April 21, 2022

Mark Baldi
Deputy Regional Director Bureau of Waste Site Cleanup
Central Regional Office
Massachusetts Department of Environmental Protection
8 New Bond Street
Worcester, MA 01606

RE: Immediate Response Action (IRA) Update Letter No. 2
Massachusetts Natural Fertilizer
65 Bean Porridge Road
Westminster, MA
MassDEP RTN: 2-0021866

Dear Mr. Baldi,

The following IRA response actions have been performed for the above referenced RTN.

WEEK OF APRIL 18, 2022 – APRIL 22, 2022

- On April 18, 2022, LEI collected drinking water samples from private wells located at:
  - 11 White Pine Drive
  - 12 White Pine Drive
  - 20 White Pine Drive
  - 26 White Pine Drive
  - 29 White Pine Drive

  All water samples were submitted to Alpha Analytical for PFAS-18 analysis. LEI is awaiting the results from Alpha.

121 Loring Avenue, Suite 455 • Salem, Massachusetts 01970 • P: 978.338.5541 • F: 978.338.5542

Private wells and one surface water sample scheduled for sampling on April 21, 2022:

- 5 Amber Road
- 6 Amber Road
- 11 Amber Road
- 9 White Pine Dr.
- 18 White Pine Dr.
- 33 White Pine Dr.
- 38 White Pine Dr.
- 6 Rock Maple Ln.
- Surface water sample from brook near Amber Road

All collected water samples will be submitted on April 22, 2022, to Alpha for PFAS-18 analysis.

Remaining Private wells to be sampled as of April 21, 2022: (see Spreadsheet)

Amber Road: 1, 2, 3, 4, 6, 8, 10, 12, 14, 15, 16
White Pine Drive: 1, 3, 7, 8, 10, 13, 14, 19, 22, 24, 30,
Rock Maple Lane: 1, 7, 18, 21, 24,

Access Agreement List provided by Lawson & Weitzen (attached)

Pending Lab Results
LEI contacted Alpha Laboratories requesting the due dates of pending analytical results. Laboratory results are expected for the following lab reports from Alpha.

L2216629 collected 3/30 has a due date of 4/21
L2216627 collected 3/30 has a due date of 4/21
L2218063 collected 4/6 has a due date for 5/5
L2219379 from 04/12 and 04/13 is due May 05.
L2219804 from 04/14 is due May 06.

Laboratory Results Received on April 21, 2022
While this letter was in process, LEI received laboratory analytical results from the following:
Influent and Effluent Water Samples from the Treatment Systems located at 67 & 70 Bean Porridge Hill Road and a drinking water sample collected from the private well located at 65 Bean Porridge Hill Road (which is a commercial facility) as well as a surface water sample collected from an on-site pond, located at 65 Bean Hill Porridge Hill Road. LEI will provide interpretation of these results in a future submittal. The results include impact to the private well at 65 Bean Porridge Hill Road above the drinking water standard and LEI is made a 2-Hour Notification to MassDEP as this letter is being finalized identifying the impact to the private well and a Condition of Substantial Release Migration. A copy of the laboratory report is attached.

Drinking Water Sample from 4 White Pine Drive
A water sample was collected by the owner of 4 White Pine Drive, which indicated a total PFAS result of approximately 1600 ng/L. LEI has no knowledge of the quality control and quality assurance related to this sample and cannot attest to its validity. LEI has a sample result for this location pending. Although this address currently has an unoccupied structure, we note that occupancy is intended in the near future. As a proactive measure, a POET system has been purchased for this property with intent to install when received. MassDEP acknowledged the proactive nature of this approach and also expressed a strong preference that if results confirm impact at an occupied residence before the POET is installed, that system should be diverted to the residence with on-going exposure.

Bottled Water
Bottled water deliveries continue at the original six impacted residences pending results from treatment system testing. As a proactive measure, bottled water deliveries have been requested for all addresses on White Pine Drive, Rock Maple Lane, and Amber Road. Those water deliveries have begun or are pending initial delivery as detailed in an attached spreadsheet.

These response actions and activities are the latest performed for the IRA as of April 21, 2022. If you have any questions, please call Lawrence Lessard, at (978) 338-5541.

Sincerely,

Michael Backunas
Senior Project Manager

Attachments

Massachusetts Natural Fertilizer
Site Access Agreements

Access Agreements for Sampling

Name	Address	Status	Date Sent	Date Signed
Brayan Aleman and Arielle Aleman	15 Rock Maple Lane	Signed	3/29/2022	4/2/2022
Steven P. Hecker	42 Bean Porridge Hill Road	Signed	3/30/2022	4/4/2022
Edward Lyonnais and Melissa Lyonnais	46 Bean Porridge Hill Road	Signed	3/30/2022	4/6/2022
Kofi Ansah and Yvonne Ansah	2 Rock Maple Drive	Sent/Pending	3/29/2022	
Paul Bartkus and Doris Bartkus	5 White Pine Drive	Signed *Modified*	3/29/2022	4/11/2022
Steven P. Burt and Michelle Burt	16 Amber Road	Sent/Pending	3/30/2022	
Michael and Alana Sunderland	11 Bean Porridge Hill Road	Sent/Pending	4/14/2022	
Anthony Costella and Amanda Costella	37 White Pine Drive	Sent/Pending	New owner is Erin Irizarry (see below)	
Daniel and Siobhan Bartkus	150 Bean Porridge Hill Road	Signed *Modified*	3/29/2022	4/11/2022
Tianzhi Fan and Ling Wang	5 Taymax Road	Sent/Pending	3/30/2022	
Lori Fiandaca	31 White Maple Lane	Signed	3/30/2022	4/8/2022
Jorge Gonzalez and Cristina Gonzalez	1 Rock Maple Lane	Sent/Pending	3/30/2022	
John W & Josephine Grant Trust	15 Amber Road	Sent/Pending	3/30/2022	
Darcy Linnus	100 Bean Porridge Hill Road	Sent via mail/Pending	3/30/2022	
Norma Avelar and Savik Luy	29 White Pine Drive	Signed	3/30/2022	4/14/2022
Peter Marashio and Beth Marashio	7 Rock Maple Lane	Signed	3/30/2022	4/13/2022
Danielle and Thomas Membrino	11 Rock Maple Lane	Signed	3/30/2022	4/12/2022
Nansy Swanson	104 Bean Porridge Hill Road	Sent/Pending	3/30/2022	
Timothy Tarr and Maureen Tarr	6 Rock Maple Drive	Signed	3/30/2022	4/19/2022
Danielle Vallera and Kaitlin Vallera	12 Amber Road	Sent/Pending	3/30/2022	
Mark Jr. Wyman and Sara Wyman	18 Rock Maple Lane	Sent/Pending	3/30/2022	
Traditional Concepts, Inc./Carrie-Ann Carlson	4 White Pine Drive	Signed	4/7/2022	4/8/2022

