55 Walkers Brook Drive, Suite 100, Reading, MA 01867
Tel: 978.532.1900

July 8, 2021

Mr. Randal Suozzo
Drinking Water & Groundwater Bureau
New Hampshire Department of Environmental Services
29 Hazen Drive
Concord, NH 03302

Re: PWS 1951020 – Pease Water System
DR 5210 – Grafton Road Drinking Water Treatment Plant (WTP)/ Pease Water Treatment Facility
Approval to Activate Treatment Facility

Dear Mr. Suozzo:

On behalf of the City of Portsmouth, Weston & Sampson is notifying the DES that the permanent Grafton Road Drinking Water Treatment Plant (PWS 1951020), now being called the Pease Water Treatment Facility, is complete and ready to treat water from the Haven Well. PFAS, SOC/VOC, microbial, and secondary sample results were collected and are attached to this letter. DES design approval for this project was received under permit number DR 5210. An approval request for reactivation of the Haven Well is being submitted under a separate cover.

We are requesting approval to start-up the Haven Well with water running through the entirety of the treatment process, including cartridge filtration, resin filtration, and GAC filtration, prior to entering distribution system. The treatment process has been previously approved for use with the Harrison and Smith Wells.

Weston & Sampson certifies that testing on the Haven Well water quality has verified that the well is operational and is ready to be activated in accordance with the plans and specifications submitted under this permit number. Weston & Sampson further certifies the following:

- The work was completed in accordance with the DES permit approval letter dated November 16, 2018, and application conditions of the approval have been met, or will be met shortly after final plant startup. Those that have not been met currently will not have an effect on performance, operability, or safety of the facility. These include:
    - O&M manual – not yet finalized, draft copy is on site
    - Spent media disposal plan
    - As-Built record drawings
- Remaining punchlist items do not have an impact on treatment plant performance or compliance.

Please contact either Margaret McCarthy (mccarthym@wseinc.com) or Kyle Hay (hayk@wseinc.com) if you have any questions.

Sincerely,

WESTON & SAMPSON ENGINEERS, INC.

Leah E. Stanton, PE
Vice President

Margaret McCarthy, PE (MA)
Project Manager/Principal

CC: Brian Goetz, Al Pratt – City of Portsmouth
Kyle Hay - WSE

\\wse03.local\WSE\Projects\NH\Portsmouth, NH\2190120 Pease Grafton Road WTP Construction\Startup\DES Coordination\Haven\Haven Certification Letter.docx

ANALYTICAL REPORT

Lab Number:	L2118703
Client:	Weston & Sampson 100 International Drive Suite 152 Portsmouth, NH 03801
ATTN:	Nichole Lewis
Phone:	(978) 532-1900
Project Name:	PEASE
Project Number:	Not Specified
Report Date:	04/23/21

Certifications & Approvals: MA (M-MA030), NH NELAP (2062), CT (PH-0141), DoD (L2474), FL (E87814), IL (200081), LA (85084), ME (MA00030), MD (350), NJ (MA015), NY (11627), NC (685), OH (CL106), PA (68-02089), RI (LAO00299), TX (T104704419), VT (VT-0015), VA (460194), WA (C954), US Army Corps of Engineers, USDA (Permit #P330-17-00150), USFWS (Permit #206964).

320 Forbes Boulevard, Mansfield, MA 02048-1806
508-822-9300 (Fax) 508-822-3288 800-624-9220 - www.alphalab.com

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2118703-01	IX 310A	DW	Not Specified	04/13/21 09:45	04/13/21
L2118703-02	IX 310B	DW	Not Specified	04/13/21 09:50	04/13/21
L2118703-03	IX 320A	DW	Not Specified	04/13/21 09:52	04/13/21
L2118703-04	IX 320B	DW	Not Specified	04/13/21 09:55	04/13/21
L2118703-05	IX 330A	DW	Not Specified	04/13/21 10:25	04/13/21
L2118703-06	IX 330B	DW	Not Specified	04/13/21 10:27	04/13/21
L2118703-07	IX 340A	DW	Not Specified	04/13/21 10:29	04/13/21
L2118703-08	IX 340B	DW	Not Specified	04/13/21 10:31	04/13/21
L2118703-09	IX 350A	DW	Not Specified	04/13/21 10:47	04/13/21
L2118703-10	IX 350B	DW	Not Specified	04/13/21 10:48	04/13/21
L2118703-11	IX 360A	DW	Not Specified	04/13/21 10:50	04/13/21
L2118703-12	IX 360B	DW	Not Specified	04/13/21 10:52	04/13/21
L2118703-13	GAC 430 EFF	DW	Not Specified	04/13/21 10:40	04/13/21
L2118703-14	RAW-HAV	DW	Not Specified	04/13/21 10:25	04/13/21

Project Name:	PEASE	**Lab Number:**	L2118703
Project Number:	Not Specified	**Report Date:**	04/23/21

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.

Project Name:	PEASE	**Lab Number:**	L2118703
Project Number:	Not Specified	**Report Date:**	04/23/21

Case Narrative (continued)

Report Submission

All non-detect (ND) or estimated concentrations (J-qualified) have been quantitated to the limit noted in the MDL column.

Perfluorinated Alkyl Acids by EPA 533

L2118703-14RE: The sample was re-extracted on dilution in order to quantiitate the results within the calibration range. The result(s) should be considered estimated, and are qualified with an E flag, for any compound(s) that exceeded the calibration range in the initial analysis. The re-extraction was performed only for the compound(s) that exceeded the calibration range.

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: 04/23/21

ORGANICS

SEMIVOLATILES

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-01
Client ID: IX 310A
Sample Location: Not Specified

Date Collected: 04/13/21 09:45
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 10:13
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.82	0.168	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.82	0.098	1
Perfluoropentanoic Acid (PFPeA)	0.182	J	ng/l	1.82	0.153	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.82	0.215	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.82	0.215	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.82	0.208	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.82	0.233	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.82	0.313	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.82	0.215	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.82	0.339	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.82	0.168	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.82	0.288	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.82	0.175	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	0.273	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.82	0.473	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.82	0.251	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.82	0.229	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	0.328	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.82	0.914	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	0.655	J	ng/l	1.82	0.211	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.583	J	ng/l	1.82	0.317	1
Perfluorodecanoic Acid (PFDA)	0.619	J	ng/l	1.82	0.371	1
Perfluoroundecanoic Acid (PFUnA)	1.06	J	ng/l	1.82	0.182	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	0.983	J	ng/l	1.82	0.193	1
Perfluorododecanoic Acid (PFDoA)	1.16	J	ng/l	1.82	0.306	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-01 Date Collected: 04/13/21 09:45

Client ID: IX 310A Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	104		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	132		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	118		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	116		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	97		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	99		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	121		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	92		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	89		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	110		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	85		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	102		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	90		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-02
Client ID: IX 310B
Sample Location: Not Specified

Date Collected: 04/13/21 09:50
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 04/19/21 13:50
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 04/16/21 15:38

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	0.256	1
Perfluorohexanoic Acid (PFHxA)	0.324	J	ng/l	1.80	0.237	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.80	0.407	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.80	0.234	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.80	0.432	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.80	0.065	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.80	0.562	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.80	0.429	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.80	0.443	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.80	0.580	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.80	0.248	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.80	0.540	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.80	0.385	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.80	0.504	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.80	0.584	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.80	0.189	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.80	0.458	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.80	0.389	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)	76		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	83		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	91		70-130

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-02
Client ID: IX 310B
Sample Location: Not Specified

Date Collected: 04/13/21 09:50
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 10:31
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.86	0.171	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.86	0.100	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.86	0.156	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.86	0.219	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.86	0.219	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.86	0.212	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.86	0.237	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.86	0.319	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.86	0.219	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.86	0.345	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.86	0.171	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.86	0.293	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.86	0.178	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.86	0.278	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.86	0.482	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.86	0.256	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.86	0.234	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.86	0.334	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.86	0.931	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.86	0.215	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.86	0.323	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	0.378	1
Perfluoroundecanoic Acid (PFUnA)	0.186	J	ng/l	1.86	0.186	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.86	0.197	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	0.312	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-02 Date Collected: 04/13/21 09:50

Client ID: IX 310B Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	102		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	134		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	112		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	142		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	95		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	82		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	132		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	84		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	78		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	128		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	100		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	70		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-03
Client ID: IX 320A
Sample Location: Not Specified

Date Collected: 04/13/21 09:52
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 10:48
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.85	0.170	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.85	0.100	1
Perfluoropentanoic Acid (PFPeA)	0.185	J	ng/l	1.85	0.155	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.85	0.218	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.85	0.218	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.85	0.211	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.85	0.237	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.85	0.318	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.85	0.218	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.85	0.344	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.85	0.170	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.85	0.292	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.85	0.178	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.85	0.278	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.85	0.481	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.85	0.255	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.85	0.233	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.85	0.333	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.85	0.929	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.85	0.215	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.85	0.322	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.85	0.378	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.85	0.185	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.85	0.196	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.85	0.311	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-03 Date Collected: 04/13/21 09:52

Client ID: IX 320A Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	99		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	119		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	104		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	112		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	94		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	95		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	100		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	91		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	118		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	96		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	94		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	116		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	108		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	95		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-04
Client ID: IX 320B
Sample Location: Not Specified

Date Collected: 04/13/21 09:55
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 10:57
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.85	0.170	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.85	0.100	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.85	0.155	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.85	0.218	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.85	0.218	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.85	0.211	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.85	0.237	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.85	0.318	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.85	0.218	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.85	0.344	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.85	0.170	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.85	0.292	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.85	0.178	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.85	0.277	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.85	0.481	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.85	0.255	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.85	0.233	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.85	0.333	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.85	0.928	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.85	0.214	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.85	0.322	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.85	0.377	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.85	0.185	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.85	0.196	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.85	0.311	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-04 Date Collected: 04/13/21 09:55

Client ID: IX 320B Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	101		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	124		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	101		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	103		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	91		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	90		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	103		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	77		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	82		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	98		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	91		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	101		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	81		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-05
Client ID: IX 330A
Sample Location: Not Specified

Date Collected: 04/13/21 10:25
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 11:06
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.84	0.169	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.84	0.099	1
Perfluoropentanoic Acid (PFPeA)	0.220	J	ng/l	1.84	0.154	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.84	0.217	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.84	0.217	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.84	0.209	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.84	0.235	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.84	0.316	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.84	0.217	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.84	0.342	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.84	0.169	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.84	0.290	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.84	0.176	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.84	0.275	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.84	0.477	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.84	0.253	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.84	0.231	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.84	0.330	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.84	0.922	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.84	0.213	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.84	0.320	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.84	0.375	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.84	0.184	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.84	0.195	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.84	0.308	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-05 Date Collected: 04/13/21 10:25

Client ID: IX 330A Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	115		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	119		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	113		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	102		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	103		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	105		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	108		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	120		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	94		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	98		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	117		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	108		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	126		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	98		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-06
Client ID: IX 330B
Sample Location: Not Specified

Date Collected: 04/13/21 10:27
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 11:14
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.81	0.167	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.81	0.098	1
Perfluoropentanoic Acid (PFPeA)	0.181	J	ng/l	1.81	0.152	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.81	0.214	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.81	0.214	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.81	0.206	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.81	0.232	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.81	0.312	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.81	0.214	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.81	0.337	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.81	0.167	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.81	0.286	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.81	0.174	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.81	0.272	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.81	0.471	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.81	0.250	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.81	0.228	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.81	0.326	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.81	0.909	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.81	0.210	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.81	0.315	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.81	0.370	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.81	0.181	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.81	0.192	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.81	0.304	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-06 Date Collected: 04/13/21 10:27

