



**WISCONSIN AIR NATIONAL GUARD
HEADQUARTERS 115TH FIGHTER WING (ACC) (ANG)
3110 MITCHELL STREET
MADISON WISCONSIN 53704-2529**

22 September 2021

MEMORANDUM FOR WISCONSIN DEPARTMENT OF NATURAL RESOURCES

FROM: 115 CES/CC

SUBJECT: XGFG182003 F-35 Addition/Alteration Building 409, Truax Field. Materials Management Plan Addendum – BRRTS #: 02-13-585319

1. Pursuant to the 21 July 2021 approved materials management plan, this serves as a project specific addendum for the subject project.
2. Attachment 1 details PFAS sampling results for the subject project. Attachment 2 details the areas which were found to contain PFAS. For materials removed within the 50' x 50' red box associated with Sample Points E-490-1, only material below 2' will be managed as PFAS compromised material. For materials removed within the red box of Sample Point E-409-2, all materials will be managed as PFAS compromised soil. Where these boxes overlap, the more restrictive materials management will be observed. Materials removed within these boundaries (vertically and horizontally) will be managed in accordance with the 21 July 2021 letter, BRRTS #: 02-13-585319.
3. If you have any additional questions, please feel free to contact me at 608-286-0010 or michael.dunlap@us.af.mil at any time. Thank you in advance for your review of this material management plan.

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DUNLAP.MICHAEL.J.1138452693
EL.J.1138452693 Date: 2021.09.22 07:55:50 -05'00'

MICHAEL J. DUNLAP, Lt Col, WI ANG
Commander, 115th Civil Engineer Squadron
Base Civil Engineer, 115th Fighter Wing

Attachment:

1. B409 Sampling Report Results
2. B409 Sampling Plan

B409 Soil sampling results - PFAS

Site	Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	WI RCL NI (ng/g)	EPA RSL (ng/g)
E409-1,S2,5 1/2'	PFHxS	355-46-4	0.430	0.395	0.484			
E409-1,S2,5 1/2'	PFNA	375-95-1	0.573	0.364	0.484			
E409-1,S2,5 1/2'	PFOS	1763-23-1	8.23	0.740	0.968		1260	1260
E409-1,S2 DUP	PFHxS	355-46-4	0.744	0.403	0.494			
E409-1,S2 DUP	PFOA	335-67-1	0.561	0.284	0.494		1260	1260
E409-1,S2 DUP	PFNA	375-95-1	0.681	0.371	0.494	Q		
E409-1,S2 DUP	PFOS	1763-23-1	4.55	0.754	0.987		1260	1260
E409-2,S1,2'	PFOS	1763-23-1	1.34	0.755	0.988		1260	1260
E409-2,S2,5 1/2'	PFOA	335-67-1	0.324	0.287	0.498		1260	1260
E409-2,S2,5 1/2'	PFOS	1763-23-1	13.5	0.761	0.996		1260	1260
E409-2,S2,5 1/2'	8:2 FTS	39108-34-4	22.1	0.536	0.996			