Michael Conti	12 White Pine Drive and 14 White Pine Drive	Signed	4/13/2022	4/15/2022
Matthew Elliott	23 White Pine Drive	Signed	4/12/2022	4/12/2022
Michael Ferris and Marina Muehlke	32 White Pine Drive	Signed	4/12/2022	4/13/2022
Ashley Rodgers	9 White Pine Drive	Signed	4/12/2022	4/15/2022
Kate Duffy	18 White Pine Drive	Signed	4/12/2022	4/18/2022
Aimee Martinez	16 White Pine Drive	Signed	4/11/2022	4/11/2022
Deborah and Charles Hooper	14 Amber Road	Sent/Pending	4/12/2022	
Tina and Scott Ladue	11 Amber Road	Signed	4/12/2022	4/20/2022
Amanda Zalegowski	20 White Pine Drive	Signed	4/13/2022	4/15/2022
Lucas Wafer	22 Rock Maple Lane	Signed	4/13/2022	4/13/2022
Elizabeth and Thomas Ferrick	5 Amber Road	Signed	4/13/2022	4/14/2022
Jesse and Stacey Sutela	6 Amber Road	Signed	4/13/2022	4/19/2022
Derek Brasili	3 Amber Road	Sent/Pending	4/13/2022	
Patricia Eidinger	4 Amber Road	Sent/Pending	4/13/2022	
Michaela Montecalvo	28 White Pine Drive	Signed	4/9/2022	4/12/2022
Nancy Moz	26 White Pine Drive	Signed	4/12/2022	4/12/2022
Ross Montolio	14 White Pine Drive	Sent/Pending	4/13/2022	
Margaret Bujald	98 Bean Porridge Hill Road	Sent/Pending	4/13/2022	
Talya Marshall	13 White Pine Drive	Sent/Pending	4/14/2022	
Oksana Zavidij	24 Rock Maple Lane	Sent/Pending	4/14/2022	
Jamison and Andrea Yi	38 White Pine Drive	Signed	4/14/2022	4/17/2022
Michael Wood	11 White Pine Drive	Signed	4/14/2022	4/17/2022
Marie Madhere	33 White Pine Drive	Signed	4/14/2022	4/17/2022
Konstantin Zhuravlyov	21 Rock Maple Lane	Sent/Pending	4/19/2022	
John and Melody Perea	24 Rock Maple Lane	Sent/Pending	4/19/2022	
Moncrieffe and Thessamar Wentworth	38 White Pine Drive	Sent via mail/Pending	4/19/2022	
Khalid Benhar and Assia Moslih	24 White Pine Drive	Sent via mail/Pending	4/19/2022	
Christopher Primeau and Tricia Khan	19 White Pine Drive	Sent via mail/Pending	4/20/2022	

Nabila and Nagy Bishara	2 Amber Road	Sent via mail/Pending	4/20/2022	
Michele and Vincent Miola	1 Amber Road	Sent via mail/Pending	4/20/2022	
Brian and Emily Morin	8 Amber Road	Sent/Pending	4/20/2022	
Tammy Hawkins and Robert Behringer	10 Amber Road	Sent via mail/Pending	4/20/2022	
David H. Smith	22 White Pine Drive	Sent/Pending	4/19/2022	
Erin Irizarry	37 White Pine Drive	Sent/Pending	4/20/2022	

Access Agreements for Carbon Filters

Name	Address	Status	Date Sent	Date Signed
Salvatore Albert and Wendy Albert	66 Bean Porridge Hill Road	Signed	3/24/2022	3/30/2022
Sean M. Gallagher and Ashley A. Sultan	68 Bean Porridge Hill Road	Signed	3/24/2022	3/29/2022
Joseph and Helen Gannon	72 Bean Porridge Hill Road	Signed	3/18/2022	3/29/2022
Timothy W. Maus and Lauren Opie	67 Bean Porridge Hill Road	Signed	3/18/2022	3/23/2022
William R. Michalowski and Nicol Michalczyk	70 Bean Porridge Hill Road	Signed	3/18/2022	
Thomas E. Ryan and Susan M. Ryan	64 Bean Porridge Hill Road	Signed	3/18/2022	3/25/2022

ANALYTICAL REPORT

Lab Number:	L2216629
Client:	Lessard Environmental 121 Loring Ave. Suite 342 Salem, MA 01970
ATTN:	Mike Backunas
Phone:	(978) 338-5541
Project Name:	MASS. NATURAL FERTILIZER
Project Number:	3291
Report Date:	04/21/22

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: MASS. NATURAL FERTILIZER
Project Number: 3291

Lab Number: L2216629
Report Date: 04/21/22

Alpha Sample ID	Client ID	Matrix	Sample Location	Collection Date/Time	Receive Date
L2216629-01	#67 INFLUENT	DW	65 BEAN PORRIDGE HILL RD, WESTMINSTER	03/30/22 10:40	03/31/22
L2216629-02	#67 EFFLUENT	DW	65 BEAN PORRIDGE HILL RD, WESTMINSTER	03/30/22 10:45	03/31/22
L2216629-03	#70 INFLUENT	DW	65 BEAN PORRIDGE HILL RD, WESTMINSTER	03/30/22 11:05	03/31/22
L2216629-04	#70 EFFLUENT	DW	65 BEAN PORRIDGE HILL RD, WESTMINSTER	03/30/22 11:10	03/31/22
L2216629-05	FIELD BLANK	DW	65 BEAN PORRIDGE HILL RD, WESTMINSTER	03/30/22 13:03	03/31/22
L2216629-06	#65 WELL	DW	65 BEAN PORRIDGE HILL RD, WESTMINSTER	03/30/22 13:05	03/31/22
L2216629-07	POND	WATER	65 BEAN PORRIDGE HILL RD, WESTMINSTER	03/30/22 13:20	03/31/22

Project Name:	MASS. NATURAL FERTILIZER	**Lab Number:**	L2216629
Project Number:	3291	**Report Date:**	04/21/22

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: MASS. NATURAL FERTILIZER **Lab Number:** L2216629
Project Number: 3291 **Report Date:** 04/21/22

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 537.1

L2216629-01: The sample was received with insufficient preservation. During sample preparation, Trizma was added to meet the acceptable pH range for the method.

L2216629-01: The sample was re-analyzed on dilution in order to quantitate the results within the calibration range. The result should be considered estimated, and is qualified with an E flag, for any compound that exceeded the calibration range in the initial analysis. The re-analysis was performed only for the compound that exceeded the calibration range.

L2216629-06R/D: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

L2216629-06R/D: The sample has elevated detection limits due to the dilution required by the elevated concentrations of target compounds in the sample.

The WG1625900-3 MS recoveries, performed on L2216629-01, are outside the acceptance criteria for perfluorooctanesulfonic acid (pfos) (28%) and n-ethyl perfluorooctanesulfonamidoacetic acid (netfosaa) (69%).

WG1625900-4R: The sample was re-analyzed due to QC failures in the original analysis. The results of the re-analysis are reported.