Client ID: IX 330B Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	103		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	140		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	113		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	138		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	108		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	104		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	89		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	123		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	90		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	88		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	116		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	89		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	105		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	79		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-07
Client ID: IX 340A
Sample Location: Not Specified

Date Collected: 04/13/21 10:29
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 11:23
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.87	0.172	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.87	0.101	1
Perfluoropentanoic Acid (PFPeA)	0.262	J	ng/l	1.87	0.157	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.87	0.220	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.87	0.220	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.87	0.213	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.87	0.239	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.87	0.321	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.87	0.220	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.87	0.348	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.87	0.172	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.87	0.295	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.87	0.179	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.87	0.280	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.87	0.486	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.87	0.258	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.87	0.235	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.87	0.336	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.87	0.938	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.87	0.217	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.87	0.325	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.87	0.381	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.87	0.187	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.87	0.198	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.87	0.314	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-07 Date Collected: 04/13/21 10:29

Client ID: IX 340A Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	105		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	128		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	120		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	121		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	100		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	96		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	102		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	122		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	98		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	93		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	113		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	99		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	121		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	87		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-08
Client ID: IX 340B
Sample Location: Not Specified

Date Collected: 04/13/21 10:31
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 11:32
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.85	0.170	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.85	0.100	1
Perfluoropentanoic Acid (PFPeA)	0.185	J	ng/l	1.85	0.155	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.85	0.218	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.85	0.218	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.85	0.210	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.85	0.236	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.85	0.318	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.85	0.218	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.85	0.344	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.85	0.170	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.85	0.292	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.85	0.177	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.85	0.277	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.85	0.480	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.85	0.255	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.85	0.233	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.85	0.332	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.85	0.927	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.85	0.214	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.85	0.321	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.85	0.377	1
Perfluoroundecanoic Acid (PFUnA)	0.222	J	ng/l	1.85	0.185	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	0.296	J	ng/l	1.85	0.196	1
Perfluorododecanoic Acid (PFDoA)	0.406	J	ng/l	1.85	0.310	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-08 Date Collected: 04/13/21 10:31

Client ID: IX 340B Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	100		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	137		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	103		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	138		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	101		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	104		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	100		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	95		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	133		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	93		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	91		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	110		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	111		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	76		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-09
Client ID: IX 350A
Sample Location: Not Specified

Date Collected: 04/13/21 10:47
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 11:52
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.81	0.166	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.81	0.098	1
Perfluoropentanoic Acid (PFPeA)	0.181	J	ng/l	1.81	0.152	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.81	0.213	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.81	0.213	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.81	0.206	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.81	0.231	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.81	0.311	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.81	0.213	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.81	0.336	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.81	0.166	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.81	0.286	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.81	0.174	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.81	0.271	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.81	0.470	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.81	0.249	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.81	0.228	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.81	0.325	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.81	0.907	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.81	0.210	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.81	0.314	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.81	0.369	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.81	0.181	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.81	0.192	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.81	0.304	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-09 Date Collected: 04/13/21 10:47

Client ID: IX 350A Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	101		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	132		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	107		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	132		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	97		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	93		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	133		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	96		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	88		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	86		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	111		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	92		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	105		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	77		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-10
Client ID: IX 350B
Sample Location: Not Specified

Date Collected: 04/13/21 10:48
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 12:00
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.86	0.171	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.86	0.100	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.86	0.156	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.86	0.220	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.86	0.220	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.86	0.212	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.86	0.238	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.86	0.320	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.86	0.220	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.86	0.346	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.86	0.171	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.86	0.294	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.86	0.179	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.86	0.279	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.86	0.484	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.86	0.257	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.86	0.235	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.86	0.335	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.86	0.935	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.86	0.216	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.86	0.324	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.86	0.380	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	0.186	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.86	0.197	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	0.313	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-10 Date Collected: 04/13/21 10:48

Client ID: IX 350B Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	99		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	147		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	94		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	155		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	107		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	97		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	93		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	93		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	126		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	87		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	85		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	83		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	104		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	90		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	106		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	66		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-11
Client ID: IX 360A
Sample Location: Not Specified

Date Collected: 04/13/21 10:50
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 12:09
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.76	0.162	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.76	0.095	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.76	0.148	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.76	0.208	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.76	0.208	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.76	0.200	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.76	0.225	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.76	0.302	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.76	0.208	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.76	0.327	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.76	0.162	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.76	0.278	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.76	0.169	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.76	0.264	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.76	0.457	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.76	0.243	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.76	0.222	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.76	0.316	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.76	0.883	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.76	0.204	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.76	0.306	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.76	0.359	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.76	0.176	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.76	0.186	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.76	0.295	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-11 Date Collected: 04/13/21 10:50

Client ID: IX 360A Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	111		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	140		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	124		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	132		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	102		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	105		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	106		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	99		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	124		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	99		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	102		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	123		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	118		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	131		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	99		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-12
Client ID: IX 360B
Sample Location: Not Specified

Date Collected: 04/13/21 10:52
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 12:18
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.85	0.170	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.85	0.100	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.85	0.155	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.85	0.218	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.85	0.218	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.85	0.211	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.85	0.237	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.85	0.318	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.85	0.218	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.85	0.344	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.85	0.170	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.85	0.292	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.85	0.178	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.85	0.278	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.85	0.481	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.85	0.255	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.85	0.233	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.85	0.333	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.85	0.929	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.85	0.215	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.85	0.322	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.85	0.378	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.85	0.185	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.85	0.196	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.85	0.311	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-12 Date Collected: 04/13/21 10:52

Client ID: IX 360B Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	97		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	124		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	117		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	136		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	89		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	104		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	132		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	80		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	90		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	126		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	123		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	127		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	63		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-13
Client ID: GAC 430 EFF
Sample Location: Not Specified

Date Collected: 04/13/21 10:40
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 04/19/21 13:59
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 04/16/21 15:38

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	0.255	1
Perfluorohexanoic Acid (PFHxA)	0.287	J	ng/l	1.79	0.236	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.79	0.405	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.79	0.233	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.79	0.430	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.79	0.064	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.79	0.560	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.79	0.427	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.79	0.441	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.79	0.578	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.79	0.247	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.79	0.538	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.79	0.384	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.79	0.502	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.79	0.581	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.79	0.188	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.79	0.456	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.79	0.387	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	99		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	106		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	102		70-130

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-13
Client ID: GAC 430 EFF
Sample Location: Not Specified

Date Collected: 04/13/21 10:40
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 12:27
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	ND		ng/l	1.82	0.168	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.82	0.099	1
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	1.82	0.153	1
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.82	0.215	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.82	0.215	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.82	0.208	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.82	0.233	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	1.82	0.314	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.82	0.215	1
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	1.82	0.339	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.82	0.168	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.82	0.288	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.82	0.175	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	0.274	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	1.82	0.474	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.82	0.252	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	1.82	0.230	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	0.328	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.82	0.915	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	0.212	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	1.82	0.317	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	0.372	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	0.182	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	0.193	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	0.306	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-13 Date Collected: 04/13/21 10:40

Client ID: GAC 430 EFF Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	83		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	100		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	108		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	121		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	89		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	102		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	107		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	109		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	115		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	99		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	103		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	103		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	124		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	124		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	141		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	83		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-14
Client ID: RAW-HAV
Sample Location: Not Specified

Date Collected: 04/13/21 10:25
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/20/21 12:35
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorobutanoic Acid (PFBA)	52.1		ng/l	1.87	0.172	1
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	1.87	0.101	1
Perfluoropentanoic Acid (PFPeA)	71.5		ng/l	1.87	0.157	1
Perfluorobutanesulfonic Acid (PFBS)	8.92		ng/l	1.87	0.220	1
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	1.87	0.220	1
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	1.87	0.213	1
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	1.87	0.239	1
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	0.485	J	ng/l	1.87	0.321	1
Perfluorohexanoic Acid (PFHxA)	57.8		ng/l	1.87	0.220	1
Perfluoropentanesulfonic Acid (PFPeS)	11.8		ng/l	1.87	0.347	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	1.87	0.172	1
Perfluoroheptanoic Acid (PFHpA)	24.2		ng/l	1.87	0.295	1
Perfluorohexanesulfonic Acid (PFHxS)	129		ng/l	1.87	0.179	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.87	0.280	1
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	59.9		ng/l	1.87	0.485	1
Perfluorooctanoic Acid (PFOA)	49.5		ng/l	1.87	0.258	1
Perfluoroheptanesulfonic Acid (PFHpS)	8.55		ng/l	1.87	0.235	1
Perfluorononanoic Acid (PFNA)	4.11		ng/l	1.87	0.336	1
Perfluorooctanesulfonic Acid (PFOS)	471	E	ng/l	1.87	0.937	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.87	0.216	1
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	16.4		ng/l	1.87	0.325	1
Perfluorodecanoic Acid (PFDA)	1.42	J	ng/l	1.87	0.381	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.87	0.187	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.87	0.198	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.87	0.314	1

Project Name: PEASE **Lab Number:** L2118703

Project Number: Not Specified **Report Date:** 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-14 Date Collected: 04/13/21 10:25

Client ID: RAW-HAV Date Received: 04/13/21

Sample Location: Not Specified Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	120		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	130		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	146		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	87		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	79		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	114		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	79		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	144		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	78		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	85		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	141		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	94		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	105		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	80		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

SAMPLE RESULTS

Lab ID: L2118703-14 RE
Client ID: RAW-HAV
Sample Location: Not Specified

Date Collected: 04/13/21 10:25
Date Received: 04/13/21
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 136,533
Analytical Date: 04/22/21 09:41
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/21/21 11:00

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab						
Perfluorooctanesulfonic Acid (PFOS)	453		ng/l	10.0	5.02	1

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	110		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 04/19/21 11:23
Analyst: LV

Extraction Method: EPA 537.1
Extraction Date: 04/16/21 15:38

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 02,13 Batch: WG1487141-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.284
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.263
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	0.452
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.260
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.480
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	0.072
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.624
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.476
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.492
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.644
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	0.275
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.600
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.428
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.560
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.648
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	0.210
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.508
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.432

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)	90		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	96		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99		70-130

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 136,533
Analytical Date: 04/20/21 09:38
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab for sample(s): 01-14 Batch: WG1487861-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.184
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.00	0.108
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.168
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.236
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.00	0.236
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.00	0.228
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.00	0.256
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	0.344
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.236
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	0.372
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	2.00	0.184
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.316
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.192
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	0.300
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	0.520
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.276
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.252
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.360
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	1.00
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	0.232
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	0.348
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.408
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.200
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	0.212
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.336

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 136,533
Analytical Date: 04/20/21 09:38
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/19/21 10:10

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab for sample(s): 01-14 Batch: WG1487861-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	98		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	109		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	106		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	116		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	98		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	94		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	86		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	109		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	92		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	95		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	122		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	97		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	111		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	94		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 136,533
Analytical Date: 04/22/21 09:24
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/21/21 09:58

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab for sample(s): 14 Batch: WG1488883-1					
Perfluorobutanoic Acid (PFBA)	ND		ng/l	2.00	0.184
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND		ng/l	2.00	0.108
Perfluoropentanoic Acid (PFPeA)	ND		ng/l	2.00	0.168
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.236
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND		ng/l	2.00	0.236
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND		ng/l	2.00	0.228
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND		ng/l	2.00	0.256
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND		ng/l	2.00	0.344
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.236
Perfluoropentanesulfonic Acid (PFPeS)	ND		ng/l	2.00	0.372
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	2.00	0.184
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.316
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.192
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	0.300
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND		ng/l	2.00	0.520
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.276
Perfluoroheptanesulfonic Acid (PFHpS)	ND		ng/l	2.00	0.252
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.360
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	1.00
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	0.232
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND		ng/l	2.00	0.348
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.408
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.200
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	0.212
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.336