RCL NI - Residual Contaminant Level - non-industrial

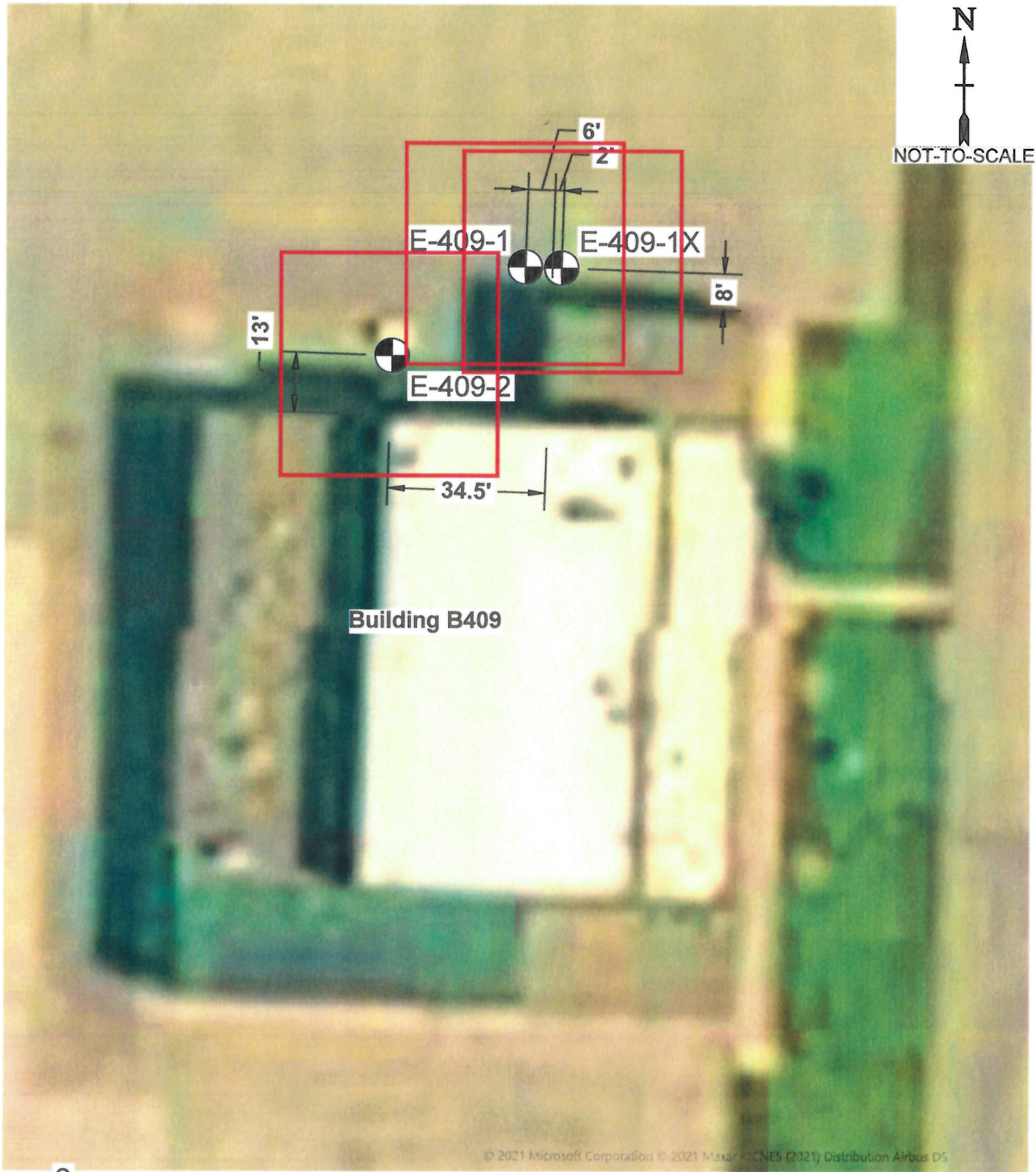
RSL - US EPA Regional Screening Level (AF guidance for soils and sediments)

MDL = Method Detection Limit

J = The amount detected is below the Reporting Limit/LOQ

RL = Reporting Limit

Q = The ion transition ratio is outside of the acceptance criteria.



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 = Boring 2 (typical)

 **Soils & Engineering Services, Inc.**
 1102 STEWART STREET
 MADISON, WISCONSIN 53713-4648
 Phone: 608-274-7600
 CONSULTING CIVIL ENGINEERS SINCE 1966

LOCATION SKETCH
 F-35: ADAL B409 Engine Shop
 Hoffman Street
 Truax Air National Guard Base
 City of Madison, Dane County, Wisconsin
 Project ID XGFG182003

DRAWING
508.02-1B



**Soils &
Engineering
Services, Inc.**

March 22, 2021

Project 508.02 R01

Mr. Charlie Loudon, RA, LEED AP BD+C, DBIA
Burns & McDonnell
9400 Ward Parkway
Kansas City, Missouri 64114

Subject: Environmental Exploration Report
F-35: ADAL B409 Engine Shop
Truax Air National Guard Base
Hoffman Street
City of Madison
Dane County, Wisconsin

Dear Mr. Loudon:

We have completed the requested environmental exploration consisting of the performance of three borings at the subject site and the associated chemical laboratory testing. The purpose of these borings was to obtain information about the soil, bedrock, and groundwater conditions at the boring locations. We present our findings and analyses results in the enclosed *Environmental Exploration Report* for the subject project. Engineering analysis of the chemical analyses results was not included in our scope of services for this work.

