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	146	163	112		166	113		70-130	2		30
Perfluorododecanoic Acid (PFDoA)	ND	146	164	112		160	109		70-130	2		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	138	131	95		131	94		70-130	0		30
Perfluorotridecanoic Acid (PFTrDA)	ND	146	163	112		152	103		70-130	7		30
Perfluorotetradecanoic Acid (PFTA)	ND	146	155	106		145	99		70-130	7		30

Matrix Spike Analysis

Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 30-37,39-49 QC Batch ID: WG1528820-3 WG1528820-4 QC Sample: L2139610-30 Client ID: 54 OSLO DR												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	111		112		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	103		99		70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	84		78		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	74		73		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 50-52 QC Batch ID: WG1529189-3 QC Sample: L2139908-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	ND	32.8	34.6	106		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	36.9	36.4	99		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	36.9	35.8	97		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	36.9	42.1	114		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	2.21	33.7	39.1	109		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	34.8	40.3	116		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	36.9	43.2	117		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	36.9	42.6	115		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	34.2	36.0	105		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	36.9	39.5	107		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	34.4	35.2	102		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	36.9	41.5	112		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	36.9	38.8	105		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	36.9	45.3	123		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	36.9	39.9	108		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	34.8	32.9	94		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	36.9	39.2	106		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	36.9	42.0	114		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 50-52 QC Batch ID: WG1529189-3 QC Sample: L2139908-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	90				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	116				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	103				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	93				70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: B0276190

Project Number: Not Specified

Lab Number: L2139610

Report Date: 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01,38 QC Batch ID: WG1529667-3 WG1529667-4 QC Sample: L2139610-01 Client ID: 4 DAR DR												
Perfluorobutanesulfonic Acid (PFBS)	ND	135	141	104		149	113		70-130	6		30
Perfluorohexanoic Acid (PFHxA)	ND	152	156	102		158	106		70-130	1		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	152	142	93		149	100		70-130	5		30
Perfluoroheptanoic Acid (PFHpA)	ND	152	151	99		160	107		70-130	6		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	139	137	98		142	104		70-130	4		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	144	162	113		168	119		70-130	4		30
Perfluorooctanoic Acid (PFOA)	ND	152	171	112		175	117		70-130	2		30
Perfluorononanoic Acid (PFNA)	ND	152	160	105		171	115		70-130	7		30
Perfluorooctanesulfonic Acid (PFOS)	ND	141	142	100		150	109		70-130	5		30
Perfluorodecanoic Acid (PFDA)	ND	152	174	114		177	119		70-130	2		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	142	147	103		147	106		70-130	0		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	152	149	98		165	111		70-130	10		30
Perfluoroundecanoic Acid (PFUnA)	ND	152	161	106		169	113		70-130	5		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	152	151	99		170	114		70-130	12		30
Perfluorododecanoic Acid (PFDoA)	ND	152	160	105		172	115		70-130	7		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	144	151	105		146	104		70-130	3		30
Perfluorotridecanoic Acid (PFTrDA)	ND	152	172	113		172	115		70-130	0		30
Perfluorotetradecanoic Acid (PFTA)	ND	152	173	114		185	124		70-130	7		30

Matrix Spike Analysis

Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01,38 QC Batch ID: WG1529667-3 WG1529667-4 QC Sample: L2139610-01 Client ID: 4 DAR DR												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	103		116		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	105		110		70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	98		105		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	90		96		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab	Associated sample(s): 11				QC Batch ID: WG1530761-3			QC Sample: L2140611-01			Client ID: MS Sample	
Perfluorobutanesulfonic Acid (PFBS)	ND	32.8	35.2	107		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	36.9	39.6	107		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	36.9	42.4	115		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	36.9	39.4	107		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	33.7	31.2	92		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	34.8	40.5	116		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	36.9	41.5	112		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	36.9	43.6	118		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	34.2	32.4	95		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	36.9	40.6	110		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	34.4	38.6	112		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	36.9	36.5	99		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	36.9	39.1	106		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	36.9	40.0	108		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	36.9	40.3	109		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	34.8	37.6	108		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	36.9	41.5	112		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	36.9	44.2	120		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: B0276190 ***Lab Number:*** L2139610

Project Number: Not Specified ***Report Date:*** 08/04/21

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 11 QC Batch ID: WG1530761-3 QC Sample: L2140611-01 Client ID: MS Sample												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	119				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	108				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	107				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	110				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 02-03 QC Batch ID: WG1528514-4 QC Sample: L2139445-03 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	2.11	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 02-03 QC Batch ID: WG1528514-4 QC Sample: L2139445-03 Client ID: DUP Sample						

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	81		89		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	76		73		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	90		84		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	90		90		70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 04-10,12-13 QC Batch ID: WG1528664-4 QC Sample: L2139224-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	1.75	1.73	ng/l	1		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	1.73	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	7.43	7.49	ng/l	1		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	3.19	3.09	ng/l	3		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 04-10,12-13 QC Batch ID: WG1528664-4 QC Sample: L2139224-01
Client ID: DUP Sample