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Method Blank Analysis
Batch Quality Control

Analytical Method: 136,533
Analytical Date: 04/22/21 09:24
Analyst: LV

Extraction Method: EPA 533
Extraction Date: 04/21/21 09:58

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab for sample(s): 14 Batch: WG1488883-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	105		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	121		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	103		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	96		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	100		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	105		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	116		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	101		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	86		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	102		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	107		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	106		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	84		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	112		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	124		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	109		50-200

Lab Control Sample Analysis

Batch Quality Control

Project Name: PEASE

Project Number: Not Specified

Lab Number: L2118703

Report Date: 04/23/21

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): 02,13 Batch: WG1487141-2								
Perfluorobutanesulfonic Acid (PFBS)	92		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	106		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	88		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	114		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	114		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	91		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	116		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	100		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	101		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	86		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	92		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	100		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	114		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	106		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	126		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	80		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	126		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	90		-		70-130	-		30

Lab Control Sample Analysis
Batch Quality Control

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

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): 02,13 Batch: WG1487141-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	94				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	97				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	105				70-130

Lab Control Sample Analysis
Batch Quality Control

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-14 Batch: WG1487861-2								
Perfluorobutanoic Acid (PFBA)	102		-		70-130	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	108		-		70-130	-		30
Perfluoropentanoic Acid (PFPeA)	107		-		70-130	-		30
Perfluorobutanesulfonic Acid (PFBS)	100		-		70-130	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	103		-		70-130	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	113		-		70-130	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	105		-		70-130	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	112		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	112		-		70-130	-		30
Perfluoropentanesulfonic Acid (PFPeS)	103		-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	103		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	100		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	96		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	106		-		70-130	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	102		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	110		-		70-130	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	114		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	100		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	107		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	113		-		70-130	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	112		-		70-130	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: PEASE

Project Number: Not Specified

Lab Number: L2118703

Report Date: 04/23/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-14 Batch: WG1487861-2								
Perfluorodecanoic Acid (PFDA)	102		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	108		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	121		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	106		-		70-130	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	102				50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	110				50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	105				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	129				50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	103				50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	103				50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	101				50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	96				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	128				50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	105				50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	94				50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	106				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	137				50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	111				50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	125				50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	99				50-200

Lab Control Sample Analysis
Batch Quality Control

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 14 Batch: WG1488883-2								
Perfluorobutanoic Acid (PFBA)	103		-		70-130	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	113		-		70-130	-		30
Perfluoropentanoic Acid (PFPeA)	102		-		70-130	-		30
Perfluorobutanesulfonic Acid (PFBS)	97		-		70-130	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	99		-		70-130	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	113		-		70-130	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	106		-		70-130	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	115		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	111		-		70-130	-		30
Perfluoropentanesulfonic Acid (PFPeS)	106		-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	104		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	108		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	102		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	114		-		70-130	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	111		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	111		-		70-130	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	109		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	106		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	103		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	114		-		70-130	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	108		-		70-130	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: PEASE

Project Number: Not Specified

Lab Number: L2118703

Report Date: 04/23/21

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 14 Batch: WG1488883-2								
Perfluorodecanoic Acid (PFDA)	111		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	110		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	124		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	112		-		70-130	-		30

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	106				50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	124				50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	89				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	80				50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	85				50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	89				50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	86				50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	93				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	78				50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	98				50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	85				50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	102				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	83				50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	106				50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	130				50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	92				50-200

Matrix Spike Analysis
Batch Quality Control

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

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): 02,13 QC Batch ID: WG1487141-3 WG1487141-4 QC Sample: L2118780-01 Client ID: MS Sample												
Perfluorobutanesulfonic Acid (PFBS)	0.332J	1.6	1.84	115		1.93	119		70-130	5		30
Perfluorohexanoic Acid (PFHxA)	0.627J	1.8	2.31	128		2.33	128		70-130	1		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	1.8	1.77J	98		1.53J	84		70-130	15		30
Perfluoroheptanoic Acid (PFHpA)	0.332J	1.8	2.16	120		2.22	122		70-130	3		30
Perfluorohexanesulfonic Acid (PFHxS)	0.922J	1.65	2.67	**162**	Q	2.77	**166**	Q	70-130	4		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	1.7	1.48J	87		1.53J	89		70-130	3		30
Perfluorooctanoic Acid (PFOA)	ND	1.8	2.34	130		2.33	128		70-130	0		30
Perfluorononanoic Acid (PFNA)	ND	1.8	1.98	110		2.00	110		70-130	1		30
Perfluorooctanesulfonic Acid (PFOS)	1.22J	1.67	2.67	**160**	Q	2.73	**162**	Q	70-130	2		30
Perfluorodecanoic Acid (PFDA)	ND	1.8	1.73J	96		1.64J	90		70-130	5		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	1.68	1.62J	96		1.68J	99		70-130	4		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	1.8	1.59J	88		2.55	**140**		70-130	**46**		30
Perfluoroundecanoic Acid (PFUnA)	ND	1.8	2.06	114		2.11	116		70-130	2		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	1.8	1.51J	84		2.69	**148**		70-130	**56**	Q	30
Perfluorododecanoic Acid (PFDoA)	ND	1.8	2.24	124		2.55	**140**		70-130	13		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	1.7	1.44J	85		1.38J	80		70-130	4		30
Perfluorotridecanoic Acid (PFTrDA)	ND	1.8	1.98	110		2.33	128		70-130	16		30
Perfluorotetradecanoic Acid (PFTA)	ND	1.8	1.66J	92		1.75J	96		70-130	5		30

Matrix Spike Analysis

Batch Quality Control

Project Name: PEASE

Project Number: Not Specified

Lab Number: L2118703

Report Date: 04/23/21

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): 02,13 QC Batch ID: WG1487141-3 WG1487141-4 QC Sample: L2118780-01 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		88		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	89		83		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	95		94		70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	96		98		70-130

Matrix Spike Analysis
Batch Quality Control

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

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 533 - Mansfield Lab	Associated sample(s): 01-14	QC Batch ID: WG1487861-3		QC Sample: L2118703-01		Client ID: IX 310A						
Perfluorobutanoic Acid (PFBA)	ND	152	150	99		-	-		70-130	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	152	169	112		-	-		70-130	-		30
Perfluoropentanoic Acid (PFPeA)	0.182J	152	157	104		-	-		70-130	-		30
Perfluorobutanesulfonic Acid (PFBS)	ND	134	133	99		-	-		70-130	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	152	151	100		-	-		70-130	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	135	128	95		-	-		70-130	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	152	156	103		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	142	141	99		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	ND	152	171	113		-	-		70-130	-		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	142	165	116		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	152	160	106		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	ND	152	150	99		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	138	133	96		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	143	141	99		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	144	142	98		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	ND	152	155	102		-	-		70-130	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	144	149	103		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	152	142	94		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	ND	141	136	97		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	0.655J	142	142	100		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	0.583J	145	152	104		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	0.619J	152	152	100		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: PEASE

Project Number: Not Specified

Lab Number: L2118703

Report Date: 04/23/21

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 533 - Mansfield Lab	Associated sample(s): 01-14	QC Batch ID: WG1487861-3		QC Sample: L2118703-01		Client ID: IX 310A						
Perfluoroundecanoic Acid (PFUnA)	1.06J	152	157	104		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	0.983J	143	153	107		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	1.16J	152	154	102		-	-		70-130	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	128				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	133				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	130				50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	98				50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	110				50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	107				50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	107				50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	103				50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	91				50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	127				50-200
Perfluoro[13C4]Butanoic Acid (MPFBA)	100				50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	123				50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	97				50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	99				50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	110				50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	116				50-200

Matrix Spike Analysis
Batch Quality Control

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

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 533 - Mansfield Lab	Associated sample(s): 14	QC Batch ID: WG1488883-3	QC Sample: L2119578-01	Client ID: MS Sample								
Perfluorobutanoic Acid (PFBA)	1.29J	40.5	42.9	106		-	-		70-130	-		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	40.5	51.8	128		-	-		70-130	-		30
Perfluoropentanoic Acid (PFPeA)	0.647J	40.5	43.6	108		-	-		70-130	-		30
Perfluorobutanesulfonic Acid (PFBS)	0.728J	36	36.6	102		-	-		70-130	-		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	40.5	42.2	104		-	-		70-130	-		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	36.2	34.8	96		-	-		70-130	-		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	40.5	39.8	98		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	38	45.0	118		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	0.526J	40.5	41.9	103		-	-		70-130	-		30
Perfluoropentanesulfonic Acid (PFPeS)	ND	38.1	36.4	96		-	-		70-130	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	40.5	40.0	99		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	0.404J	40.5	44.3	109		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	1.37J	37	32.3	87		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	38.3	48.2	126		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	38.6	44.6	116		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	3.40	40.5	52.8	122		-	-		70-130	-		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	38.7	39.8	103		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	ND	40.5	45.6	112		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	2.91	37.6	38.3	94		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	37.9	39.4	104		-	-		70-130	-		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	38.9	44.1	113		-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	ND	40.5	46.2	114		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: PEASE

Project Number: Not Specified

Lab Number: L2118703

Report Date: 04/23/21

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 533 - Mansfield Lab	Associated sample(s): 14	QC Batch ID: WG1488883-3	QC Sample: L2119578-01	Client ID: MS Sample								
Perfluoroundecanoic Acid (PFUnA)	ND	40.5	45.7	113		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	38.3	41.1	107		-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	40.5	45.0	111		-	-		70-130	-		30

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	88				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	102				50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	86				50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	97				50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	102				50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	91				50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	108				50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	93				50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	125				50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	125				50-200
Perfluoro[13C4]Butanoic Acid (MPFBA)	99				50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	119				50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	104				50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	84				50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	86				50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	120				50-200

Lab Duplicate Analysis
Batch Quality Control

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1487861-4 QC Sample: L2118703-02 Client ID: IX 310B						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/l	NC		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	ND	ng/l	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	0.188J	ng/l	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	ND	ng/l	NC		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	ND	ng/l	NC		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
Perfluoropentanesulfonic Acid (PFPeS)	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
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 01-14 QC Batch ID: WG1487861-4 QC Sample: L2118703-02 Client ID: IX 310B						
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	0.186J	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	102		102		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	134		136		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	112		108		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	142		138		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	95		98		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	92		101		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	104		96		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	82		99		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	132		130		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	84		87		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	105		98		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	78		88		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	128		113		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	88		93		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	100		110		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	70		77		50-200

Lab Duplicate Analysis
Batch Quality Control

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 14 QC Batch ID: WG1488883-4 QC Sample: L2119579-01 Client ID: DUP Sample						
Perfluorobutanoic Acid (PFBA)	ND	ND	ng/l	NC		30
Perfluoro-3-Methoxypropanoic Acid (PFMPA)	ND	ND	ng/l	NC		30
Perfluoropentanoic Acid (PFPeA)	ND	0.190J	ng/l	NC		30
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluoro-4-Methoxybutanoic Acid (PFMBA)	ND	ND	ng/l	NC		30
Perfluoro(2-Ethoxyethane)Sulfonic Acid (PFEESA)	ND	ND	ng/l	NC		30
Nonafluoro-3,6-Dioxaheptanoic Acid (NFDHA)	ND	ND	ng/l	NC		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
Perfluoropentanesulfonic Acid (PFPeS)	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
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 533 - Mansfield Lab Associated sample(s): 14 QC Batch ID: WG1488883-4 QC Sample: L2119579-01 Client ID: DUP Sample						
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	104		105		50-200
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	117		115		50-200
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	98		99		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	94		89		50-200
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	101		96		50-200
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	132		102		50-200
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	110		96		50-200
Perfluoro[13C8]Octanoic Acid (M8PFOA)	110		107		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	81		88		50-200
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	116		107		50-200
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	110		109		50-200
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	129		113		50-200
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	98		97		50-200
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	188		129		50-200
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	193		155		50-200
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	106		101		50-200