WG1625900-4R: The internal standard recoveries for the WG1625900-4R Laboratory Duplicate, performed on L2216629-02, are outside the acceptance criteria for d3-NMeFOSAA. The native sample has acceptable internal standard recoveries, and the duplicate RPDs are within method criteria; therefore, no further action was taken.

Perfluorinated Alkyl Acids by Isotope Dilution

L2216629-07, WG1625513-1, and WG1625513-3:: Extracted Internal Standard recoveries were outside the acceptance criteria for individual analytes. Please refer to the surrogate section of the report for details.

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: Kelly O'Neill

Title: Technical Director/Representative Date: 04/21/22

ORGANICS

SEMIVOLATILES

Project Name: MASS. NATURAL FERTILIZER **Lab Number:** L2216629

Project Number: 3291 **Report Date:** 04/21/22

SAMPLE RESULTS

Lab ID: L2216629-01
Client ID: #67 INFLUENT
Sample Location: 65 BEAN PORRIDGE HILL RD, WESTMINSTER

Date Collected: 03/30/22 10:40
Date Received: 03/31/22
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 04/12/22 11:59
Analyst: AC

Extraction Method: EPA 537.1
Extraction Date: 04/11/22 15:46

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	10.0		ng/l	1.86	0.621	1
Perfluorohexanoic Acid (PFHxA)	98.0		ng/l	1.86	0.621	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.86	0.621	1
Perfluoroheptanoic Acid (PFHpA)	123		ng/l	1.86	0.621	1
Perfluorohexanesulfonic Acid (PFHxS)	1.78	J	ng/l	1.86	0.621	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.86	0.621	1
Perfluorooctanoic Acid (PFOA)	320		ng/l	1.86	0.621	1
Perfluorononanoic Acid (PFNA)	120		ng/l	1.86	0.621	1
Perfluorooctanesulfonic Acid (PFOS)	734	E	ng/l	1.86	0.621	1
Perfluorodecanoic Acid (PFDA)	5.62		ng/l	1.86	0.621	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.86	0.621	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.86	0.621	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.86	0.621	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.86	0.621	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.86	0.621	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.86	0.621	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.86	0.621	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.86	0.621	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	110		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	100		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	127		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	106		70-130

Project Name: MASS. NATURAL FERTILIZER
Lab Number: L2216629
Project Number: 3291
Report Date: 04/21/22

SAMPLE RESULTS

Lab ID: L2216629-01 R/D
Client ID: #67 INFLUENT
Sample Location: 65 BEAN PORRIDGE HILL RD, WESTMINSTER
Date Collected: 03/30/22 10:40
Date Received: 03/31/22
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 04/12/22 14:05
Analyst: AC

Extraction Method: EPA 537.1
Extraction Date: 04/11/22 15:46

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorooctanesulfonic Acid (PFOS)	657		ng/l	3.72	1.24	2

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	102		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	114		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	94		70-130

Project Name: MASS. NATURAL FERTILIZER **Lab Number:** L2216629

Project Number: 3291 **Report Date:** 04/21/22

SAMPLE RESULTS

Lab ID: L2216629-02
Client ID: #67 EFFLUENT
Sample Location: 65 BEAN PORRIDGE HILL RD, WESTMINSTER

Date Collected: 03/30/22 10:45
Date Received: 03/31/22
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 04/12/22 12:16
Analyst: AC

Extraction Method: EPA 537.1
Extraction Date: 04/11/22 15:46

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.87	0.624	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.87	0.624	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.87	0.624	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.87	0.624	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.87	0.624	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.87	0.624	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.87	0.624	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.87	0.624	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.87	0.624	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.87	0.624	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.87	0.624	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.87	0.624	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.87	0.624	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.87	0.624	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.87	0.624	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.87	0.624	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.87	0.624	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.87	0.624	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	108		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	97		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	112		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		70-130

Project Name: MASS. NATURAL FERTILIZER **Lab Number:** L2216629

Project Number: 3291 **Report Date:** 04/21/22

SAMPLE RESULTS

Lab ID: L2216629-03
Client ID: #70 INFLUENT
Sample Location: 65 BEAN PORRIDGE HILL RD, WESTMINSTER

Date Collected: 03/30/22 11:05
Date Received: 03/31/22
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 04/12/22 12:34
Analyst: AC

Extraction Method: EPA 537.1
Extraction Date: 04/11/22 15:46

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.78	0.595	1
Perfluorohexanoic Acid (PFHxA)	17.9		ng/l	1.78	0.595	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.78	0.595	1
Perfluoroheptanoic Acid (PFHpA)	39.8		ng/l	1.78	0.595	1
Perfluorohexanesulfonic Acid (PFHxS)	0.712	J	ng/l	1.78	0.595	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.78	0.595	1
Perfluorooctanoic Acid (PFOA)	122		ng/l	1.78	0.595	1
Perfluorononanoic Acid (PFNA)	18.7		ng/l	1.78	0.595	1
Perfluorooctanesulfonic Acid (PFOS)	202		ng/l	1.78	0.595	1
Perfluorodecanoic Acid (PFDA)	0.677	J	ng/l	1.78	0.595	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.78	0.595	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.78	0.595	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.78	0.595	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.78	0.595	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.78	0.595	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.78	0.595	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.78	0.595	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.78	0.595	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	100		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	91		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	105		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	96		70-130

Project Name: MASS. NATURAL FERTILIZER **Lab Number:** L2216629

Project Number: 3291 **Report Date:** 04/21/22

SAMPLE RESULTS

Lab ID: L2216629-04
Client ID: #70 EFFLUENT
Sample Location: 65 BEAN PORRIDGE HILL RD, WESTMINSTER

Date Collected: 03/30/22 11:10
Date Received: 03/31/22
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 04/12/22 12:43
Analyst: AC

Extraction Method: EPA 537.1
Extraction Date: 04/11/22 15:46

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.91	0.639	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.91	0.639	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.91	0.639	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.91	0.639	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.91	0.639	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.91	0.639	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.91	0.639	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.91	0.639	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.91	0.639	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.91	0.639	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.91	0.639	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.91	0.639	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.91	0.639	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.91	0.639	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.91	0.639	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.91	0.639	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.91	0.639	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.91	0.639	1

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	98		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	84		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	107		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	89		70-130

Project Name: MASS. NATURAL FERTILIZER **Lab Number:** L2216629

Project Number: 3291 **Report Date:** 04/21/22

SAMPLE RESULTS

Lab ID: L2216629-05
Client ID: FIELD BLANK
Sample Location: 65 BEAN PORRIDGE HILL RD, WESTMINSTER

Date Collected: 03/30/22 13:03
Date Received: 03/31/22
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 04/12/22 12:51
Analyst: AC

Extraction Method: EPA 537.1
Extraction Date: 04/11/22 15:46

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	1.82	0.608	1
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	1.82	0.608	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	1.82	0.608	1
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	1.82	0.608	1
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	1.82	0.608	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.82	0.608	1
Perfluorooctanoic Acid (PFOA)	ND		ng/l	1.82	0.608	1
Perfluorononanoic Acid (PFNA)	ND		ng/l	1.82	0.608	1
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	1.82	0.608	1
Perfluorodecanoic Acid (PFDA)	ND		ng/l	1.82	0.608	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.82	0.608	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.82	0.608	1
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	1.82	0.608	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	1.82	0.608	1
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	1.82	0.608	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.82	0.608	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.82	0.608	1
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	1.82	0.608	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)	92		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	112		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	104		70-130