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	78		83		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	**69**	Q	75		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	95		100		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84		85		70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 50-52 QC Batch ID: WG1529189-4 QC Sample: L2139910-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 50-52 QC Batch ID: WG1529189-4 QC Sample: L2139910-01 Client ID: DUP Sample						

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	80		91		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	74		84		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	85		108		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88		107		70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 11 QC Batch ID: WG1530761-4 QC Sample: L2140751-01 Client ID: DUP Sample						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30
PFOA/PFOS, Total	ND	ND	ng/l	NC		30
PFAS, Total (5)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 11 QC Batch ID: WG1530761-4 QC Sample: L2140751-01 Client ID: DUP Sample						
PFAS, Total (6)	ND	ND	ng/l	NC		30

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	112		114		70-130
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	119		119		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	108		108		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	113		116		70-130

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Sample Receipt and Container Information

Were project specific reporting limits specified? NO

Cooler Information

Cooler	Custody Seal
A	Absent
B	Absent
C	Absent
D	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2139610-01A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		DPKG-CD(),DPKG-HARDCOPY(),A2-DPKG-FULL(),NJDEP(),A2-537.1(14),A2-MS/MSD()
L2139610-01A1	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		DPKG-CD(),DPKG-HARDCOPY(),A2-DPKG-FULL(),NJDEP(),A2-MS/MSD(),A2-537.1(14)
L2139610-01A2	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		DPKG-CD(),DPKG-HARDCOPY(),A2-DPKG-FULL(),NJDEP(),A2-MS/MSD(),A2-537.1(14)
L2139610-01B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		DPKG-CD(),DPKG-HARDCOPY(),A2-DPKG-FULL(),NJDEP(),A2-MS/MSD(),A2-537.1(14)
L2139610-01B1	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		DPKG-CD(),DPKG-HARDCOPY(),A2-DPKG-FULL(),NJDEP(),A2-MS/MSD(),A2-537.1(14)
L2139610-01B2	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		DPKG-CD(),DPKG-HARDCOPY(),A2-DPKG-FULL(),NJDEP(),A2-MS/MSD(),A2-537.1(14)
L2139610-02A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-03A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-03B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-04A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-04B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-05A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-05B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-06A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-06B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-07A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-07B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-08A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)

*Values in parentheses indicate holding time in days

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2139610-08B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-09A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-09B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-10A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-10B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-11A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-11B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-12A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-12B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-13A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-13B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-14A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-14B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-15A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-16A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-16A1	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-16A2	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-16B	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-16B1	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-16B2	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-17A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-17B	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-18A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-18B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-19A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-19B	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-20A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-20B	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)

*Values in parentheses indicate holding time in days

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2139610-21A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-21B	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-22A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-22B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-23A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-23B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-24A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-24B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-25A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-25B	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-26A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-26B	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-27A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-27B	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-28A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-28B	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-29A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-29B	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-30A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-30A1	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-30A2	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-30B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-30B1	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-30B2	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14),A2-MS/MSD()
L2139610-31A	Plastic 250ml Trizma preserved	C	NA		4.2	Y	Absent		A2-537.1(14)
L2139610-32A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-32B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-33A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)

*Values in parentheses indicate holding time in days

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2139610-33B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-34A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-34B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-35A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-35B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-36A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-36B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-37A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-37B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-38A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-38B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-39A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-39B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-40A	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-40B	Plastic 250ml Trizma preserved	A	NA		5.8	Y	Absent		A2-537.1(14)
L2139610-41A	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-41B	Plastic 250ml Trizma preserved	B	NA		3.6	Y	Absent		A2-537.1(14)
L2139610-42A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-42B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-43A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-43B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-44A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-44B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-45A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-45B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-46A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-46B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-47A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)

*Values in parentheses indicate holding time in days

Project Name: B0276190
Project Number: Not Specified

Lab Number: L2139610
Report Date: 08/04/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2139610-47B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-48A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-48B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-49A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-49B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-50A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-50B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-51A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-51B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-52A	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)
L2139610-52B	Plastic 250ml Trizma preserved	D	NA		4.8	Y	Absent		A2-537.1(14)