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
A	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2118703-01A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-01B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-02A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-02B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-02C	Plastic 250ml Trizma preserved	A	NA		4.3	Y	Absent		A2-537.1(14)
L2118703-02D	Plastic 250ml Trizma preserved	A	NA		4.3	Y	Absent		A2-537.1(14)
L2118703-03A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-03B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-04A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-04B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-05A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-05B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-06A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-06B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-07A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-07B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-08A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-08B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-09A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-09B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-10A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-10B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-11A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)

*Values in parentheses indicate holding time in days

Project Name: PEASE
Project Number: Not Specified

Lab Number: L2118703
Report Date: 04/23/21

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2118703-11B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-12A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-12B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-13A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-13B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-13C	Plastic 250ml Trizma preserved	A	NA		4.3	Y	Absent		A2-537.1(14)
L2118703-13D	Plastic 250ml Trizma preserved	A	NA		4.3	Y	Absent		A2-537.1(14)
L2118703-14A	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)
L2118703-14B	Plastic 250ml Ammonium Acetate preserved	A	NA		4.3	Y	Absent		A2-533(28)

*Values in parentheses indicate holding time in days

Project Name: PEASE
Project Number:

Lab Number: L2118703
Report Date: 04/23/21

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:	PEASE	**Lab Number:**	L2118703
Project Number:	Not Specified	**Report Date:**	04/23/21

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: DU Report with 'J' Qualifiers

Project Name:	PEASE	**Lab Number:**	L2118703
Project Number:	Not Specified	**Report Date:**	04/23/21

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 at or above the RL for: PFHpA, PFHxS, PFOA, PFNA, PFDA and PFOS. (Note: 'PFAS, Total (6)' is applicable to MassDEP DW compliance analysis only.). 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. The Target analyte concentration is below the quantitation limit (RL), but above the Method Detection Limit (MDL) or Estimated Detection Limit (EDL) for SPME-related analyses. 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 method detection limit (MDL) for the sample, or estimated detection limit (EDL) for SPME-related analyses.

Report Format: DU Report with 'J' Qualifiers

Project Name:	PEASE	**Lab Number:**	L2118703
Project Number:	Not Specified	**Report Date:**	04/23/21

Data Qualifiers

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

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.

136 Determination of Per- and Polyfluoroalkyl Substances in Drinking Water by Isotope Dilution Anion Exchange Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS). EPA Method 533, EPA Document 815-B-19-020, November 2019.

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-Tetramethylbenzene; 4-Ethyltoluene, Azobenzene; SCM: Iodomethane (methyl iodide), 1,2,4,5-Tetramethylbenzene; 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.

CHAIN OF CUSTODY

PAGE 1 OF 1

ALPHA ANALYTICAL LABS
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/13/21

ALPHA Job #: L2118703

Client Information

Client: Weston + Sampson
Address: 55 Walkers Brook Dr.
Reading MA 01867
Phone: 603-263-9296 x2251
Fax:
Email: Hayk@wseinc.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Pease
Project Location:
Project #:
Project Manager:
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials	PFAS 533	PFAS 537.1	Sample Specific Comments	TOTAL # BOTTLES
18703-01	IX 310 A	4/13/21	9:45	W	AF	✓			2
-02	IX 310 B	"	9:50	W	AF	✓	✓	4 bottles	4
-03	IX 320 A	"	9:52	W	AF	✓			2
-04	IX 320 B	"	9:55	W	AF	✓			2
-05	IX 330 A	"	10:25	W	AF	✓			2
-06	IX 330 B	"	10:27	W	AF	✓			2
-07	IX 340 A	"	10:29	W	AF	✓			2
-08	IX 340 B	"	10:31	W	AF	✓			2
-09	IX 350 A		10:47	W	AF	✓			2
-10	IX 350 B		10:48	W	AF	✓			2

SAMPLE HANDLING
Filtration
☐ Done ☐ Not needed ☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

Container Type: P
Preservative: HNO3

Relinquished By:	Date/Time	Received By:	Date/Time
	4/13/21 12:05		4/13/21 12:05
	4/13/21		4/13/21 1720
	4/13/21 2029		4/13/21 21:29

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

CHAIN OF CUSTODY

PAGE 2 OF 2

ALPHA ANALYTICAL
WESTBORO, MA TEL: 508-898-9220 FAX: 508-898-9193
MANSFIELD, MA TEL: 508-822-9300 FAX: 508-822-3288

Date Rec'd in Lab: 4/13/21

ALPHA Job #: L2118703

Client Information

Client: Weston & Sampson
Address: 55 Walker Brook Dr
Reading MA 01867
Phone: 603-263-9296 x2257
Fax:
Email: Hayk@wseinc.com
☐ These samples have been previously analyzed by Alpha

Project Information

Project Name: Pease
Project Location:
Project #:
Project Manager:
ALPHA Quote #:

Turn-Around Time

☑ Standard ☐ RUSH (only confirmed if pre-approved)
Date Due: Time:

Report Information - Data Deliverables

☐ FAX ☑ EMAIL
☐ ADEx ☐ Add'l Deliverables

Billing Information

☐ Same as Client info PO #:

Regulatory Requirements/Report Limits

State /Fed Program | Criteria

Other Project Specific Requirements/Comments/Detection Limits:

ANALYSIS: PFAS 533, PFAS 537.1

SAMPLE HANDLING
Filtration
☐ Done
☐ Not needed
☐ Lab to do
Preservation
☐ Lab to do
(Please specify below)

ALPHA Lab ID (Lab Use Only)	Sample ID	Collection Date	Collection Time	Sample Matrix	Sampler's Initials			Sample Specific Comments	TOTAL # BOTTLES
18703-11	IX 360A	4/13/21	10:50	W	TH	✓			2
-12	IX 360B	"	10:52	W	[illegible]	✓			2
-13	GAC 430 EFF	"	10:40	W	NP	✓	✓		4
-14	RAW - HAV	-1	10:25	W	AD	✓		4 bHL.	4

Container Type
Preservative

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	4/13/21 12:45	[signature]	4/13/21 1215
[signature] DSL	4/13/21 1720	[signature] DSL	4/13/21 1720
Joseph C. Wright	4/13/21 2129	[signature]	4/13/21 2000
		[signature]	4/13/21 21:29

Please print clearly, legibly and completely. Samples can not be logged in and turnaround time clock will not start until any ambiguities are resolved. All samples submitted are subject to Alpha's Terms and Conditions. See reverse side.

FORM NO: 01-01 (rev. 14-OCT-07)

GRANITE STATE
ANALYTICAL SERVICES, LLC.
22 Manchester Road, Unit 2, Derry, NH 03038
Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

Laboratory Report

Portsmouth Public Works
680 Peverly Hill Road
Portsmouth, NH 03801

Date Printed: 04/30/2021
Work Order #: 2104-01961
Client Job #:
Date Received: 04/14/2021
Sample collected in: New Hampshire

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of the analyzing laboratory's Quality Assurance Plan, Standard Operating Procedures and State Accreditation. This certificate shall not be reproduced, except in full, without the written approval of the analyzing laboratory. The results presented in this report relate to the samples listed on the following pages in the condition in which they were received. Accreditation for each analyte is identified by the * symbol following the analyte name. Location of our analyzing laboratory is identified by the code in the Analyst Column.

A & L Laboratory:
Identified by ME in Analyst Column
155 Center Street, Auburn, Maine 04210
www.allaboratory.com

Granite State Analytical Services LLC:
Identified by NH in Analyst Column
22 Manchester Road, Derry, NH 03038
www.granitestateanalytical.com

ANALYSIS RELATED NOTES:

- RL: "Reporting limit" means the lowest level of an analyte that can be accurately recovered from the matrix of interest.
- A & L Laboratory / Granite State Analytical Services LLC. accreditation lists can be found on our websites listed above.
- Subcontracted samples will be identified by the Accreditation number of the subcontract laboratory in the analyst field for each analyte and the appropriate laboratory will be listed here.This report contains data that were produced by a subcontracted laboratory accredited for the fields of testing performed, if available. Accreditation for each analyte is identified by the * symbol following the analyte name.
  Alpha Analytical-Westborough, 8 Walkup Dr., Westborough, MA 01581 Accreditation # 2064
  ChemServe, 317 Elm St., Milford, NH 03055 Accreditation # 1008
- Data Qualifiers (DQ) Flags provide additional information in regards to the receipt, analysis or quality control of a sample. These are indicated under the DQ Flags Column on your report and listed here if necessary: Data Qualifier (DQ) Flags: H = Hold time non-compliant., L = Laboratory control sample outside control limits.

SAMPLE STATE SPECIFIC NOTES:

Additional Narrative or Comments: None

We appreciate the opportunity to provide you with laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be happy to assist you.

Donald A. D'Anjou, Ph. D.
Laboratory Director

A & L Laboratory: Accreditations: Maine ME00021, New Hampshire 2501, Maine Radon Registration ID # SPC20
Granite State Analytical Services, LLC: Accreditations: New Hampshire 1015; Maine NH00003; Massachusetts M-NH0003; Rhode Island 101513; Vermont VT-101507

GRANITE STATE
ANALYTICAL SERVICES, LLC.
22 Manchester Road, Unit 2, Derry, NH 03038
Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 04/30/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01961-001
SAMPLED BY: Caceres, Mason
SAMPLE ADDRESS: HAV-RAW
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:30AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: IOC-MS-Compliance-2019
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Turbidity*	0.71	NTU	✓		0.5	5 NTU	EPA 180.1	DG-NH	04/14/2021 05:00PM
Calcium*	61.2	mg/L			1	No Limit	EPA 200.7	JLR-NH	04/20/2021 11:51AM
Hardness (calc.)*	193	mg CaCO3/L			2	No Limit	EPA 200.7	JLR-NH	04/20/2021 11:51AM
Iron*	0.037	mg/L	✓		0.01	0.3 mg/L	EPA 200.7	JLR-NH	04/20/2021 11:51AM
Magnesium*	9.8	mg/L			1	No Limit	EPA 200.7	JLR-NH	04/20/2021 11:51AM
Potassium*	3.1	mg/L			1	No Limit	EPA 200.7	JLR-NH	04/20/2021 11:51AM
Sodium*	16.7	mg/L			1	No Limit	EPA 200.7	JLR-NH	04/20/2021 11:51AM
Aluminum*	0.0023	mg/L	✓		0.001	0.2 mg/L	EPA 200.8	JLR-NH	04/20/2021 05:01PM
Antimony*	<0.001	mg/L	✓		0.001	0.006 mg/L	EPA 200.8	DR-NH	04/15/2021 12:48PM
Arsenic*	<0.001	mg/L	✓		0.001	0.010 mg/L	EPA 200.8	JLR-NH	04/20/2021 05:01PM
Barium*	0.0103	mg/L	✓		0.001	2.00 mg/L	EPA 200.8	JLR-NH	04/20/2021 05:01PM
Beryllium*	<0.001	mg/L	✓		0.001	0.004 mg/L	EPA 200.8	JLR-NH	04/20/2021 05:01PM
Cadmium*	<0.001	mg/L	✓		0.001	0.005 mg/L	EPA 200.8	JLR-NH	04/20/2021 05:01PM
Chromium*	<0.001	mg/L	✓		0.001	0.1 mg/L	EPA 200.8	JLR-NH	04/20/2021 05:01PM
Copper*	0.0014	mg/L	✓		0.001	1.3 mg/L	EPA 200.8	JLR-NH	04/20/2021 05:01PM
Manganese*	0.178	mg/L	▽		0.001	0.05 mg/L	EPA 200.8	JLR-NH	04/20/2021 05:01PM
Mercury*	<0.0001	mg/L	✓		0.0001	0.002 mg/L	EPA 200.8	JLR-NH	04/20/2021 11:22AM
Nickel*	0.0019	mg/L			0.001	No limit	EPA 200.8	JLR-NH	04/20/2021 05:01PM
Selenium*	<0.001	mg/L	✓		0.001	0.05 mg/L	EPA 200.8	DR-NH	04/15/2021 12:48PM
Thallium*	<0.001	mg/L	✓		0.001	0.002 mg/L	EPA 200.8	DR-NH	04/15/2021 12:48PM
Zinc*	<0.001	mg/L	✓		0.001	5 mg/L	EPA 200.8	JLR-NH	04/20/2021 05:01PM
Chloride*	44	mg/L	✓		2	250 mg/L	EPA 300.0	DG-NH	04/14/2021 06:43PM
Fluoride*	<0.2	mg/L	✓		0.2	4.0 mg/L	EPA 300.0	DG-NH	04/14/2021 06:43PM
Nitrate as N*	<0.2	mg/L	✓		0.2	10 mg/L	EPA 300.0	DG-NH	04/14/2021 06:43PM