Respectfully submitted,

SOILS & ENGINEERING SERVICES, INC.

Craig M. Bower, P.E.

CMB:DER:cmb

Enclosure

Delivered by email: cloudon@burnsmcd.com

ENVIRONMENTAL EXPLORATION REPORT

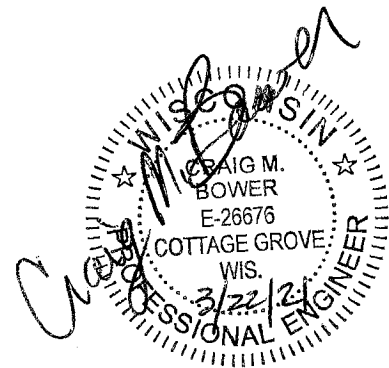
**F-35: ADAL B409 ENGINE SHOP
TRUAX AIR NATIONAL GUARD BASE
HOFFMAN STREET
CITY OF MADISON
DANE COUNTY, WISCONSIN**

SES Project Number 508.02

Prepared By

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Duane E. Reichel, P.E.



Submitted To

Burns & McDonnell
9400 Ward Parkway
Kansas City, Missouri 64114
Phone: (816) 822-3927

Mr. Charlie Loudon, RA, LEED AP BD+C, DBIA

March 22, 2021



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- Notes and Legend Record for WDNR Boring Log Information Forms
- WDNR Boring Log Information Forms for Borings E-409-1, E-409-1X, and E-409-2
- WDNR Well/Drillhole/Borehole Abandonment Forms for Borings E-409-1, E-409-1X, and E-409-2

Appendix B

- CT Laboratories, LLC Analytical Report dated February 17, 2021.
- VISTA Analytical Laboratory Analytical Report dated February 16, 2021.

Appendix C

- *Important Information about This Geoenvironmental Report* advisory



I. INTRODUCTION

This *Environmental Exploration Report* summarizes the findings of the environmental exploration, and the related laboratory and field tests performed for the design and construction of modifications to Engine Shop Building B409 located on Hoffman Street on the Truax Air National Guard Base (ANGB) in the City of Madison, in Dane County, Wisconsin. We understand that this work is for the Wisconsin Air National Guard 115th Fighter Wing stationed at the Truax ANGB. We completed this work under the general direction of Burns & McDonnell, who established the general scope of the work.

The intent of this report is to: (1) convey the environmental information obtained from the three borings and (2) present the results of laboratory and field tests. Analysis of the chemical analyses results was not included our current scope of work for this project.

II. PROJECT INFORMATION

The project consists of modifications to Engine Shop Building B409 on the Truax ANGB. The Truax ANGB is located on the north side of the City of Madison in Dane County, Wisconsin.

We understand the interior overhead crane reconfiguration will require new supports which will be supported on shallow spread footing foundations. We understand the exterior gantry crane will be supported on frost-depth shallow spread footing foundations. No other design information was provided for the cranes.

We understand the environmental exploration was requested to meet requirements specified by the State of Wisconsin Department of Natural Resources (WDNR) to determine if environmental contamination is present at the location of the proposed improvements to Engine Shop Building B409, specifically as it related to the proposed site excavations to accommodate the proposed crane structures. WDNR prepared a document entitled *Site Characterization Sampling For Contaminated Material Management Purposes Adal B409 Truax Field* dated May 28, 2020. This document specified testing soil and water samples for volatile organic compounds (VOCs) and perfluoroalkyl and polyfluoroalkyl compounds (PFAS). This document provided the following scope of the field work.

- Two borings adjacent to the proposed crane locations.
- Collect two discrete soil samples from each boring at depths of 1 to 2 feet below ground surface and at one foot above the water table and test for VOCs and PFAS.
- Collect and test one groundwater sample from each boring and test for VOCs and PFAS.

The relative locations of the borings were provided in the WDNR document.



III. ENVIRONMENTAL EXPLORATION

The field exploration for the subject structure improvements consisted of the performance of three standard borings, (designated Borings E-409-1, E-409-1X, and E-409-2), at the project site. Due to insufficient recovered soil sample volume at Boring E-409-1, we performed Boring E-409-1X in close proximity to Boring E-409-1.