*Values in parentheses indicate holding time in days

Project Name: B0276190 **Lab Number:** L2139610

Project Number: **Report Date:** 08/04/21

PFAS PARAMETER SUMMARY

Parameter	Acronym	CAS Number
PERFLUOROALKYL CARBOXYLIC ACIDS (PFCAs)		
Perfluorooctadecanoic Acid	PFODA	16517-11-6
Perfluorohexadecanoic Acid	PFHxDA	67905-19-5
Perfluorotetradecanoic Acid	PFTA	376-06-7
Perfluorotridecanoic Acid	PFTrDA	72629-94-8
Perfluorododecanoic Acid	PFDoA	307-55-1
Perfluoroundecanoic Acid	PFUnA	2058-94-8
Perfluorodecanoic Acid	PFDA	335-76-2
Perfluorononanoic Acid	PFNA	375-95-1
Perfluorooctanoic Acid	PFOA	335-67-1
Perfluoroheptanoic Acid	PFHpA	375-85-9
Perfluorohexanoic Acid	PFHxA	307-24-4
Perfluoropentanoic Acid	PFPeA	2706-90-3
Perfluorobutanoic Acid	PFBA	375-22-4
PERFLUOROALKYL SULFONIC ACIDS (PFSAs)		
Perfluorododecanesulfonic Acid	PFDoDS	79780-39-5
Perfluorodecanesulfonic Acid	PFDS	335-77-3
Perfluorononanesulfonic Acid	PFNS	68259-12-1
Perfluorooctanesulfonic Acid	PFOS	1763-23-1
Perfluoroheptanesulfonic Acid	PFHpS	375-92-8
Perfluorohexanesulfonic Acid	PFHxS	355-46-4
Perfluoropentanesulfonic Acid	PFPeS	2706-91-4
Perfluorobutanesulfonic Acid	PFBS	375-73-5
FLUOROTELOMERS		
1H,1H,2H,2H-Perfluorododecanesulfonic Acid	10:2FTS	120226-60-0
1H,1H,2H,2H-Perfluorodecanesulfonic Acid	8:2FTS	39108-34-4
1H,1H,2H,2H-Perfluorooctanesulfonic Acid	6:2FTS	27619-97-2
1H,1H,2H,2H-Perfluorohexanesulfonic Acid	4:2FTS	757124-72-4
PERFLUOROALKANE SULFONAMIDES (FASAs)		
Perfluorooctanesulfonamide	FOSA	754-91-6
N-Ethyl Perfluorooctane Sulfonamide	NEtFOSA	4151-50-2
N-Methyl Perfluorooctane Sulfonamide	NMeFOSA	31506-32-8
PERFLUOROALKANE SULFONYL SUBSTANCES		
N-Ethyl Perfluorooctanesulfonamido Ethanol	NEtFOSE	1691-99-2
N-Methyl Perfluorooctanesulfonamido Ethanol	NMeFOSE	24448-09-7
N-Ethyl Perfluorooctanesulfonamidoacetic Acid	NEtFOSAA	2991-50-6
N-Methyl Perfluorooctanesulfonamidoacetic Acid	NMeFOSAA	2355-31-9
PER- and POLYFLUOROALKYL ETHER CARBOXYLIC ACIDS		
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid	HFPO-DA	13252-13-6
4,8-Dioxa-3h-Perfluorononanoic Acid	ADONA	919005-14-4
CHLORO-PERFLUOROALKYL SULFONIC ACIDS		
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid	11Cl-PF3OUdS	763051-92-9
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid	9Cl-PF3ONS	756426-58-1
PERFLUOROETHER SULFONIC ACIDS (PFESAs)		
Perfluoro(2-Ethoxyethane)Sulfonic Acid	PFEESA	113507-82-7
PERFLUOROETHER/POLYETHER CARBOXYLIC ACIDS (PFPCAs)		
Perfluoro-3-Methoxypropanoic Acid	PFMPA	377-73-1
Perfluoro-4-Methoxybutanoic Acid	PFMBA	863090-89-5
Nonafluoro-3,6-Dioxaheptanoic Acid	NFDHA	151772-58-6

Project Name:	B0276190	**Lab Number:**	L2139610
Project Number:	Not Specified	**Report Date:**	08/04/21