NELAP ACCREDITED TNI LABORATORY

Donald A. D'Anjou, Ph. D.
Laboratory Director

GRANITE STATE
ANALYTICAL SERVICES, LLC.
22 Manchester Road, Unit 2, Derry, NH 03038
Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 04/30/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01961-001
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: HAV-RAW
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:30AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: IOC-MS-Compliance-2019
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS

CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Nitrite as N*	<0.2	mg/L	✓		0.2	1 mg/L	EPA 300.0	DG-NH	04/14/2021 06:43PM
Sulfate*	21	mg/L	✓		2	250 mg/L	EPA 300.0	DG-NH	04/14/2021 06:43PM
Perchlorate*	<0.050	ug/L	✓		0.050	2 ug/L	EPA 332	2064	04/16/2021 02:55PM
Color, Apparent	5	CPU	✓		5	15 CPU	SM 2120B	DG-NH	04/14/2021 01:56PM
Odor	ND	T.O.N.	✓	H	1	3 T.O.N.	SM 2150B	DG-NH	04/14/2021 02:23PM
Total Alkalinity*	160	mg CaCO3/L			20	No Limit	SM 2320B	DG-NH	04/16/2021 12:30PM
Total Dissolved Solids*	283	mg/L	✓		10	500 mg/L	SM 2540C	1008	04/20/2021
Cyanide, Total*	<0.02	mg/L	✓		0.02	0.2 mg/L	SM 4500 CN E	1008	04/26/2021
pH*	7.62	SU	✓	H	N/A	6.5 - 8.5 SU	SM 4500 H B	DG-NH	04/14/2021 02:23PM

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DATE PRINTED: 04/30/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01961-002
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: HAV-RAW
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:30AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: SOC GSA 2019
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
1,2-Dibromo-3-chloropropane (DBCP)*	<0.02	ug/L	✓		0.02	0.2 ug/L	EPA 504.1	KV-NH	04/16/2021 04:21AM
Date Extracted	-					No Limit	EPA 504.1	GQ-NH	04/15/2021 12:25PM
Ethylene Dibromide (EDB)*	<0.02	ug/L	✓		0.02	0.05 ug/L	EPA 504.1	KV-NH	04/16/2021 04:21AM
Aroclor 1016 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 08:19AM
Aroclor 1221 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 08:19AM
Aroclor 1232 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 08:19AM
Aroclor 1242 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 08:19AM
Aroclor 1248 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 08:19AM
Aroclor 1254 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 08:19AM
Aroclor 1260 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 08:19AM
Chlordane*	<0.4	ug/L	✓		0.4	2.0 ug/L	EPA 505	KV-NH	04/16/2021 08:19AM
Date Extracted	-					No Limit	EPA 505	GQ-NH	04/15/2021 12:25PM
Toxaphene*	<2	ug/L	✓		2.0	3 ug/L	EPA 505	KV-NH	04/16/2021 08:19AM
2,4,5-TP (Silvex)*	<0.25	ug/L	✓		0.25	50 ug/L	EPA 515.3	KV-NH	04/22/2021 12:26AM
2,4-D*	<1	ug/L	✓		1	70 ug/L	EPA 515.3	KV-NH	04/22/2021 12:26AM
Dalapon*	<1	ug/L	✓		1	200 ug/L	EPA 515.3	KV-NH	04/22/2021 12:26AM
Date Extracted	-					No Limit	EPA 515.3	GQ-NH	04/21/2021 09:00AM
Dicamba*	<0.5	ug/L			0.5	No Limit	EPA 515.3	KV-NH	04/22/2021 12:26AM
Dinoseb*	<1	ug/L	✓		1	7 ug/L	EPA 515.3	KV-NH	04/22/2021 12:26AM
Pentachlorophenol*	<0.1	ug/L	✓		0.1	1 ug/L	EPA 515.3	KV-NH	04/22/2021 12:26AM
Picloram*	<2	ug/L	✓		2	500 ug/L	EPA 515.3	KV-NH	04/22/2021 12:26AM
2,4-Dichlorophenylacetic acid	103	%	✓			70-130%	EPA 515.3 - SS	KV-NH	04/22/2021 12:26AM
Alachlor*	<0.1	ug/L	✓		0.1	2 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM

NELAP ACCREDITED TNI LABORATORY

Donald A. D'Anjou, Ph. D.
Laboratory Director

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22 Manchester Road, Unit 2, Derry, NH 03038
Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 04/30/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01961-002
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: HAV-RAW
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:30AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: SOC GSA 2019
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Aldrin*	<0.1	ug/L			0.1	No Limit	EPA 525.2	DD-NH	04/20/2021 04:38PM
Atrazine*	<0.1	ug/L	✓		0.1	3 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Benzo(a)pyrene*	<0.1	ug/L	✓		0.1	0.2 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Butachlor*	<0.1	ug/L			0.1	No Limit	EPA 525.2	DD-NH	04/20/2021 04:38PM
Date Extracted	-					No Limit	EPA 525.2	GQ-NH	04/19/2021 10:13AM
Di(2-ethylhexyl)adipate*	<1	ug/L	✓		1	400 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Di(2-ethylhexyl)phthalate*	<1	ug/L	✓		1	6 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Dieldrin*	<0.1	ug/L			0.1	No Limit	EPA 525.2	DD-NH	04/20/2021 04:38PM
Endrin*	<0.1	ug/L	✓		0.1	2 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Heptachlor Epoxide*	<0.1	ug/L	✓		0.1	0.2 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Heptachlor*	<0.1	ug/L	✓		0.1	0.4 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Hexachlorobenzene*	<0.1	ug/L	✓		0.1	1 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Hexachlorocyclopentadiene*	<0.1	ug/L	✓		0.1	50 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Lindane*	<0.1	ug/L	✓		0.1	0.2 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Methoxychlor*	<0.1	ug/L	✓		0.1	40 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Metolachlor*	<0.1	ug/L			0.1	No Limit	EPA 525.2	DD-NH	04/20/2021 04:38PM
Metribuzin*	<0.1	ug/L	✓		0.1	70 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
Propachlor*	<0.1	ug/L			0.1	No Limit	EPA 525.2	DD-NH	04/20/2021 04:38PM
Simazine*	<0.1	ug/L	✓		0.1	4 ug/L	EPA 525.2	DD-NH	04/20/2021 04:38PM
1,3-Dimethyl-2-nitrobenzene	98	%	✓			70-130%	EPA 525.2 - SS	DD-NH	04/20/2021 04:38PM
Perylene-d12	101	%	✓			70-130%	EPA 525.2 - SS	DD-NH	04/20/2021 04:38PM
Pyrene-d10	99	%	✓			70-130%	EPA 525.2 - SS	DD-NH	04/20/2021 04:38PM
Triphenylphosphate	118	%	✓			70-130%	EPA 525.2 - SS	DD-NH	04/20/2021 04:38PM
3-Hydroxycarbofuran*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 08:27AM

NELAP ACCREDITED TNI LABORATORY

Donald A. D'Anjou, Ph. D.
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SAMPLE ID #: 2104-01961-002
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: HAV-RAW
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:30AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: SOC GSA 2019
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Aldicarb Sulfone*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 08:27AM
Aldicarb Sulfoxide*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 08:27AM
Aldicarb*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 08:27AM
Carbaryl*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 08:27AM
Carbofuran*	<1	ug/L	✓		1	40 ug/L	EPA 531.1	KV-NH	04/21/2021 08:27AM
Date Extracted	-					No Limit	EPA 531.1	KV-NH	04/20/2021 02:35PM
Methiocarb*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 08:27AM
Methomyl*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 08:27AM
Oxamyl (Vydate)*	<1	ug/L	✓		1	200 ug/L	EPA 531.1	KV-NH	04/21/2021 08:27AM
Propoxur (Baygon)*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 08:27AM
Date Extracted	-					No Limit	EPA 547	GQ-NH	04/22/2021 03:56PM
Glyphosate*	<10	ug/L	✓		10	700 ug/L	EPA 547	KV-NH	04/22/2021 08:56PM
Date Extracted	-					No Limit	EPA 549.2	GQ-NH	04/20/2021 11:40AM
Diquat*	<1	ug/L	✓		1	20 ug/L	EPA 549.2	KV-NH	04/21/2021 04:55PM

NELAP ACCREDITED TNI LABORATORY

Donald A. D'Anjou, Ph. D.
Laboratory Director

GRANITE STATE
ANALYTICAL SERVICES, LLC.
22 Manchester Road, Unit 2, Derry, NH 03038
Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 04/30/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01961-003
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: HAV-RAW
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:30AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: VOC524.3-DW
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
1,1,1,2-Tetrachloroethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,1,1-Trichloroethane*	<0.5	ug/L	✓		0.5	200 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,1,2,2-Tetrachloroethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,1,2-Trichloroethane*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,1-Dichloroethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,1-Dichloroethylene*	<0.5	ug/L	✓		0.5	7 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,1-Dichloropropylene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,2,3-Trichlorobenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,2,3-Trichloropropane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,2,4-Trichlorobenzene*	<0.5	ug/L	✓		0.5	70 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,2,4-Trimethylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,2-Dibromo-3-chloropropane	<0.5	ug/L			0.5	0.2 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,2-Dibromoethane	<0.5	ug/L			0.5	0.05 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,2-Dichlorobenzene*	<0.5	ug/L	✓		0.5	600 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,2-Dichloroethane*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,2-Dichloropropane*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,3,5-Trimethylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,3-Dichlorobenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,3-Dichloropropane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,4-Dichlorobenzene*	<0.5	ug/L	✓		0.5	75 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
2-Chlorotoluene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
4-Chlorotoluene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
4-Isopropyltoluene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Benzene*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM

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CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 04/30/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01961-003
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: HAV-RAW
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:30AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: VOC524.3-DW
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS

CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Bromobenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Bromochloromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Bromodichloromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Bromoform*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Bromomethane*	<0.5	ug/L		L	0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Carbon disulfide*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Carbon tetrachloride*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
Chlorobenzene*	<0.5	ug/L	✓		0.5	100 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
Chloroform*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Chloromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
cis-1,2-Dichloroethylene*	<0.5	ug/L	✓		0.5	70 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
cis-1,3-Dichloropropylene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Dibromochloromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Dibromomethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Dichlorodifluoromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Diethyl ether*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Diisopropyl ether (DIPE)*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Ethyl tert-butyl ether (ETBE)*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Ethylbenzene*	<0.5	ug/L	✓		0.5	700 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
Hexachlorobutadiene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Hexachloroethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Isopropylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
m&p-Xylenes	<1	ug/L			1	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Methyl tert-butyl ether (MTBE)*	<0.5	ug/L	✓		0.5	13 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM

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Laboratory Director

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Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 04/30/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01961-003
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: HAV-RAW
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:30AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: VOC524.3-DW
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS

CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Methylene chloride*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
Naphthalene*	<0.5	ug/L	✓		0.5	100 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
n-Butylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
n-Propylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
o-Xylene	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
sec-Butylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Styrene*	<0.5	ug/L	✓		0.5	100 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
tert-Amyl methyl ether (TAME)*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
tert-Butyl alcohol (TBA)*	<10	ug/L			10	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
tert-Butylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Tetrachloroethylene*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
Tetrahydrofuran (THF)	<10	ug/L			10	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Toluene*	<0.5	ug/L	✓		0.5	1000 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
Total THMs*	<0.5	ug/L	✓		0.5	80 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
Total Xylenes*	<0.5	ug/L	✓		0.5	10000 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
trans-1,2-Dichloroethylene*	<0.5	ug/L	✓		0.5	100 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
trans-1,3-Dichloropropylene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Trichloroethylene*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
Trichlorofluoromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/21/2021 01:51PM
Vinyl chloride*	<0.5	ug/L	✓		0.5	2 ug/L	EPA 524.3	DD-NH	04/21/2021 01:51PM
1,2-Dichlorobenzene-d4	115	%	✓		0.5	70-130%	EPA 524.3 - SS	DD-NH	04/21/2021 01:51PM
4-Bromofluorobenzene	106	%	✓		0.5	70-130%	EPA 524.3 - SS	DD-NH	04/21/2021 01:51PM
Methyl tert-Butyl Ether-d3	94	%	✓		0.5	70-130%	EPA 524.3 - SS	DD-NH	04/21/2021 01:51PM

NELAP ACCREDITED TNI LABORATORY

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Laboratory Director

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Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 04/30/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01961-004
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: HAV-RAW
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:30AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: Bac P/A
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Coliform Bacteria*	Present	P-A/100mL	⚠		Absent	No Limit	SM 9223B	DG-NH	04/15/2021 09:00AM
E. coli Bacteria*	Absent	P-A/100mL	✓		Absent	Absent	SM 9223B	DG-NH	04/15/2021 09:00AM
		Total Coliform / E.coli Bacteria Preparation				(Colilert®-18) 20th ED	SM 9223B	DG-NH	04/14/2021 01:30PM

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Laboratory Report

Portsmouth Public Works
680 Peverly Hill Road
Portsmouth, NH 03801

Date Printed:	**05/04/2021**
Work Order #:	**2104-01934**
Client Job #:	
Date Received:	**04/14/2021**
Sample collected in:	**New Hampshire**

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of the analyzing laboratory's Quality Assurance Plan, Standard Operating Procedures and State Accreditation. This certificate shall not be reproduced, except in full, without the written approval of the analyzing laboratory. The results presented in this report relate to the samples listed on the following pages in the condition in which they were received. Accreditation for each analyte is identified by the * symbol following the analyte name. Location of our analyzing laboratory is identified by the code in the Analyst Column.

A & L Laboratory:
Identified by ME in Analyst Column
155 Center Street, Auburn, Maine 04210
www.allaboratory.com

Granite State Analytical Services LLC:
Identified by NH in Analyst Column
22 Manchester Road, Derry, NH 03038
www.granitestateanalytical.com

ANALYSIS RELATED NOTES:

- RL: "Reporting limit" means the lowest level of an analyte that can be accurately recovered from the matrix of interest.
- A & L Laboratory / Granite State Analytical Services LLC. accreditation lists can be found on our websites listed above.
- Subcontracted samples will be identified by the Accreditation number of the subcontract laboratory in the analyst field for each analyte and the appropriate laboratory will be listed here.This report contains data that were produced by a subcontracted laboratory accredited for the fields of testing performed, if available. Accreditation for each analyte is identified by the * symbol following the analyte name.
  Alpha Analytical-Westborough, 8 Walkup Dr., Westborough, MA 01581 Accreditation # 2064
  ChemServe, 317 Elm St., Milford, NH 03055 Accreditation # 1008
  KNL Laboratory Services, 3202 North Florida Avenue, Tampa, FL 33603 Accreditation # 2530
- Data Qualifiers (DQ) Flags provide additional information in regards to the receipt, analysis or quality control of a sample. These are indicated under the DQ Flags Column on your report and listed here if necessary: Data Qualifier (DQ) Flags: H = Hold time non-compliant.

SAMPLE STATE SPECIFIC NOTES:

- The State of New Hampshire has set an Advisory Limit of 10,000 pCi/L for Radon in Water.

Additional Narrative or Comments: None

We appreciate the opportunity to provide you with laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be happy to assist you.

Donald A. D'Anjou, Ph. D.
Laboratory Director

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Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 05/04/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01934-001
SAMPLED BY: Caceres, Mason
SAMPLE ADDRESS: GAC 430
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: 1,4-Dioxane-522
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
1,4-Dioxane*	<0.1	ug/L	✓		0.1	0.32 ug/L	EPA 522	DD-NH	04/19/2021 07:49PM
1,4-Dioxane-d8	91	%	✓			70-130%	EPA 522	DD-NH	04/19/2021 07:49PM
Date Extracted	Completed						EPA 522	GQ-NH	04/16/2021 11:45AM

NELAP ACCREDITED TNI LABORATORY

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CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 05/04/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01934-002
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: GAC 430
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: IOC-MS-Compliance-2019
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS

CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Turbidity*	<0.5	NTU	✓		0.5	5 NTU	EPA 180.1	DG-NH	04/14/2021 05:00PM
Calcium*	46.3	mg/L			1	No Limit	EPA 200.7	JLR-NH	04/16/2021 01:37PM
Hardness (calc.)*	148	mg CaCO3/L			2	No Limit	EPA 200.7	JLR-NH	04/16/2021 01:37PM
Iron*	<0.01	mg/L	✓		0.01	0.3 mg/L	EPA 200.7	JLR-NH	04/16/2021 01:37PM
Magnesium*	7.8	mg/L			1	No Limit	EPA 200.7	JLR-NH	04/16/2021 01:37PM
Potassium*	2.7	mg/L			1	No Limit	EPA 200.7	JLR-NH	04/16/2021 01:37PM
Sodium*	20.7	mg/L			1	No Limit	EPA 200.7	JLR-NH	04/16/2021 01:37PM
Aluminum*	0.0120	mg/L	✓		0.001	0.2 mg/L	EPA 200.8	JLR-NH	04/20/2021 04:58PM
Antimony*	<0.001	mg/L	✓		0.001	0.006 mg/L	EPA 200.8	DR-NH	04/15/2021 12:46PM
Arsenic*	<0.001	mg/L	✓		0.001	0.010 mg/L	EPA 200.8	JLR-NH	04/20/2021 04:58PM
Barium*	0.0206	mg/L	✓		0.001	2.00 mg/L	EPA 200.8	JLR-NH	04/20/2021 04:58PM
Beryllium*	<0.001	mg/L	✓		0.001	0.004 mg/L	EPA 200.8	JLR-NH	04/20/2021 04:58PM
Cadmium*	<0.001	mg/L	✓		0.001	0.005 mg/L	EPA 200.8	JLR-NH	04/20/2021 04:58PM
Chromium*	<0.001	mg/L	✓		0.001	0.1 mg/L	EPA 200.8	JLR-NH	04/20/2021 04:58PM
Copper*	<0.001	mg/L	✓		0.001	1.3 mg/L	EPA 200.8	JLR-NH	04/20/2021 04:58PM
Manganese*	0.0548	mg/L	▽		0.001	0.05 mg/L	EPA 200.8	JLR-NH	04/20/2021 04:58PM
Mercury*	<0.0001	mg/L	✓		0.0001	0.002 mg/L	EPA 200.8	JLR-NH	04/20/2021 11:18AM
Nickel*	0.0022	mg/L			0.001	No limit	EPA 200.8	JLR-NH	04/20/2021 04:58PM
Selenium*	<0.001	mg/L	✓		0.001	0.05 mg/L	EPA 200.8	DR-NH	04/15/2021 12:46PM
Thallium*	<0.001	mg/L	✓		0.001	0.002 mg/L	EPA 200.8	DR-NH	04/15/2021 12:46PM
Zinc*	<0.001	mg/L	✓		0.001	5 mg/L	EPA 200.8	JLR-NH	04/20/2021 04:58PM
Chloride*	100	mg/L	✓		2	250 mg/L	EPA 300.0	DG-NH	04/14/2021 06:23PM
Fluoride*	<0.2	mg/L	✓		0.2	4.0 mg/L	EPA 300.0	DG-NH	04/14/2021 06:23PM
Nitrate as N*	<0.2	mg/L	✓		0.2	10 mg/L	EPA 300.0	DG-NH	04/14/2021 06:23PM

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Laboratory Director

GRANITE STATE
ANALYTICAL SERVICES, LLC.
22 Manchester Road, Unit 2, Derry, NH 03038
Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 05/04/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01934-002
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: GAC 430
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: IOC-MS-Compliance-2019
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS

CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Nitrite as N*	<0.2	mg/L	✓		0.2	1 mg/L	EPA 300.0	DG-NH	04/14/2021 06:23PM
Sulfate*	<2	mg/L	✓		2	250 mg/L	EPA 300.0	DG-NH	04/14/2021 06:23PM
Perchlorate*	<0.050	ug/L	✓		0.050	2 ug/L	EPA 332	2064	04/16/2021 02:43PM
Color, Apparent	<5	CPU	✓		5	15 CPU	SM 2120B	DG-NH	04/14/2021 01:57PM
Odor	ND	T.O.N.	✓	H	1	3 T.O.N.	SM 2150B	DG-NH	04/14/2021 02:06PM
Total Alkalinity*	72	mg CaCO3/L			20	No Limit	SM 2320B	DG-NH	04/16/2021 12:30PM
Total Dissolved Solids*	268	mg/L	✓		10	500 mg/L	SM 2540C	1008	04/20/2021
Cyanide, Total*	<0.02	mg/L	✓		0.02	0.2 mg/L	SM 4500 CN E	1008	04/26/2021
pH*	7.14	SU	✓	H	N/A	6.5 - 8.5 SU	SM 4500 H B	DG-NH	04/14/2021 02:06PM