Project Name: MASS. NATURAL FERTILIZER **Lab Number:** L2216629

Project Number: 3291 **Report Date:** 04/21/22

SAMPLE RESULTS

Lab ID: L2216629-06 R/D
Client ID: #65 WELL
Sample Location: 65 BEAN PORRIDGE HILL RD, WESTMINSTER

Date Collected: 03/30/22 13:05
Date Received: 03/31/22
Field Prep: Not Specified

Sample Depth:
Matrix: Dw
Analytical Method: 133,537.1
Analytical Date: 04/13/22 11:01
Analyst: AC

Extraction Method: EPA 537.1
Extraction Date: 04/11/22 15:46

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	267		ng/l	18.5	6.17	10
Perfluorohexanoic Acid (PFHxA)	3060		ng/l	18.5	6.17	10
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	18.5	6.17	10
Perfluoroheptanoic Acid (PFHpA)	1420		ng/l	18.5	6.17	10
Perfluorohexanesulfonic Acid (PFHxS)	17.4	J	ng/l	18.5	6.17	10
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	18.5	6.17	10
Perfluorooctanoic Acid (PFOA)	3190		ng/l	18.5	6.17	10
Perfluorononanoic Acid (PFNA)	216		ng/l	18.5	6.17	10
Perfluorooctanesulfonic Acid (PFOS)	820		ng/l	18.5	6.17	10
Perfluorodecanoic Acid (PFDA)	73.5		ng/l	18.5	6.17	10
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	18.5	6.17	10
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	18.5	6.17	10
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	18.5	6.17	10
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	17.4	J	ng/l	18.5	6.17	10
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	18.5	6.17	10
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	18.5	6.17	10
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	18.5	6.17	10
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	18.5	6.17	10

Surrogate	% Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	88		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	94		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	108		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	84		70-130

Project Name: MASS. NATURAL FERTILIZER
Lab Number: L2216629
Project Number: 3291
Report Date: 04/21/22

SAMPLE RESULTS

Lab ID: L2216629-07
Client ID: POND
Sample Location: 65 BEAN PORRIDGE HILL RD, WESTMINSTER
Date Collected: 03/30/22 13:20
Date Received: 03/31/22
Field Prep: Not Specified

Sample Depth:
Matrix: Water
Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/15/22 16:44
Analyst: MP

Extraction Method: ALPHA 23528
Extraction Date: 04/10/22 07:30

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab						
Perfluorobutanesulfonic Acid (PFBS)	7.38		ng/l	1.76	0.209	1
Perfluorohexanoic Acid (PFHxA)	148		ng/l	1.76	0.288	1
Perfluoroheptanoic Acid (PFHpA)	121		ng/l	1.76	0.198	1
Perfluorohexanesulfonic Acid (PFHxS)	2.39		ng/l	1.76	0.330	1
Perfluorooctanoic Acid (PFOA)	297		ng/l	1.76	0.207	1
Perfluorononanoic Acid (PFNA)	25.1		ng/l	1.76	0.274	1
Perfluorooctanesulfonic Acid (PFOS)	114	F	ng/l	1.76	0.442	1
Perfluorodecanoic Acid (PFDA)	11.3		ng/l	1.76	0.267	1
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	1.76	0.569	1
Perfluoroundecanoic Acid (PFUnA)	1.79		ng/l	1.76	0.228	1
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2.61		ng/l	1.76	0.706	1
Perfluorododecanoic Acid (PFDoA)	0.930	J	ng/l	1.76	0.326	1
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	1.76	0.287	1
Perfluorotetradecanoic Acid (PFTA)	0.232	J	ng/l	1.76	0.218	1
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	43.9	19.9	1
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	1.76	0.295	1
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	1.76	0.243	1
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	1.76	0.257	1

Project Name: MASS. NATURAL FERTILIZER **Lab Number:** L2216629

Project Number: 3291 **Report Date:** 04/21/22

SAMPLE RESULTS

Lab ID: L2216629-07 Date Collected: 03/30/22 13:20

Client ID: POND Date Received: 03/31/22

Sample Location: 65 BEAN PORRIDGE HILL RD, WESTMINSTER Field Prep: Not Specified

Sample Depth:

Parameter	Result	Qualifier	Units	RL	MDL	Dilution Factor

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab

Surrogate (Extracted Internal Standard)	% Recovery	Qualifier	Acceptance Criteria
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	97		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**257**	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	79		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	97		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	103		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	105		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**243**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	120		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	98		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	96		62-124
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	96		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	84		55-137
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	88		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	66		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	72		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	107		10-165

Project Name: MASS. NATURAL FERTILIZER
Project Number: 3291
Lab Number: L2216629
Report Date: 04/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/15/22 15:21
Analyst: MP

Extraction Method: ALPHA 23528
Extraction Date: 04/10/22 07:30

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 07 Batch: WG1625513-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.238
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.328
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.225
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.376
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.236
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.312
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.504
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.304
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.648
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.260
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.804
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.372
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.327
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.248
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND		ng/l	50.0	22.7
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	0.336
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	0.277
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	0.293

Project Name: MASS. NATURAL FERTILIZER **Lab Number:** L2216629

Project Number: 3291 **Report Date:** 04/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 134,LCMSMS-ID
Analytical Date: 04/15/22 15:21
Analyst: MP

Extraction Method: ALPHA 23528
Extraction Date: 04/10/22 07:30

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab for sample(s): 07 Batch: WG1625513-1					

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	111		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	126		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	110		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	79		12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	109		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	110		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	112		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	117		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	83		14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	122		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	115		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	113		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	84		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	**118**	Q	24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	109		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	65		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	114		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	100		48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	104		22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	126		10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	93		10-206
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	96		50-150