We present the results of this environmental field exploration on the WDNR Boring Log Information Forms enclosed in Appendix A. The WDNR Boring Log Information Forms present the subsurface stratigraphy and related information obtained by the borings. We provide information pertinent to the WDNR Boring Log Information Forms on the Notes and Legend Record enclosed in Appendix A.

A. Boring Locations

We located Borings E-409-1, E-409-1X, and E-409-2 as indicated on the Location Sketch, Drawings 508.02-1A and 508.02-1B, enclosed in Appendix A. We coordinated with 2nd Lt. Cory R. Corson, Wisconsin Air National Guard, for the placement of the boring locations to minimize disruption to the base operations and to avoid underground utility lines. Lt. Corson requested the environmental borings be located on the exterior of the building.

B. Boring Elevations

Soils & Engineering Services, Inc. personnel determined the ground surface elevation at the locations of Borings E-409-1, E-409-1X, and E-409-2 using a surveying level and a leveling rod. We used the rim of the sanitary sewer manhole located approximately 60 feet north of the northwest corner of the existing building for a benchmark. The benchmark has a given elevation of 857.13 feet per the drawings provided to us.

We include the ground surface elevations for the borings on the WDNR Boring Log Information Forms enclosed in Appendix A. The WDNR Boring Log Information Forms are plotted with a depth scale for reference.

C. Drilling and Sampling Procedures

We drilled and sampled Borings E-409-1, E-409-1X, and E-409-2 to the following depths below ground surface and corresponding elevations:

Boring	Ground Surface Elevation (feet)	Bottom of Boring	
		Depth (feet-inch)	Elevation (feet)
E-409-1	857.3	8'-0"	849.3



Boring	Ground Surface Elevation (feet)	Bottom of Boring	
		Depth (feet-inch)	Elevation (feet)
E-409-1X	857.4	12'-0"	845.4
E-409-2	857.4	12'-0"	845.4

We used a Geoprobe 7822DT drill rig mounted on a rubber-tracked carrier to complete the borings. We used a dual-tube direct push sampler to maintain an open borehole as we advanced the borehole of each boring to the termination depth. We obtained soil samples at 4-foot intervals starting at the ground surface and continued to the stated termination depth. We visually identified the recovered soils in general compliance with the Unified Soil Classification System (USCS) identification procedures as defined in ASTM Designation D2488.

After reaching the termination depth at each boring and removing the inner-tube of the sampler, we installed ¾-inch-diameter polyvinyl chloride (PVC) casing and screen into the inside of the outer Geoprobe casing at each borehole. We then removed the outer casing to expose the PVC screen to the subsurface water. The PVC casing and screen was manufactured by Monoflex and each section of PVC was factory sealed in plastic sheeting. We then used a Geopump peristaltic pump to obtain a groundwater sample from each borehole using high density polyethylene tubing inserted into each of the temporary wells. We disposed of the tubing following the water sample collection from each boring.

We used reagent-grade water and Alconox to decontaminate the soil sampling tooling, followed by a triple rinse with reagent-grade water. We collected a sample of the rinsate water and submitted this sample for testing for VOCs. We identified this sample as 'Field Blank.'

In addition to the field blank, we submitted a sample of reagent-grade water for testing for VOCs. We identified this sample as 'Trip Blank.'

Please refer to the WDNR Boring Log Information Forms enclosed in Appendix A for additional information regarding the sampling of Borings E-409-1, E-409-1X, and E-409-2.

D. Subsurface Stratigraphy

We found the surficial soils/material to be frozen on the day of the sampling to the estimated depths and respective elevations for Borings E-409-1, E-409-1X, and E-409-2 as follows:



Boring	Ground Surface Elevation (feet)	Estimated Frost Top		Estimated Frost Bottom	
		Depth (feet-inch)	Elevation (feet)	Depth (feet-inch)	Elevation (feet)
E-409-1	857.3	0'-0"	857.3	3'-0"	854.3
E-409-1X	857.4	0'-0"	857.4	3'-0"	854.4
E-409-2	857.4	0'-0"	857.4	3'-6"	853.9

The soil stratigraphy encountered at Borings E-409-1, E-409-1X, and E-409-2 consisted of fill material overlying native soil strata. None of the borings encountered bedrock below the native soil strata within the depths drilled.