NELAP ACCREDITED TNI LABORATORY

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Laboratory Director

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CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01934-003
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: GAC 430
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: SOC GSA 2019
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
1,2-Dibromo-3-chloropropane (DBCP)*	<0.02	ug/L	✓		0.02	0.2 ug/L	EPA 504.1	KV-NH	04/16/2021 03:07AM
Date Extracted	-					No Limit	EPA 504.1	GQ-NH	04/15/2021 12:25PM
Ethylene Dibromide (EDB)*	<0.02	ug/L	✓		0.02	0.05 ug/L	EPA 504.1	KV-NH	04/16/2021 03:07AM
Aroclor 1016 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 06:56AM
Aroclor 1221 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 06:56AM
Aroclor 1232 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 06:56AM
Aroclor 1242 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 06:56AM
Aroclor 1248 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 06:56AM
Aroclor 1254 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 06:56AM
Aroclor 1260 Screen*	<0.2	ug/L			0.2	No Limit	EPA 505	KV-NH	04/16/2021 06:56AM
Chlordane*	<0.4	ug/L	✓		0.4	2.0 ug/L	EPA 505	KV-NH	04/16/2021 06:56AM
Date Extracted	-					No Limit	EPA 505	GQ-NH	04/15/2021 12:25PM
Toxaphene*	<2	ug/L	✓		2.0	3 ug/L	EPA 505	KV-NH	04/16/2021 06:56AM
2,4,5-TP (Silvex)*	<0.25	ug/L	✓		0.25	50 ug/L	EPA 515.3	KV-NH	04/22/2021
2,4-D*	<1	ug/L	✓		1	70 ug/L	EPA 515.3	KV-NH	04/22/2021
Dalapon*	<1	ug/L	✓		1	200 ug/L	EPA 515.3	KV-NH	04/22/2021
Date Extracted	-					No Limit	EPA 515.3	GQ-NH	04/21/2021 09:00AM
Dicamba*	<0.5	ug/L			0.5	No Limit	EPA 515.3	KV-NH	04/22/2021
Dinoseb*	<1	ug/L	✓		1	7 ug/L	EPA 515.3	KV-NH	04/22/2021
Pentachlorophenol*	<0.1	ug/L	✓		0.1	1 ug/L	EPA 515.3	KV-NH	04/22/2021
Picloram*	<2	ug/L	✓		2	500 ug/L	EPA 515.3	KV-NH	04/22/2021
2,4-Dichlorophenylacetic acid	108	%	✓			70-130%	EPA 515.3 - SS	KV-NH	04/22/2021
Alachlor*	<0.1	ug/L	✓		0.1	2 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM

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DATE PRINTED: 05/04/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01934-003
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: GAC 430
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: SOC GSA 2019
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Aldrin*	<0.1	ug/L			0.1	No Limit	EPA 525.2	DD-NH	04/20/2021 03:58PM
Atrazine*	<0.1	ug/L	✓		0.1	3 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Benzo(a)pyrene*	<0.1	ug/L	✓		0.1	0.2 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Butachlor*	<0.1	ug/L			0.1	No Limit	EPA 525.2	DD-NH	04/20/2021 03:58PM
Date Extracted	-					No Limit	EPA 525.2	GQ-NH	04/19/2021 10:13AM
Di(2-ethylhexyl)adipate*	<1	ug/L	✓		1	400 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Di(2-ethylhexyl)phthalate*	<1	ug/L	✓		1	6 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Dieldrin*	<0.1	ug/L			0.1	No Limit	EPA 525.2	DD-NH	04/20/2021 03:58PM
Endrin*	<0.1	ug/L	✓		0.1	2 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Heptachlor Epoxide*	<0.1	ug/L	✓		0.1	0.2 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Heptachlor*	<0.1	ug/L	✓		0.1	0.4 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Hexachlorobenzene*	<0.1	ug/L	✓		0.1	1 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Hexachlorocyclopentadiene*	<0.1	ug/L	✓		0.1	50 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Lindane*	<0.1	ug/L	✓		0.1	0.2 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Methoxychlor*	<0.1	ug/L	✓		0.1	40 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Metolachlor*	<0.1	ug/L			0.1	No Limit	EPA 525.2	DD-NH	04/20/2021 03:58PM
Metribuzin*	<0.1	ug/L	✓		0.1	70 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
Propachlor*	<0.1	ug/L			0.1	No Limit	EPA 525.2	DD-NH	04/20/2021 03:58PM
Simazine*	<0.1	ug/L	✓		0.1	4 ug/L	EPA 525.2	DD-NH	04/20/2021 03:58PM
1,3-Dimethyl-2-nitrobenzene	101	%	✓			70-130%	EPA 525.2 - SS	DD-NH	04/20/2021 03:58PM
Perylene-d12	105	%	✓			70-130%	EPA 525.2 - SS	DD-NH	04/20/2021 03:58PM
Pyrene-d10	104	%	✓			70-130%	EPA 525.2 - SS	DD-NH	04/20/2021 03:58PM
Triphenylphosphate	117	%	✓			70-130%	EPA 525.2 - SS	DD-NH	04/20/2021 03:58PM
3-Hydroxycarbofuran*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 07:44AM

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CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01934-003
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: GAC 430
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: SOC GSA 2019
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Aldicarb Sulfone*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 07:44AM
Aldicarb Sulfoxide*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 07:44AM
Aldicarb*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 07:44AM
Carbaryl*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 07:44AM
Carbofuran*	<1	ug/L	✓		1	40 ug/L	EPA 531.1	KV-NH	04/21/2021 07:44AM
Date Extracted	-					No Limit	EPA 531.1	KV-NH	04/20/2021 02:35PM
Methiocarb*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 07:44AM
Methomyl*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 07:44AM
Oxamyl (Vydate)*	<1	ug/L	✓		1	200 ug/L	EPA 531.1	KV-NH	04/21/2021 07:44AM
Propoxur (Baygon)*	<1	ug/L			1	No Limit	EPA 531.1	KV-NH	04/21/2021 07:44AM
Date Extracted	-					No Limit	EPA 547	GQ-NH	04/22/2021 03:56PM
Glyphosate*	<10	ug/L	✓		10	700 ug/L	EPA 547	KV-NH	04/22/2021 08:27PM
Date Extracted	-					No Limit	EPA 549.2	GQ-NH	04/20/2021 11:40AM
Diquat*	<1	ug/L	✓		1	20 ug/L	EPA 549.2	KV-NH	04/21/2021 04:48PM

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CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 05/04/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01934-004
SAMPLED BY: Caceres, Mason
SAMPLE ADDRESS: GAC 430
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: VOC524.3-DW
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
1,1,1,2-Tetrachloroethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,1,1-Trichloroethane*	<0.5	ug/L	✓		0.5	200 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,1,2,2-Tetrachloroethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,1,2-Trichloroethane*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,1-Dichloroethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,1-Dichloroethylene*	<0.5	ug/L	✓		0.5	7 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,1-Dichloropropylene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,2,3-Trichlorobenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,2,3-Trichloropropane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,2,4-Trichlorobenzene*	<0.5	ug/L	✓		0.5	70 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,2,4-Trimethylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,2-Dibromo-3-chloropropane	<0.5	ug/L			0.5	0.2 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,2-Dibromoethane	<0.5	ug/L			0.5	0.05 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,2-Dichlorobenzene*	<0.5	ug/L	✓		0.5	600 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,2-Dichloroethane*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,2-Dichloropropane*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,3,5-Trimethylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,3-Dichlorobenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,3-Dichloropropane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,4-Dichlorobenzene*	<0.5	ug/L	✓		0.5	75 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
2-Chlorotoluene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
4-Chlorotoluene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
4-Isopropyltoluene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Benzene*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM

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Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: VOC524.3-DW
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS

CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Bromobenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Bromochloromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Bromodichloromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Bromoform*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Bromomethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Carbon disulfide*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Carbon tetrachloride*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
Chlorobenzene*	<0.5	ug/L	✓		0.5	100 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
Chloroform*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Chloromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
cis-1,2-Dichloroethylene*	<0.5	ug/L	✓		0.5	70 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
cis-1,3-Dichloropropylene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Dibromochloromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Dibromomethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Dichlorodifluoromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Diethyl ether*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Diisopropyl ether (DIPE)*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Ethyl tert-butyl ether (ETBE)*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Ethylbenzene*	<0.5	ug/L	✓		0.5	700 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
Hexachlorobutadiene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Hexachloroethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Isopropylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
m&p-Xylenes	<1	ug/L			1	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Methyl tert-butyl ether (MTBE)*	<0.5	ug/L	✓		0.5	13 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM

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Laboratory Director

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Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: VOC524.3-DW
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS

CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Methylene chloride*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
Naphthalene*	<0.5	ug/L	✓		0.5	100 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
n-Butylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
n-Propylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
o-Xylene	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
sec-Butylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Styrene*	<0.5	ug/L	✓		0.5	100 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
tert-Amyl methyl ether (TAME)*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
tert-Butyl alcohol (TBA)*	<10	ug/L			10	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
tert-Butylbenzene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Tetrachloroethylene*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
Tetrahydrofuran (THF)	<10	ug/L			10	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Toluene*	<0.5	ug/L	✓		0.5	1000 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
Total THMs*	<0.5	ug/L	✓		0.5	80 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
Total Xylenes*	<0.5	ug/L	✓		0.5	10000 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
trans-1,2-Dichloroethylene*	<0.5	ug/L	✓		0.5	100 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
trans-1,3-Dichloropropylene*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Trichloroethylene*	<0.5	ug/L	✓		0.5	5 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
Trichlorofluoromethane*	<0.5	ug/L			0.5	No Limit	EPA 524.3	DD-NH	04/16/2021 02:36AM
Vinyl chloride*	<0.5	ug/L	✓		0.5	2 ug/L	EPA 524.3	DD-NH	04/16/2021 02:36AM
1,2-Dichlorobenzene-d4	102	%	✓		0.5	70-130%	EPA 524.3 - SS	DD-NH	04/16/2021 02:36AM
4-Bromofluorobenzene	100	%	✓		0.5	70-130%	EPA 524.3 - SS	DD-NH	04/16/2021 02:36AM
Methyl tert-Butyl Ether-d3	96	%	✓		0.5	70-130%	EPA 524.3 - SS	DD-NH	04/16/2021 02:36AM

NELAP ACCREDITED TNI LABORATORY

Donald A. D'Anjou, Ph. D.
Laboratory Director

GRANITE STATE
ANALYTICAL SERVICES, LLC.
22 Manchester Road, Unit 2, Derry, NH 03038
Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 05/04/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01934-005
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: GAC 430
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▼
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: Rads Full-MS
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Uranium*	<1	ug/L	✓		1	30 ug/L	EPA 200.8	DR-NH	04/15/2021 05:39PM
Uranium	<0.67	pCi/L	✓		0.67	20 pCi/L	EPA 200.8 Calc.	DR-NH	04/15/2021 05:39PM
Analytical Gross Alpha*	<3	pCi/L			3	No Limit	EPA 900	2530	04/23/2021 08:07AM
Radium 226*	<1	pCi/L			1	No Limit	EPA 903.0	2530	04/29/2021 12:47PM
Radium 228*	<1	pCi/L			1	No Limit	EPA Ra-05	2530	04/28/2021 01:15PM
Combined Radium	<1	pCi/L	✓		1	5 pCi/L	N/A Calculation	2530	04/29/2021 12:47PM
Compliance Gross Alpha*	<3	pCi/L	✓		3	15 pCi/L	N/A Calculation	WP-NH	04/23/2021 08:07AM
Radon	<100	pCi/L	✓		100	10000 pCi/L	SM 7500 Rn B	TT-ME	04/15/2021 09:19PM

NELAP ACCREDITED TNI LABORATORY

Donald A. D'Anjou, Ph. D.
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22 Manchester Road, Unit 2, Derry, NH 03038
Phone (800) 699-9920 | (603) 432-3044 website www.granitestateanalytical.com

CERTIFICATE OF ANALYSIS FOR DRINKING WATER

DATE PRINTED: 05/04/2021
CLIENT NAME: Portsmouth Public Works
CLIENT ADDRESS: 680 Peverly Hill Road
Portsmouth, NH 03801

SAMPLE ID #: 2104-01934-006
SAMPLED BY: Caceres, Mason

SAMPLE ADDRESS: GAC 430
Pease WTP
Portsmouth NH

MORE LOC INFO:

Legend	
Passes	✓
Fails EPA Primary	⊗
Fails EPA Secondary	▽
Fails State Guideline	✕
Attention	⚠

DATE AND TIME COLLECTED: 04/13/2021 10:40AM
DATE AND TIME RECEIVED: 04/14/2021 08:14AM
ANALYSIS PACKAGE: Bac P/A
RECEIPT TEMPERATURE: ON ICE 3.8° CELSIUS
CLIENT JOB #:

Test Description	Result	Test Units	Pass /Fail	DQ Flag	RL	Limit	Method	Analyst	Date - Time Analyzed
Coliform Bacteria*	Absent	P-A/100mL	✓		Absent	No Limit	SM 9223B	DG-NH	04/15/2021 09:00AM
E. coli Bacteria*	Absent	P-A/100mL	✓		Absent	Absent	SM 9223B	DG-NH	04/15/2021 09:00AM
Total Coliform / E.coli Bacteria Preparation						(Colilert®-18) 20th ED	SM 9223B	DG-NH	04/14/2021 01:30PM

NELAP ACCREDITED TNI LABORATORY

Donald A. D'Anjou, Ph. D.
Laboratory Director

Laboratory Report

Absolute Resource associates
124 Heritage Avenue Portsmouth NH 03801

Al Pratt
City of Portsmouth Public Works
680 Peverly Hill Road
Portsmouth, NH 03801

PO Number: None
Job ID: 56533
Date Received: 4/13/21

Project: Pease

Attached please find results for the analysis of the samples received on the date referenced above.