Project Name: MASS. NATURAL FERTILIZER **Lab Number:** L2216629

Project Number: 3291 **Report Date:** 04/21/22

Method Blank Analysis
Batch Quality Control

Analytical Method: 133,537.1
Analytical Date: 04/12/22 11:41
Analyst: AC

Extraction Method: EPA 537.1
Extraction Date: 04/11/22 15:46

Parameter	Result	Qualifier	Units	RL	MDL
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab for sample(s): 01-06 Batch: WG1625900-1					
Perfluorobutanesulfonic Acid (PFBS)	ND		ng/l	2.00	0.668
Perfluorohexanoic Acid (PFHxA)	ND		ng/l	2.00	0.668
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		ng/l	2.00	0.668
Perfluoroheptanoic Acid (PFHpA)	ND		ng/l	2.00	0.668
Perfluorohexanesulfonic Acid (PFHxS)	ND		ng/l	2.00	0.668
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND		ng/l	2.00	0.668
Perfluorooctanoic Acid (PFOA)	ND		ng/l	2.00	0.668
Perfluorononanoic Acid (PFNA)	ND		ng/l	2.00	0.668
Perfluorooctanesulfonic Acid (PFOS)	ND		ng/l	2.00	0.668
Perfluorodecanoic Acid (PFDA)	ND		ng/l	2.00	0.668
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND		ng/l	2.00	0.668
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND		ng/l	2.00	0.668
Perfluoroundecanoic Acid (PFUnA)	ND		ng/l	2.00	0.668
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND		ng/l	2.00	0.668
Perfluorododecanoic Acid (PFDoA)	ND		ng/l	2.00	0.668
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND		ng/l	2.00	0.668
Perfluorotridecanoic Acid (PFTrDA)	ND		ng/l	2.00	0.668
Perfluorotetradecanoic Acid (PFTA)	ND		ng/l	2.00	0.668

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)	93		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	104		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93		70-130

Lab Control Sample Analysis

Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER

Project Number: 3291

Lab Number: L2216629

Report Date: 04/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 07 Batch: WG1625513-2								
Perfluorobutanesulfonic Acid (PFBS)	109		-		65-157	-		30
Perfluorohexanoic Acid (PFHxA)	108		-		69-168	-		30
Perfluoroheptanoic Acid (PFHpA)	108		-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	110		-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	103		-		63-159	-		30
Perfluorononanoic Acid (PFNA)	106		-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	109		-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	106		-		63-171	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	108		-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	118		-		60-153	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	124		-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	117		-		67-153	-		30
Perfluorotridecanoic Acid (PFTrDA)	94		-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	103		-		59-182	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	112		-		57-162	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	101		-		69-143	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	100		-		55-158	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	97		-		52-156	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER

Project Number: 3291

Lab Number: L2216629

Report Date: 04/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 07 Batch: WG1625513-2								

Surrogate (Extracted Internal Standard)	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	109				58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	125				62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	103				70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	80				12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	104				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	105				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	106				71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	113				62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	81				14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	116				59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	109				69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	111				62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	83				10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	104				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	106				55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	72				10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	99				27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	92				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	119				22-136
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	119				10-165
Perfluoro[13C2]Hexadecanoic Acid (M2PFHxDA)	98				10-206
1H,1H,2H,2H-Perfluorododecane Sulfonate (M2D4-10:2FTS)	78				50-150

Lab Control Sample Analysis

Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER

Project Number: 3291

Lab Number: L2216629

Report Date: 04/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 Batch: WG1625900-2								
Perfluorobutanesulfonic Acid (PFBS)	96		-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	94		-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	86		-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	97		-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	94		-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	100		-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	100		-		70-130	-		30
Perfluorononanoic Acid (PFNA)	98		-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	89		-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	99		-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	89		-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	87		-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	107		-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	83		-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	96		-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	93		-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	98		-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	91		-		70-130	-		30

Lab Control Sample Analysis

Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER

Project Number: 3291

Lab Number: L2216629

Report Date: 04/21/22

Parameter	LCS %Recovery	Qual	LCSD %Recovery	Qual	%Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 Batch: WG1625900-2								

Surrogate	LCS %Recovery	Qual	LCSD %Recovery	Qual	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	101				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	96				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	106				70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97				70-130

Matrix Spike Analysis

Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER

Project Number: 3291

Lab Number: L2216629

Report Date: 04/21/22

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 Isotope Dilution - Mansfield Lab	Associated sample(s): 07	QC Batch ID: WG1625513-3	QC Sample: L2216629-07	Client ID: POND								
Perfluorobutanesulfonic Acid (PFBS)	7.38	34.1	45.8	113		-	-		65-157	-		30
Perfluorohexanoic Acid (PFHxA)	148	38.4	197	127		-	-		69-168	-		30
Perfluoroheptanoic Acid (PFHpA)	121	38.4	168	122		-	-		58-159	-		30
Perfluorohexanesulfonic Acid (PFHxS)	2.39	35.1	44.1	119		-	-		69-177	-		30
Perfluorooctanoic Acid (PFOA)	297	38.4	345	125		-	-		63-159	-		30
Perfluorononanoic Acid (PFNA)	25.1	38.4	67.2	110		-	-		68-171	-		30
Perfluorooctanesulfonic Acid (PFOS)	114F	35.7	150F	101		-	-		52-151	-		30
Perfluorodecanoic Acid (PFDA)	11.3	38.4	52.2	106		-	-		63-171	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	38.4	39.7	103		-	-		60-166	-		30
Perfluoroundecanoic Acid (PFUnA)	1.79	38.4	49.6	124		-	-		60-153	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	2.61	38.4	47.1	116		-	-		45-170	-		30
Perfluorododecanoic Acid (PFDoA)	0.930J	38.4	42.6	108		-	-		67-153	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	38.4	38.5	100		-	-		48-158	-		30
Perfluorotetradecanoic Acid (PFTA)	0.232J	38.4	40.6	105		-	-		59-182	-		30
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-Propanoic Acid (HFPO-DA)	ND	375	498F	133		-	-		57-162	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	36.4	36.5	100		-	-		69-143	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	35.9	35.2	98		-	-		55-158	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	36.3	31.0	85		-	-		52-156	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER

Project Number: 3291

Lab Number: L2216629

Report Date: 04/21/22

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 Isotope Dilution - Mansfield Lab Associated sample(s): 07 QC Batch ID: WG1625513-3 QC Sample: L2216629-07 Client ID: POND												

Surrogate (Extracted Internal Standard)	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**252**	Q			12-142
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**249**	Q			14-147
2,3,3,3-Tetrafluoro-2-[1,1,2,2,3,3,3-Heptafluoropropoxy]-13C3-Propanoic Acid (M3HFPO-DA)	94				10-165
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	93				27-126
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	109				24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	84				55-137
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	94				62-124
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	78				57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	94				60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	98				71-134
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	74				48-131
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	83				22-136
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	100				69-131
Perfluoro[13C8]Octanoic Acid (M8PFOA)	104				62-129
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	115				59-139
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	95				70-131