GLOSSARY

Acronyms

DL	- Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the limit of quantitation (LOQ). The DL includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
EDL	- Estimated Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The EDL includes any adjustments from dilutions, concentrations or moisture content, where applicable. The use of EDLs is specific to the analysis of PAHs using Solid-Phase Microextraction (SPME).
EMPC	- Estimated Maximum Possible Concentration: The concentration that results from the signal present at the retention time of an analyte when the ions meet all of the identification criteria except the ion abundance ratio criteria. An EMPC is a worst-case estimate of the concentration.
EPA	- Environmental Protection Agency.
LCS	- Laboratory Control Sample: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LCSD	- Laboratory Control Sample Duplicate: Refer to LCS.
LFB	- Laboratory Fortified Blank: A sample matrix, free from the analytes of interest, spiked with verified known amounts of analytes or a material containing known and verified amounts of analytes.
LOD	- Limit of Detection: This value represents the level to which a target analyte can reliably be detected for a specific analyte in a specific matrix by a specific method. The LOD includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
LOQ	- Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.) Limit of Quantitation: The value at which an instrument can accurately measure an analyte at a specific concentration. The LOQ includes any adjustments from dilutions, concentrations or moisture content, where applicable. (DoD report formats only.)
MDL	- Method Detection Limit: This value represents the level to which target analyte concentrations are reported as estimated values, when those target analyte concentrations are quantified below the reporting limit (RL). The MDL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
MS	- Matrix Spike Sample: A sample prepared by adding a known mass of target analyte to a specified amount of matrix sample for which an independent estimate of target analyte concentration is available. For Method 332.0, the spike recovery is calculated using the native concentration, including estimated values.
MSD	- Matrix Spike Sample Duplicate: Refer to MS.
NA	- Not Applicable.
NC	- Not Calculated: Term is utilized when one or more of the results utilized in the calculation are non-detect at the parameter's reporting unit.
NDPA/DPA	- N-Nitrosodiphenylamine/Diphenylamine.
NI	- Not Ignitable.
NP	- Non-Plastic: Term is utilized for the analysis of Atterberg Limits in soil.
NR	- No Results: Term is utilized when 'No Target Compounds Requested' is reported for the analysis of Volatile or Semivolatile Organic TIC only requests.
RL	- Reporting Limit: The value at which an instrument can accurately measure an analyte at a specific concentration. The RL includes any adjustments from dilutions, concentrations or moisture content, where applicable.
RPD	- Relative Percent Difference: The results from matrix and/or matrix spike duplicates are primarily designed to assess the precision of analytical results in a given matrix and are expressed as relative percent difference (RPD). Values which are less than five times the reporting limit for any individual parameter are evaluated by utilizing the absolute difference between the values; although the RPD value will be provided in the report.
SRM	- Standard Reference Material: A reference sample of a known or certified value that is of the same or similar matrix as the associated field samples.
STLP	- Semi-dynamic Tank Leaching Procedure per EPA Method 1315.
TEF	- Toxic Equivalency Factors: The values assigned to each dioxin and furan to evaluate their toxicity relative to 2,3,7,8-TCDD.
TEQ	- Toxic Equivalent: The measure of a sample's toxicity derived by multiplying each dioxin and furan by its corresponding TEF and then summing the resulting values.
TIC	- Tentatively Identified Compound: A compound that has been identified to be present and is not part of the target compound list (TCL) for the method and/or program. All TICs are qualitatively identified and reported as estimated concentrations.

Report Format: Data Usability Report

Project Name:	B0276190	**Lab Number:**	L2139610
Project Number:	Not Specified	**Report Date:**	08/04/21

Footnotes

1 - The reference for this analyte should be considered modified since this analyte is absent from the target analyte list of the original method.

Terms

Analytical Method: Both the document from which the method originates and the analytical reference method. (Example: EPA 8260B is shown as 1,8260B.) The codes for the reference method documents are provided in the References section of the Addendum.

Difference: With respect to Total Oxidizable Precursor (TOP) Assay analysis, the difference is defined as the Post-Treatment value minus the Pre-Treatment value.

Final pH: As it pertains to Sample Receipt & Container Information section of the report, Final pH reflects pH of container determined after adjustment at the laboratory, if applicable. If no adjustment required, value reflects Initial pH.

Frozen Date/Time: With respect to Volatile Organics in soil, Frozen Date/Time reflects the date/time at which associated Reagent Water-preserved vials were initially frozen. Note: If frozen date/time is beyond 48 hours from sample collection, value will be reflected in 'bold'.

Initial pH: As it pertains to Sample Receipt & Container Information section of the report, Initial pH reflects pH of container determined upon receipt, if applicable.

PAH Total: With respect to Alkylated PAH analyses, the 'PAHs, Total' result is defined as the summation of results for all or a subset of the following compounds: Naphthalene, C1-C4 Naphthalenes, 2-Methylnaphthalene, 1-Methylnaphthalene, Biphenyl, Acenaphthylene, Acenaphthene, Fluorene, C1-C3 Fluorenes, Phenanthrene, C1-C4 Phenanthrenes/Anthracenes, Anthracene, Fluoranthene, Pyrene, C1-C4 Fluoranthenes/Pyrenes, Benz(a)anthracene, Chrysene, C1-C4 Chrysenes, Benzo(b)fluoranthene, Benzo(j)+(k)fluoranthene, Benzo(e)pyrene, Benzo(a)pyrene, Perylene, Indeno(1,2,3-cd)pyrene, Dibenz(ah)+(ac)anthracene, Benzo(g,h,i)perylene. If a 'Total' result is requested, the results of its individual components will also be reported.

PFAS Total: With respect to PFAS analyses, the 'PFAS, Total (5)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA and PFOS. In addition, the 'PFAS, Total (6)' result is defined as the summation of results for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. For MassDEP DW compliance analysis only, the 'PFAS, Total (6)' result is defined as the summation of results at or above the RL. Note: If a 'Total' result is requested, the results of its individual components will also be reported.

The target compound Chlordane (CAS No. 57-74-9) is reported for GC ECD analyses. Per EPA,this compound "refers to a mixture of chlordane isomers, other chlorinated hydrocarbons and numerous other components." (Reference: USEPA Toxicological Review of Chlordane, In Support of Summary Information on the Integrated Risk Information System (IRIS), December 1997.)