Unless otherwise noted in the attached report, the analyses performed met the requirements of Absolute Resource Associates' Quality Assurance Plan. The Standard Operating Procedures are based upon USEPA SW-846, USEPA Methods for Chemical Analysis of Water and Wastewater, Standard Methods for the Examination of Water and Wastewater and other recognized methodologies. The results contained in this report pertain only to the samples as indicated on the chain of custody.

Absolute Resource Associates maintains certification with the agencies listed below. The reported results apply to the sample(s) in the condition as received at the time the laboratory took custody. This report shall not be reproduced except in full, without written approval of the laboratory. The liability of ARA is limited to the cost of the requested analyses, unless otherwise agreed upon in writing.

We appreciate the opportunity to provide laboratory services. If you have any questions regarding the enclosed report, please contact the laboratory and we will be glad to assist you.

Sincerely,
Absolute Resource Associates

Charles Leahy
Authorized Signature

Date of Approval: 4/15/2021
Total number of pages: 4

Absolute Resource Associates Certifications

New Hampshire	1732	Massachusetts	M-NH902
Maine	NH902		

Project ID: Pease
Job ID: 56533

Sample#: 56533-001
Sample ID: HAV-RAW
Matrix: Water
Sampled: 4/13/21 10:30

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Analysis Batch	Analysis Date	Analysis Time	Reference
Total Coliform Bacteria	absent			1	DBV		2100933	4/13/21	14:05	SM9223BColilert
E. coli Bacteria	absent			1	DBV		2100933	4/13/21	14:05	SM9223BColilert

Sample#: 56533-002
Sample ID: GAC430
Matrix: Water
Sampled: 4/13/21 10:40

Parameter	Result	Reporting Limit	Units	Instr Dil'n Factor	Analyst	Prep Date	Analysis Batch	Analysis Date	Analysis Time	Reference
Total Coliform Bacteria	absent			1	DBV		2100933	4/13/21	14:05	SM9223BColilert
E. coli Bacteria	absent			1	DBV		2100933	4/13/21	14:05	SM9223BColilert

Absolute Resource associates

Absolute Resource associates
124 Heritage Avenue #16
Portsmouth, NH 03801
603-436-2001
absoluteresourceassociates.com

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

56533

Company Name: City of Portsmouth
Company Address: 680 Peverly Hill Rd
Report To: Al Pratt
Phone #: 603-520-0622
Invoice to: Al Pratt
Email: anpratt@cityofportsmouth.com
PO #:

Project Name: Pease
Project #:
Project Location: NH MA ME VT _____
Accreditation Required? N/Y: _____
Protocol: RCRA SDWA NPDES MCP NHDES DOD
Reporting Limits: QAPP GW-1 S-1 EPA DW Other_____
Quote # _____
❑ NH Reimbursement Pricing

Lab Sample ID (Lab Use Only)	Field ID	# CONTAINERS	Matrix: WATER	SOLID	OTHER	Preservation Method: HCl	HNO_3	H_2SO_4	NaOH	MeOH	Sampling: DATE	TIME	SAMPLER	Grab (G) or Composite (C)
565330 01	HAV-RAW	1	✓								4/13/21	10:30	AP	G
02	GAC430	1	✓								"	10:40	AP	G

ANALYSIS REQUEST

❑ VOC 8260 ❑ VOC 8260 NHDES ❑ VOC 8260 MADEP
❑ VOC 624.1 ❑ VOC BTEX MtBE, only ❑ VOC 8021VT
❑ VPH MADEP ❑ GRO 8015 ❑ 1,4-Dioxane
❑ VOC 524.2 ❑ VOC 524.2 NH List ❑ Gases-List:
❑ TPH ❑ DRO 8015 ❑ EPH MADEP ❑ TPH Fingerprint
❑ 8270PAH ❑ 8270ABN ❑ 625.1 ❑ EDB
❑ 8082 PCB ❑ 8081 Pesticides ❑ 608.3 Pest/PCB
❑ PFAS 537.1
❑ O&G 1664 ❑ Mineral O&G 1664
❑ pH ❑ BOD ❑ Conductivity ❑ Turbidity ❑ Apparent Color
❑ TSS ❑ TDS ❑ TS ❑ TVS ❑ Alkalinity ❑ Acidity
❑ RCRA Metals ❑ Priority Pollutant Metals ❑ TAL Metals ❑ Hardness
❑ Total Metals-list:
❑ Dissolved Metals-list:
❑ Ammonia ❑ COD ❑ TKN ❑ TN ❑ TON ❑ TOC ❑ Ferrous Iron
❑ T-Phosphorus ✓ Bacteria P/A ❑ Bacteria MPN ❑ Enterococci
❑ Cyanide ❑ Sulfide ❑ Nitrate + Nitrite ❑ Ortho P ❑ Phenols
❑ Nitrate ❑ Nitrite ❑ Chloride ❑ Sulfate ❑ Bromide ❑ Fluoride
❑ Corrosivity ❑ Ignitibility/FP
❑ TCLP Metals ❑ TCLP VOC ❑ TCLP SVOC ❑ TCLP Pesticide
Subcontract: ❑ Grain Size ❑ Herbicides ❑ Asbestos

TAT REQUESTED
Priority (24 hr)* ❑
Expedited (48 hr)* ❑
Standard ❑
(10 Business Days)
*Date Needed_____

See absoluteresourceassociates.com for sample acceptance policy and current accreditation lists.

SPECIAL INSTRUCTIONS

REPORTING INSTRUCTIONS ✓PDF (e-mail address) anpratt@cityofportsmouth.com
❑ HARD COPY REQUIRED ❑ EDD_____

RECEIVED ON ICE ✓YES ❑NO
TEMPERATURE 12 °C

CUSTODY RECORD
QSD-01 Revision 03/09/2020

	Relinquished by Sampler:	Date	Time	Received by:	Date	Time
		4/13/21	12:22			
	Relinquished by:	Date	Time	Received by:	Date	Time
	Relinquished by:	Date	Time	Received by Laboratory:	Date	Time
					4/13/21	12:22

Sample Receipt Condition Report

56533

Absolute Resource Associates **Job Number:**

Samples Received from: ☐-UPS ☐-FedEx ☐-USPS ☐-Lab Courier ☑-Client Drop-off ☐-_____

Custody Seals - present & intact: ☐-Yes ☐-No ☑-N/A CoC signed: ☑-Yes ☐-No

Receipt Temp: 12 °C Samples on ice? ☑-Yes ☐-No ☐-N/A Sampled < 24 hrs ago? ~~☑-Yes~~ ☐-No

PFAS-only real ice? ☐-Yes ☐-No ☑-N/A Any signs of freezing? ☐-Yes ~~☑-No~~

Comments:_____

Preservation / Analysis	Bottle Size/Type & Quantity										Check pH for ALL applicable* samples and document:
HCl	40mL(G)		250mL(P)		500mL(P)		1L(G)				
HNO_3	125mL(P)		250mL(P)		500mL(P)						
H_2SO_4	40mL(G)		60mL(P)		125mL(P)		250mL(P)		500mL(P)		
NaOH	125mL(P)		250mL(P)								
$(NH_4)_2SO_4$	60mL(P)		125mL(P)		250mL(P)						
ZnAc-NaOH	125mL(P)		250mL(P)								
Trizma	125mL(P)		250mL (P)								*pH ✓by analyst:VOC, PFAS, TOC,O&G
NH_4Ac	125mL(P)		250mL (P)								Residual Cl not present:
NaS_2O_3	40mL(G)		120mL(P)	2							ABN625____Pest608____
MeOH	20mL(G)		40mL(G)								Bacteria ResCl ✓by analyst
None (solid)	2oz(G)		4oz(G)		8oz(G)		Syringe				PC Dry applicable? Y (N)
None (water)	40ml (G)		60mL(P)		125mL(P)		250mL(P)		500mL(P)		1L(G) 1L (P)
Mold	Cassette		Bulk		Plate		Tape Lift				
Asbestos	Cassette		Bulk								
Lead	Cassette		Bulk		~~Wipe~~						

Login Review	Yes	No	N/A	Comments
Proper lab sample containers/enough volume/correct preservative?	✓			
Analyses marked on COC match bottles received?	✓			
VOC &TOC Water-no headspace? VOC Solid-MeOH covers solid, no leaks, Prep Expiration OK?			✓	
PFAS: Lab specific bottles? QC received, if required?			✓	
Bacteria bottles provided by ARA?	✓			
Samples within holding time?	✓			
Immediate tests communicated in writing: NO_3, NO_2,o-PO_4, pH, BOD, Coliform/*E. coli* (P/A or MPN), Enterococci, Color Surfactants, Turbidity, Odor, CrVI, Ferrous Iron, Dissolved Oxygen, Unpres 624	✓			DBV
Date, time & ID on samples match CoC?	✓			
Rushes communicated to analyst in writing?			✓	
Subcontract note on login board?			✓	
Pesticides EPA 608 pH5-9?			✓	
Compliance samples have no discrepancies/require no flags?			✓	(Or must be rejected)
Log-in Supervisor notified immediately of following items:			✓	Discrepancies, compliance samples (NHDES, MADEP, DoD etc.) or uncommon requests.

Inspected and Received By: JD Date/Time: 4/13/21 12:50

Peer Review Checklist

☐ Client ID/Project Manager	☐ On Ice, Temperature OK?	☐ Sample IDs	☐ Analyses in Correctly
☐ Project Name	☐ PO# (if provided)	☐ Matrix	-references
☐ TAT/rushes communicated	☐ Sub samples sent? Shipping Charge?	☐ Date/Time collected	-wastewater methods
☐ Received Date/Time	☐ Issues noted above communicated?	☐ Short HTs communicated	☐ Notes from CoC in LIMS

Reviewed By: _____ Date: _____

Notes: (continue on back as needed)

	Initials	Date	What was sent?
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice
Uploaded / PDF	_____	_____	Report / Data / EDD / Invoice

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