Matrix Spike Analysis

Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER

Project Number: 3291

Lab Number: L2216629

Report Date: 04/21/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1625900-3 QC Sample: L2216629-01 Client ID: #67 INFLUENT												
Perfluorobutanesulfonic Acid (PFBS)	10.0	127	156	115		-	-		70-130	-		30
Perfluorohexanoic Acid (PFHxA)	98.0	143	236	97		-	-		70-130	-		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	143	139	97		-	-		70-130	-		30
Perfluoroheptanoic Acid (PFHpA)	123	143	264	99		-	-		70-130	-		30
Perfluorohexanesulfonic Acid (PFHxS)	1.78J	130	137	105		-	-		70-130	-		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	135	153	114		-	-		70-130	-		30
Perfluorooctanoic Acid (PFOA)	320	143	432E	78		-	-		70-130	-		30
Perfluorononanoic Acid (PFNA)	120	143	236	81		-	-		70-130	-		30
Perfluorooctanesulfonic Acid (PFOS)	734E	132	771E	**28**	Q	-	-		70-130	-		30
Perfluorodecanoic Acid (PFDA)	5.62	143	153	103		-	-		70-130	-		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	133	115	86		-	-		70-130	-		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	143	101	71		-	-		70-130	-		30
Perfluoroundecanoic Acid (PFUnA)	ND	143	144	101		-	-		70-130	-		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	143	99.0	**69**	Q	-	-		70-130	-		30
Perfluorododecanoic Acid (PFDoA)	ND	143	146	102		-	-		70-130	-		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	135	128	95		-	-		70-130	-		30
Perfluorotridecanoic Acid (PFTrDA)	ND	143	133	93		-	-		70-130	-		30
Perfluorotetradecanoic Acid (PFTA)	ND	143	124	87		-	-		70-130	-		30

Matrix Spike Analysis

Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER

Project Number: 3291

Lab Number: L2216629

Report Date: 04/21/22

Parameter	Native Sample	MS Added	MS Found	MS %Recovery	Qual	MSD Found	MSD %Recovery	Qual	Recovery Limits	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1625900-3 QC Sample: L2216629-01 Client ID: #67 INFLUENT												

Surrogate	MS % Recovery	MS Qualifier	MSD % Recovery	MSD Qualifier	Acceptance Criteria
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	75				70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	107				70-130
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	112				70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	108				70-130

Lab Duplicate Analysis
Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER
Project Number: 3291

Lab Number: L2216629
Report Date: 04/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 07 QC Batch ID: WG1625513-4 QC Sample: L2216898-37 Client ID: DUP Sample						
Perfluorobutanoic Acid (PFBA)	7.29	7.17	ng/l	2		30
Perfluoropentanoic Acid (PFPeA)	8.36	7.81	ng/l	7		30
Perfluorobutanesulfonic Acid (PFBS)	2.87	3.02	ng/l	5		30
1H,1H,2H,2H-Perfluorohexanesulfonic Acid (4:2FTS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	9.77	9.80	ng/l	0		30
Perfluoropentanesulfonic Acid (PFPeS)	0.703JF	0.801J	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	5.75	5.97	ng/l	4		30
Perfluorohexanesulfonic Acid (PFHxS)	3.16	3.38	ng/l	7		30
Perfluorooctanoic Acid (PFOA)	20.9	21.5	ng/l	3		30
1H,1H,2H,2H-Perfluorooctanesulfonic Acid (6:2FTS)	ND	ND	ng/l	NC		30
Perfluoroheptanesulfonic Acid (PFHpS)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	7.03	7.07	ng/l	1		30
Perfluorooctanesulfonic Acid (PFOS)	51.5F	55.9F	ng/l	8		30
Perfluorodecanoic Acid (PFDA)	0.714J	0.700J	ng/l	NC		30
1H,1H,2H,2H-Perfluorodecanesulfonic Acid (8:2FTS)	ND	ND	ng/l	NC		30
Perfluorononanesulfonic Acid (PFNS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	0.296J	0.292J	ng/l	NC		30
Perfluorodecanesulfonic Acid (PFDS)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonamide (FOSA)	2.78F	3.68F	ng/l	28		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER
Project Number: 3291

Lab Number: L2216629
Report Date: 04/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 07 QC Batch ID: WG1625513-4 QC Sample: L2216898-37 Client ID: DUP Sample						
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[13C4]Butanoic Acid (MPFBA)	92		89		58-132
Perfluoro[13C5]Pentanoic Acid (M5PFPEA)	111		112		62-163
Perfluoro[2,3,4-13C3]Butanesulfonic Acid (M3PFBS)	106		110		70-131
1H,1H,2H,2H-Perfluoro[1,2-13C2]Hexanesulfonic Acid (M2-4:2FTS)	**200**	Q	**192**	Q	12-142
Perfluoro[1,2,3,4,6-13C5]Hexanoic Acid (M5PFHxA)	76		72		57-129
Perfluoro[1,2,3,4-13C4]Heptanoic Acid (M4PFHpA)	85		82		60-129
Perfluoro[1,2,3-13C3]Hexanesulfonic Acid (M3PFHxS)	109		112		71-134
Perfluoro[13C8]Octanoic Acid (M8PFOA)	94		92		62-129
1H,1H,2H,2H-Perfluoro[1,2-13C2]Octanesulfonic Acid (M2-6:2FTS)	**194**	Q	**188**	Q	14-147
Perfluoro[13C9]Nonanoic Acid (M9PFNA)	97		96		59-139
Perfluoro[13C8]Octanesulfonic Acid (M8PFOS)	109		110		69-131
Perfluoro[1,2,3,4,5,6-13C6]Decanoic Acid (M6PFDA)	92		95		62-124
1H,1H,2H,2H-Perfluoro[1,2-13C2]Decanesulfonic Acid (M2-8:2FTS)	149		148		10-162
N-Deuteriomethylperfluoro-1-octanesulfonamidoacetic Acid (d3-NMeFOSAA)	101		105		24-116
Perfluoro[1,2,3,4,5,6,7-13C7]Undecanoic Acid (M7-PFUDA)	93		96		55-137
Perfluoro[13C8]Octanesulfonamide (M8FOSA)	12		19		10-112
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	89		102		27-126
Perfluoro[1,2-13C2]Dodecanoic Acid (MPFDOA)	81		83		48-131

Lab Duplicate Analysis
Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER
Project Number: 3291

Lab Number: L2216629
Report Date: 04/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by Isotope Dilution - Mansfield Lab Associated sample(s): 07 QC Batch ID: WG1625513-4 QC Sample: L2216898-37 Client ID: DUP Sample

Surrogate (Extracted Internal Standard)	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro[1,2-13C2]Tetradecanoic Acid (M2PFTEDA)	85		80		22-136

Lab Duplicate Analysis
Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER
Project Number: 3291

Lab Number: L2216629
Report Date: 04/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits
Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1625900-4 QC Sample: L2216629-02 Client ID: #67 EFFLUENT						
Perfluorobutanesulfonic Acid (PFBS)	ND	ND	ng/l	NC		30
Perfluorohexanoic Acid (PFHxA)	ND	ND	ng/l	NC		30
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND	ND	ng/l	NC		30
Perfluoroheptanoic Acid (PFHpA)	ND	ND	ng/l	NC		30
Perfluorohexanesulfonic Acid (PFHxS)	ND	ND	ng/l	NC		30
4,8-Dioxa-3h-Perfluorononanoic Acid (ADONA)	ND	ND	ng/l	NC		30
Perfluorooctanoic Acid (PFOA)	ND	ND	ng/l	NC		30
Perfluorononanoic Acid (PFNA)	ND	ND	ng/l	NC		30
Perfluorooctanesulfonic Acid (PFOS)	ND	ND	ng/l	NC		30
Perfluorodecanoic Acid (PFDA)	ND	ND	ng/l	NC		30
9-Chlorohexadecafluoro-3-Oxanone-1-Sulfonic Acid (9Cl-PF3ONS)	ND	ND	ng/l	NC		30
N-Methyl Perfluorooctanesulfonamidoacetic Acid (NMeFOSAA)	ND	ND	ng/l	NC		30
Perfluoroundecanoic Acid (PFUnA)	ND	ND	ng/l	NC		30
N-Ethyl Perfluorooctanesulfonamidoacetic Acid (NEtFOSAA)	ND	ND	ng/l	NC		30
Perfluorododecanoic Acid (PFDoA)	ND	ND	ng/l	NC		30
11-Chloroeicosafluoro-3-Oxaundecane-1-Sulfonic Acid (11Cl-PF3OUdS)	ND	ND	ng/l	NC		30
Perfluorotridecanoic Acid (PFTrDA)	ND	ND	ng/l	NC		30
Perfluorotetradecanoic Acid (PFTA)	ND	ND	ng/l	NC		30