Total: With respect to Organic analyses, a 'Total' result is defined as the summation of results for individual isomers or Aroclors. If a 'Total' result is requested, the results of its individual components will also be reported. This is applicable to 'Total' results for methods 8260, 8081 and 8082.

Data Qualifiers

A - Spectra identified as "Aldol Condensates" are byproducts of the extraction/concentration procedures when acetone is introduced in the process.

B - The analyte was detected above the reporting limit in the associated method blank. Flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For MCP-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank. For DOD-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte at less than ten times (10x) the concentration found in the blank AND the analyte was detected above one-half the reporting limit (or above the reporting limit for common lab contaminants) in the associated method blank. For NJ-Air-related projects, flag only applies to associated field samples that have detectable concentrations of the analyte above the reporting limit. For NJ-related projects (excluding Air), flag only applies to associated field samples that have detectable concentrations of the analyte, which was detected above the reporting limit in the associated method blank or above five times the reporting limit for common lab contaminants (Phthalates, Acetone, Methylene Chloride, 2-Butanone).

C - Co-elution: The target analyte co-elutes with a known lab standard (i.e. surrogate, internal standards, etc.) for co-extracted analyses.

D - Concentration of analyte was quantified from diluted analysis. Flag only applies to field samples that have detectable concentrations of the analyte.

E - Concentration of analyte exceeds the range of the calibration curve and/or linear range of the instrument.

F - The ratio of quantifier ion response to qualifier ion response falls outside of the laboratory criteria. Results are considered to be an estimated maximum concentration.

G - The concentration may be biased high due to matrix interferences (i.e, co-elution) with non-target compound(s). The result should be considered estimated.

H - The analysis of pH was performed beyond the regulatory-required holding time of 15 minutes from the time of sample collection.

I - The lower value for the two columns has been reported due to obvious interference.

J - Estimated value. This represents an estimated concentration for Tentatively Identified Compounds (TICs).

M - Reporting Limit (RL) exceeds the MCP CAM Reporting Limit for this analyte.

ND - Not detected at the reporting limit (RL) for the sample.

NJ - Presumptive evidence of compound. This represents an estimated concentration for Tentatively Identified Compounds (TICs), where

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Project Number:	Not Specified	**Report Date:**	08/04/21

Data Qualifiers

the identification is based on a mass spectral library search.

P - The RPD between the results for the two columns exceeds the method-specified criteria.

Q - The quality control sample exceeds the associated acceptance criteria. For DOD-related projects, LCS and/or Continuing Calibration Standard exceedences are also qualified on all associated sample results. Note: This flag is not applicable for matrix spike recoveries when the sample concentration is greater than 4x the spike added or for batch duplicate RPD when the sample concentrations are less than 5x the RL. (Metals only.)

R - Analytical results are from sample re-analysis.

RE - Analytical results are from sample re-extraction.

S - Analytical results are from modified screening analysis.

Project Name:	B0276190	**Lab Number:**	L2139610
Project Number:	Not Specified	**Report Date:**	08/04/21

REFERENCES

133 Determination of Selected Per- and Polyfluorinated Alkyl Substances in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 537.1, EPA/600/R-18/352. Version 1.0, November 2018.

LIMITATION OF LIABILITIES

Alpha Analytical performs services with reasonable care and diligence normal to the analytical testing laboratory industry. In the event of an error, the sole and exclusive responsibility of Alpha Analytical shall be to re-perform the work at it's own expense. In no event shall Alpha Analytical be held liable for any incidental, consequential or special damages, including but not limited to, damages in any way connected with the use of, interpretation of, information or analysis provided by Alpha Analytical.

We strongly urge our clients to comply with EPA protocol regarding sample volume, preservation, cooling, containers, sampling procedures, holding time and splitting of samples in the field.

Certification Information

The following analytes are not included in our Primary NELAP Scope of Accreditation:

Westborough Facility
EPA 624/624.1: m/p-xylene, o-xylene, Naphthalene
EPA 625/625.1: alpha-Terpineol
EPA 8260C/8260D: NPW: 1,2,4,5-Tetramethy benzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethy benzene; 4-Ethyltoluene.
EPA 8270D/8270E: NPW: Dimethylnaphthalene,1,4-Diphenylhydrazine, alpha-Terpineol; SCM: Dimethylnaphthalene,1,4-Diphenylhydrazine.
SM4500: NPW: Amenable Cyanide; SCM: Total Phosphorus, TKN, NO2, NO3.