Lab Duplicate Analysis
Batch Quality Control

Project Name: MASS. NATURAL FERTILIZER
Project Number: 3291

Lab Number: L2216629
Report Date: 04/21/22

Parameter	Native Sample	Duplicate Sample	Units	RPD	Qual	RPD Limits

Perfluorinated Alkyl Acids by EPA 537.1 - Mansfield Lab Associated sample(s): 01-06 QC Batch ID: WG1625900-4 QC Sample: L2216629-02 Client ID: #67 EFFLUENT

Surrogate	%Recovery	Qualifier	%Recovery	Qualifier	Acceptance Criteria
Perfluoro-n-[1,2-13C2]hexanoic Acid (13C-PFHxA)	108		103		70-130
Tetrafluoro-2-heptafluoropropoxy-[13C3]-propanoic acid (13C3-HFPO-DA)	97		87		70-130
Perfluoro-n-[1,2-13C2]decanoic Acid (13C-PFDA)	112		115		70-130
N-Deuterioethylperfluoro-1-octanesulfonamidoacetic Acid (d5-NEtFOSAA)	97		99		70-130

Project Name: MASS. NATURAL FERTILIZER
Project Number: 3291

Lab Number: L2216629
Report Date: 04/21/22

Sample Receipt and Container Information

Were project specific reporting limits specified? YES

Cooler Information

Cooler	Custody Seal
B	Absent

Container Information

Container ID	Container Type	Cooler	Initial pH	Final pH	Temp deg C	Pres	Seal	Frozen Date/Time	Analysis(*)
L2216629-01A	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-01B	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-02A	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-02B	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-03A	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-03B	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-04A	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-04B	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-05A	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-06A	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-06B	Plastic 250ml Trizma preserved	B	NA		5.8	Y	Absent		A2-537.1(14)
L2216629-07A	Plastic 250ml unpreserved	B	NA		5.8	Y	Absent		A2-537-ISOTOPE(14)
L2216629-07B	Plastic 250ml unpreserved	B	NA		5.8	Y	Absent		A2-537-ISOTOPE(14)

*Values in parentheses indicate holding time in days

Project Name: MASS. NATURAL FERTILIZER
Project Number: 3291

Lab Number: L2216629
Report Date: 04/21/22

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:	MASS. NATURAL FERTILIZER	**Lab Number:**	L2216629
Project Number:	3291	**Report Date:**	04/21/22

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:	MASS. NATURAL FERTILIZER	**Lab Number:**	L2216629
Project Number:	3291	**Report Date:**	04/21/22

Footnotes

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

Terms

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

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

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

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

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

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

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

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

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

Data Qualifiers

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

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

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

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

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

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

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

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

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

J - Estimated value. 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:	MASS. NATURAL FERTILIZER	**Lab Number:**	L2216629
Project Number:	3291	**Report Date:**	04/21/22

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.

V - The surrogate associated with this target analyte has a recovery outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Z - The batch matrix spike and/or duplicate associated with this target analyte has a recovery/RPD outside the QC acceptance limits. (Applicable to MassDEP DW Compliance samples only.)

Report Format: DU Report with 'J' Qualifiers

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.

134 Determination of Selected Perfluorinated Alkyl Acids in Drinking Water by Solid Phase Extraction and Liquid Chromatography/Tandem Mass Spectrometry (LC/MS/MS) using Isotope Dilution. Alpha SOP 23528.

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.

Serial_No:04212213:31

CHAIN OF CUSTODY

PAGE 1 OF 1

Date Rec'd in Lab: 3/31/22

ALPHA Job #: L2216629

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

Client Information

Client: LESSARD ENVIRONMENTAL
Address: 121 LORING AVE. Suite 455 SALEM, MA 01970
Phone:
Fax:
Email: mbackunas@lessard-environmental.com
❑ These samples have been previously analyzed by Alpha

Project Information

Project Name: MASS. NATURAL FERTILIZER
Project Location: 65 Bean Porridge Hill Rd. Westminster
Project #: 3291
Project Manager: MIKE BACKUNAS
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: PFAS537.1 List of 18

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	PFAS537.1 List of 18	Sample Specific Comments	TOTAL # BOTTLES
16629-01	#67 INFLUENT	3/30/22	10:40	DW	CM	✓		2
-02	#67 EFFLUENT	↓	10:45	↓	CM	✓		2
-03	#70 INFLUENT	↓	11:05	↓	CM	✓		2
-04	#70 EFFLUENT	↓	11:10	↓	CM	✓		2
-05	FIELD BLANK	↓	13:03		CM	✓		2
-06	#65 WELL	↓	13:05	DW	CM	✓		2
-07	POND	↓	13:20	SW	CM	✓		2

AAC1 - AAL 3/31/22 2045

Container Type	P
Preservative	O

Relinquished By:	Date/Time	Received By:	Date/Time
C.V. [illegible]	03-31-22/12:40	Rob Maurito AAL	3/31/22 1240
Rob Maurito	3/31/22 1715	[illegible]	3/31/22 1745
[illegible]	3/31/22	Joseph C. [illegible]	3/31/22 2000
[illegible]	3/31/22 2045		

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)

Name	Address	Phone	Email	Comments	Water Delivery	# of bottles	Access Agmt Status as of 4.15.22	Well Sampled
Jorge Gonzalez and Cristina Gonzalez	1 Rock Maple Lane				4.16.22		Sent/Pending	No
Kofi Ansah and Yvonne Ansah	2 Rock Maple Drive				4.16.22		Sent/Pending	Yes
Timothy Tarr and Maureen Tarr	6 Rock Maple Drive				4.16.22		Sent/Pending	Yes
Peter Marashio and Beth Marashio	7 Rock Maple Lane				4.16.22		Signed	No
Danielle and Thomas Membrino	11 Rock Maple Lane				4.16.22		Signed	Yes
Brayan Aleman and Arielle Aleman	15 Rock Maple Lane				4.16.22		Signed	Yes
Mark Jr. Wyman and Sara Wyman	18 Rock Maple Lane				4.16.22		Sent/Pending	No
Konstantin Zhuravlyov	21 Rock Maple Lane	857-701-0010	kzhur4vl@icloud.com				To Be Sent	No
Lucas Wafer	22 Rock Maple Lane	631-609-5284			4.16.22		Signed	Yes
Daniel Bartkus, Golf Course	23 Rock Maple Lane			Has small, transient public water supply. No water delivery				Yes
Oksana Zavidij	24 Rock Maple Lane		ozavidij@gmail.com				Sent/Pending	No
John Perea	24 Rock Maple Lane						To Be Sent	No
	No other addresses on Maple Lane							
Shannon Dunn	5 Bean Porridge Hill Road						Sent/Pending	No
Michael and Alana Sunderland	11 Bean Porridge Hill Road						Sent/Pending	No
Steven P. Hecker	42 Bean Porridge Hill Road	978-413-2047					Signed	Yes
Edward Lyonnais and Melissa Lyonnais	46 Bean Porridge Hill Road						Signed	Yes
RYAN THOMAS E & SUSAN M	64 BEAN PORRIDGE HILL RD	617-750-7087	sryano116@hotmail.com		4.14.22	4	Signed	Yes
ALBERT SALVATOR J JR & WENDY M	66 BEAN PORRIDGE HILL RD	978-874-0001	samnwendy7@aol.com		4.14.22	11	Signed	Yes
MAUS TIMOTHY W & OPIE LAUREN	67 BEAN PORRIDGE HILL RD	857-360-1977	tmaus213@gmail.com		4.12.22	5	Signed	Yes
GALLAGHER SEAN M & SULTAN ASHLE	68 BEAN PORRIDGE HILL RD	508-523-8446	asultan@worcester.edu		4.14.22	3	Signed	Yes
MICHALOWSKI WILLIAM R & MICHALC	70 BEAN PORRIDGE HILL RD	978-954-2742	Bmichalowski1970@gmail.com		4.14.22	6	Signed	Yes
GANNON JOSEPH & HELEN	72 BEAN PORRIDGE HILL RD	508-612-7600	joegannon86@gmail.com hlongvall@gmail.com		4.14.22	6	Signed	Yes
Margaret Bujald	98 Bean Porridge Hill Road						Sent/Pending	No
Darcy Linnus	100 Bean Porridge Hill Road				Req 4.19.22		Sent/Pending	No
Nancy Swanson	104 Bean Porridge Hill Road						Sent/Pending	No
Daniel and Siobhan Bartkus	150 Bean Porridge Hill Road						Signed	No
Ronald and Kim L'Ecuyer	209 Bean Porridge Hill Road						Unknown if sent	No
Michele and Vincent Miola	1 Amber Road				Req 4.19.22		To Be Sent	No
Nabila and Nagy Bishara	2 Amber Road				Req 4.19.22		To Be Sent	No
Derek Brasili	3 Amber Road						Sent/Pending	No
Patricia Eidinger	4 Amber Road						Sent/Pending	No
Elizabeth and Thomas Ferrick	5 Amber Road						Pending - consulting w/ attorney	Yes
Jesse and Stacey Sutela	6 Amber Road	978-793-0583					Signed	Yes
Brian and Emily Morin	8 Amber Road				Req 4.19.22		To Be Sent	No
Tammy Hawkins and Robert Behringer	10 Amber Road				Req 4.19.22		To Be Sent	No
Tina and Scott Ladue	11 Amber Road						Sent/Pending	Yes
Danielle Vallera and Kaitlin Vallera	12 Amber Road						Sent/Pending	No
Deborah and Charles Hooper	14 Amber Road						Sent/Pending	No
John & Josephine Grant	15 Amber Road				Req 4.19.22		Sent/Pending	No
Steven P. Burt and Michelle Burt	16 Amber Road							
	No other houses on Amber Rd							
Vacant Land?	1 White Pine Drive							
Vacant Land?	3 White Pine Drive							
Brian Carlson/Traditional Concepts, Inc./Carrie-Ann Carlson	4 White Pine Drive	(978) 855-1276	traditionalconcepts@comcast.net		4.16.22		Signed	Yes
Paul Bartkus and Doris Bartkus	5 White Pine Drive				4.16.22		Signed	Yes
Vacant Land?	7 White Pine Drive							
Vacant Land?	8 White Pine Drive							
Ashley Rodgers	9 White Pine Drive	978-297-7623			Req 4.19.22		Sent/Pending	Yes
Vacant Land?	10 White Pine Drive							
Michael Wood	11 White Pine Drive				Req 4.19.22		Sent/Pending	Yes
Michael Conti	12 White Pine Drive	978-855-0797			4.14.22		Sent/Pending	Yes
Talya Marshall	13 White Pine Drive						Sent/Pending	
Ross & Kristi Montolio	14 White Pine Drive	-			4.16.22		Sent/Pending	
Amiee Martinez	16 White Pine Drive	978 855 6291	nurseaims@yahoo.com		4.16.22		Signed	Yes
Kate Duffy	18 White Pine Drive	508-873-8265	kduffy@laerrealty.com		4.14.22	1	Sent/Pending	
Christopher Primeau and Tricia Khan	19 White Pine Drive				Req 4.19.22		To Be Sent	
Amanda Zalegowski	20 White Pine Drive	978 790 1469	amandalzalegowski@gmail.com		4.16.22		Signed	Yes
David Smith	22 White Pine Dr		hsmithdavid@yahoo.com			10	Not rcvd as of 4.15.22	
Matthew Elliott	23 White Pine Drive	(540) 580-7835	matthewelliott728@gmai	has water softener	4.16.22		Signed	Yes
Khalid Benhar and Assia Moslih	24 White Pine Drive				Req 4.19.22		To Be Sent	
Nancy Moz	26 White Pine Drive	(617) 997-6077	nmoz54@gmail.com	has water softener	4.16.22		Signed	Yes
Michaela Montecalvo	28 White Pine Dr	(860) 463-3822					Signed	Yes
Norma Avelar	29 White Pine Dr.	(860) 471-7948			4.14.22	1	Signed	Yes
Vacant Land?	30 White Pine Dr.							
Lori Fiandaca	31 White Pine Dr	(978) 340-5206	lfiandaca25@gmail.com		4.16.22		Signed	Yes
Michael Ferris and Marina Muehlke	32 White Pine Drive				4.16.22		Signed	Yes
Marie Nadhere	33 White Pine Drive	(617) 314-3312	mariemadhere@yahoo.c	has water softener	4.16.22		Sent/Pending	Yes
Anthony Costella and Amanda Costella	37 White Pine Drive				4.16.22		Sent/Pending	Yes
Moncrieffe and Thessamar Wentworth	38 White Pine Drive						To Be Sent	
Andrea & Jamison Yi	38 White Pine Drive	858-740-6269	Jamison.yi2@gmail.com				Sent/Pending	Yes
	No other houses on WPD							
Tianzhi Fan and Ling Wang	5 Taymax Road						Sent/Pending	