Mansfield Facility
SM 2540D: TSS
EPA 8082A: NPW: PCB: 1, 5, 31, 87,101, 110, 141, 151, 153, 180, 183, 187.
EPA TO-15: Halothane, 2,4,4-Trimethyl-2-pentene, 2,4,4-Trimethyl-1-pentene, Thiophene, 2-Methylthiophene, 3-Methylthiophene, 2-Ethylthiophene, 1,2,3-Trimethylbenzene, Indan, Indene, 1,2,4,5-Tetramethylbenzene, Benzothiophene, 1-Methylnaphthalene.
Biological Tissue Matrix: EPA 3050B

The following analytes are included in our Massachusetts DEP Scope of Accreditation

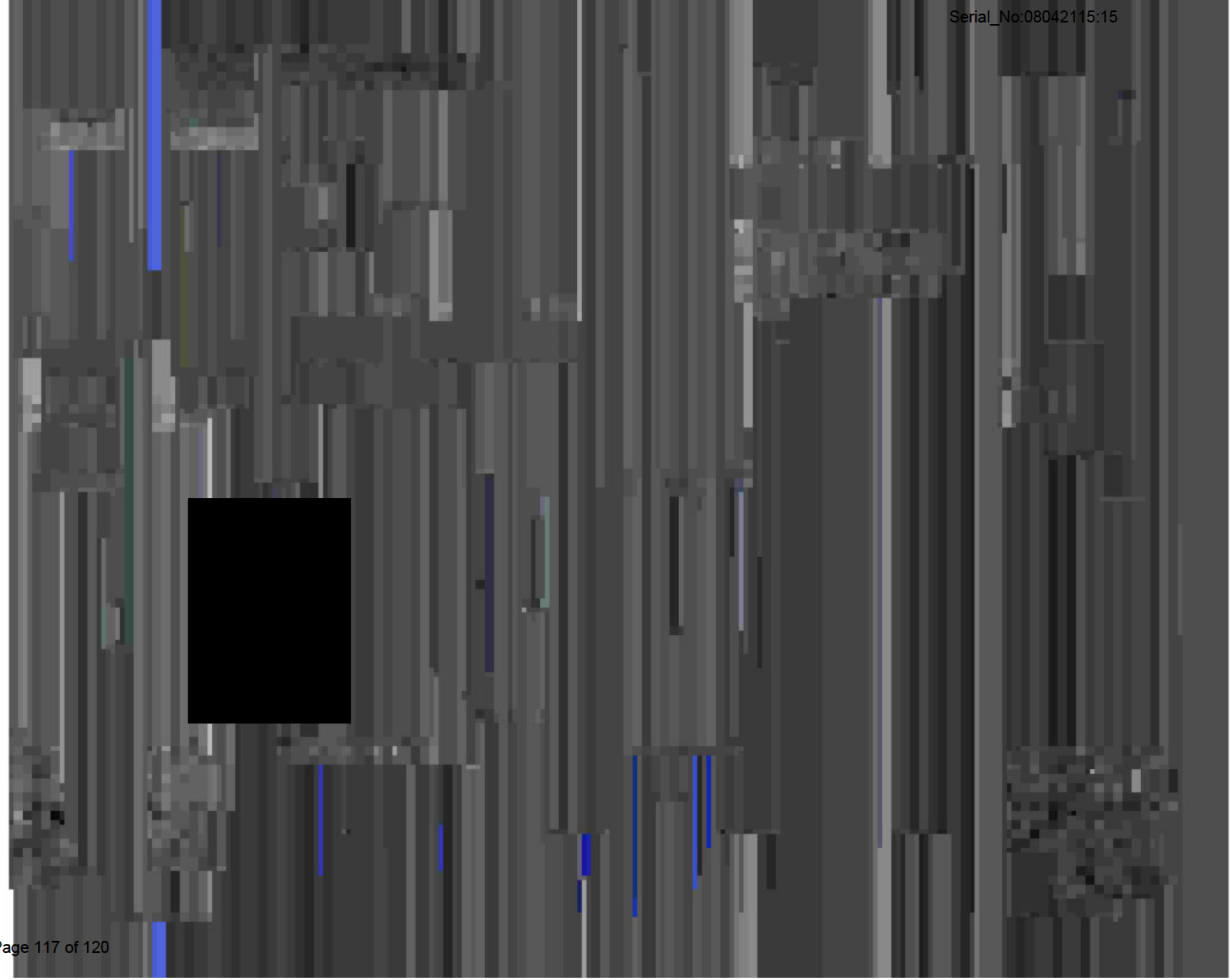
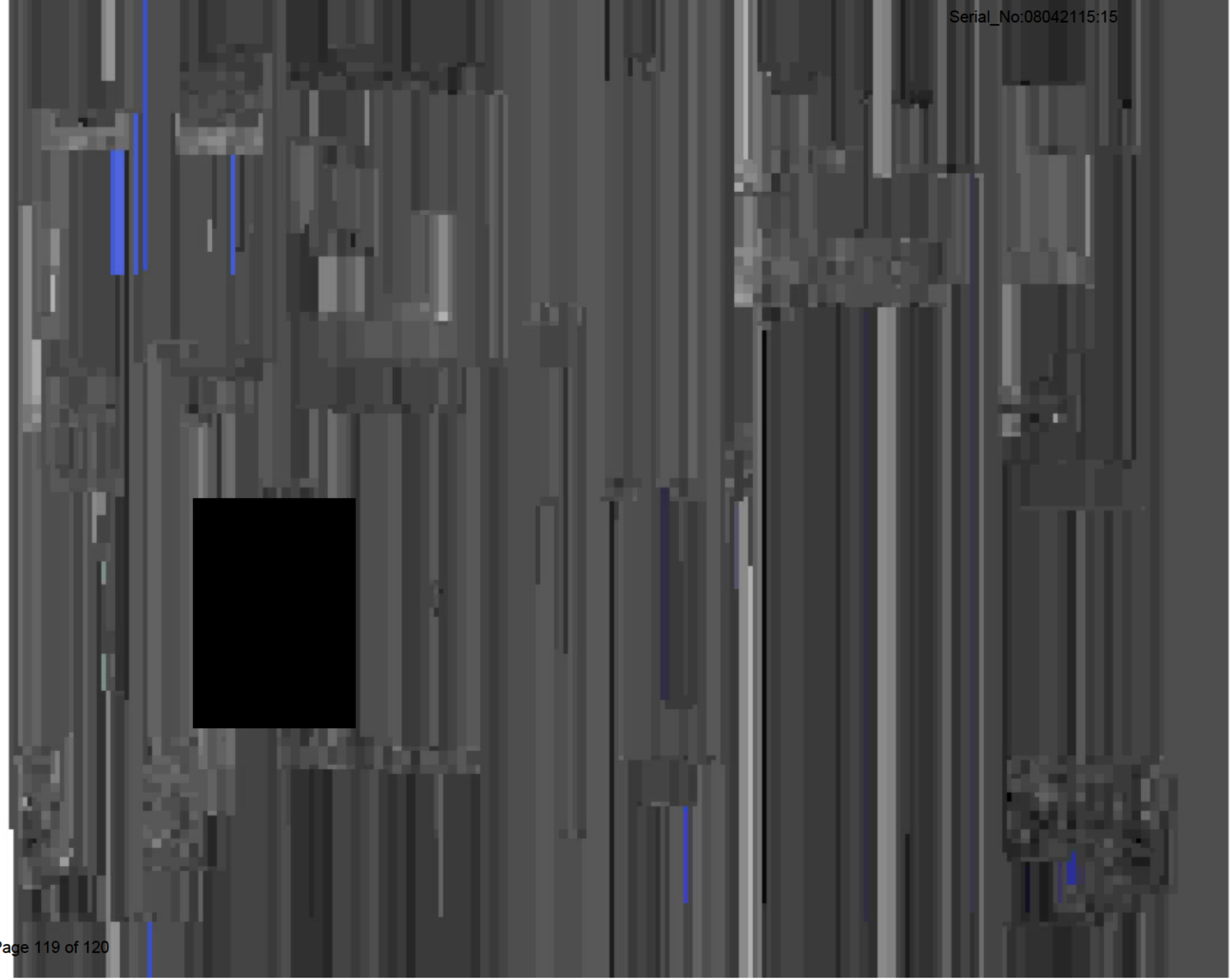
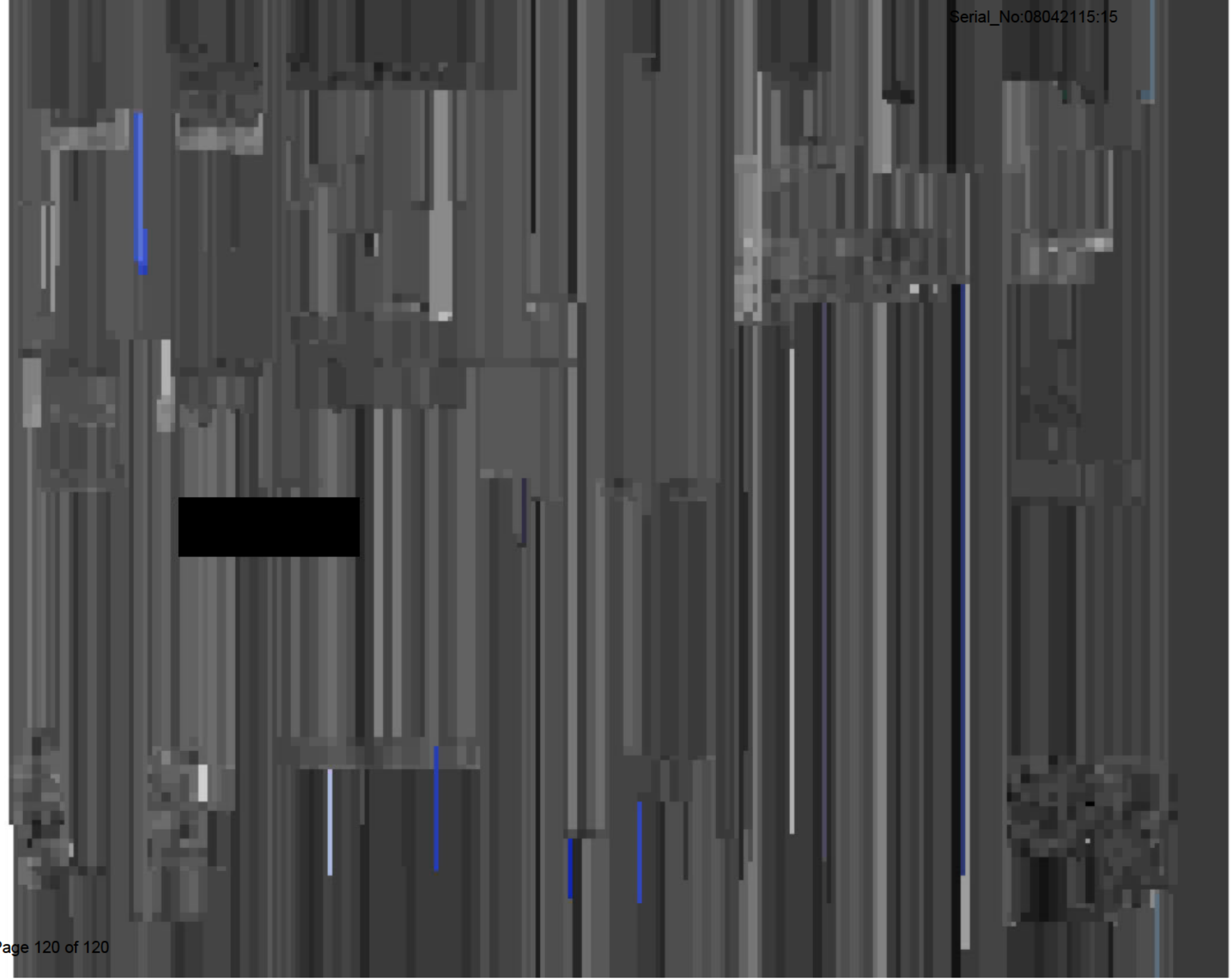
Westborough Facility:

Drinking Water
EPA 300.0: Chloride, Nitrate-N, Fluoride, Sulfate; **EPA 353.2**: Nitrate-N, Nitrite-N; **SM4500NO3-F**: Nitrate-N, Nitrite-N; **SM4500F-C, SM4500CN-CE, EPA 180.1, SM2130B, SM4500Cl-D, SM2320B, SM2540C, SM4500H-B, SM4500NO2-B**
EPA 332: Perchlorate; **EPA 524.2:** THMs and VOCs; **EPA 504.1:** EDB, DBCP.
Microbiology: **SM9215B; SM9223-P/A, SM9223B-Colilert-QT,SM9222D**.

Non-Potable Water
SM4500H,B, EPA 120.1, SM2510B, SM2540C, SM2320B, SM4500CL-E, SM4500F-BC, SM4500NH3-BH: Ammonia-N and Kjeldahl-N, **EPA 350.1**: Ammonia-N, **LACHAT 10-107-06-1-B**: Ammonia-N, **EPA 351.1, SM4500NO3-F, EPA 353.2**: Nitrate-N, **SM4500P-E, SM4500P-B, E, SM4500SO4-E, SM5220D, EPA 410.4, SM5210B, SM5310C, SM4500CL-D, EPA 1664, EPA 420.1, SM4500-CN-CE, SM2540D, EPA 300: Chloride, Sulfate, Nitrate.**
EPA 624.1: Volatile Halocarbons & Aromatics,
EPA 608.3: Chlordane, Toxaphene, Aldrin, alpha-BHC, beta-BHC, gamma-BHC, delta-BHC, Dieldrin, DDD, DDE, DDT, Endosulfan I, Endosulfan II, Endosulfan sulfate, Endrin, Endrin Aldehyde, Heptachlor, Heptachlor Epoxide, PCBs
EPA 625.1: SVOC (Acid/Base/Neutral Extractables), **EPA 600/4-81-045**: PCB-Oil.
Microbiology: **SM9223B-Colilert-QT; Enterolert-QT, SM9221E, EPA 1600, EPA 1603, SM9222D.**

Mansfield Facility:

Drinking Water
EPA 200.7: Al, Ba, Cd, Cr, Cu, Fe, Mn, Ni, Na, Ag, Ca, Zn. **EPA 200.8:** Al, Sb, As, Ba, Be, Cd, Cr, Cu, Pb, Mn, Ni, Se, Ag, TL, Zn. **EPA 245.1** Hg.
EPA 522, EPA 537.1.

Non-Potable Water
EPA 200.7: Al, Sb, As, Be, Cd, Ca, Cr, Co, Cu, Fe, Pb, Mg, Mn, Mo, Ni, K, Se, Ag, Na, Sr, TL, Ti, V, Zn.
EPA 200.8: Al, Sb, As, Be, Cd, Cr, Cu, Fe, Pb, Mn, Ni, K, Se, Ag, Na, TL, Zn.
EPA 245.1 Hg.
SM2340B

For a complete listing of analytes and methods, please contact your Alpha Project Manager.