The borings encountered fill material consisting of 3 to 4¾ inches of FILL hot-mix asphalt (HMA) pavement over 33 to 37¼ inches of light yellowish-brown fine to coarse POORLY-GRADED GRAVEL WITH SILT AND SAND (GP-GM) FILL crushed stone base course.

Below the fill material, Borings E-409-1, E-409-1X, and E-409-2 encountered a native soil strata that consisted of very dark brown LEAN CLAY (CL) over pale brown to brown fine POORLY-GRADED SAND WITH SILT (SP-SM). We noted that the POORLY-GRADED SAND WITH SILT (SP-SM) stratum contained a variable amount of gravel from trace to little and also contained occasional fine to medium and fine to coarse seams.

Please refer to the WDNR Boring Log Information Forms enclosed in Appendix A for a further description of the fill material and native soil strata encountered at the boring locations.

E. Subsurface Water

Our drilling crew found the boreholes of the borings to be in the following states:

- Boring E-409-1 was caved and dry at completion of the drilling and sampling of this boring.
- Boring E-409-1X had a water level and was caved at completion of the drilling and sampling of this boring. Our drilling crew obtained a water level through the temporary well screen before obtaining the water sample at this boring.
- Boring E-409-2 was caved and wet at the completion of the drilling and sampling of this boring. Our drilling crew obtained a water level through the temporary well screen before obtaining the water sample at this boring.

We summarize the water and caved level depths and respective elevations at completion for each boring as follows:



Boring	Ground Surface Elevation (feet)	Subsurface Water			Caved Level		
		Depth (feet-inch)	Elevation (feet)	Comments	Depth (feet-inch)	Elevation (feet)	Comments
E-409-1	857.3	—	—	—	5'-0"	852.3	Dry at completion
E-409-1X	857.4	5'-10"	851.5	Through temporary well screen before water sampling	—	—	—
		5'-10"	851.5	At completion	5'-1"	852.3	At completion
E-409-2	857.4	6'-3"	851.1	Through temporary well screen before water sampling	—	—	—
		—	—	—	6'-3"	851.1	Wet at completion

We expect the subsurface water (groundwater) level to fluctuate as influenced by precipitation, snowmelt, surface water runoff, and other hydrological and hydrogeological factors. The groundwater level at the time of construction of the building improvements may be higher or lower than the groundwater levels encountered on the day that we performed the borings.

IV. CHEMICAL LABORATORY TESTS

We submitted two soil samples and one groundwater sample from each boring for laboratory analyses to CT Laboratories, LLC (CTL). CTL subcontracted with VISTA Analytical Laboratory for the PFAS testing. The requested laboratory analyses consisted of Volatile Organic Compounds (EPA Method 8260C) and Perfluoroalkyl and Polyfluoroalkyl (PFAS Isotope Dilution Method) for both sample matrices. After obtaining the samples, we shipped all of the samples to CTL. CTL then shipped the samples to VISTA.

We provide the following information regarding the soil and groundwater samples obtained from each of the borings:

Boring	Matrix	Sample Number	Approximate Sample Depth (feet)	SES Sample Identification	Samples Obtained	Laboratory Received	
						CTL	VISTA
E-409-1	Soil	1	2	E409-1,S1,2'	1/25/2021	1/27/2021	1/28/2021
		2	5 1/2	E409-1,S2,5 1/2'			
E-409-1X	Soil	2 Dup	5 1/2	E-409-1,S2 Dup	1/25/2021	1/27/2021	1/28/2021
	Water	—	—	E409-1			
E-409-2	Soil	Dup	—	E409-1 Dup	1/25/2021	1/27/2021	1/28/2021
		1	2	E409-2,S1,2'			
		2	5 1/2	E409-2,S2,5 1/2'			



Boring	Matrix	Sample Number	Approximate Sample Depth (feet)	SES Sample Identification	Samples Obtained	Laboratory Received	
						CTL	VISTA
	Water	—	—	E409-2			

Dup = Duplicate

We present a summary of the results of those analytes detected in at least one sample in Tables 1 and 2 on pages 7 through 9. A copy of the Analytical Reports from CT Laboratories, LLC and VISTA Analytical Laboratory are included in Appendix B. The analytical reports from these laboratories include the chain of custodies for the samples that we submitted to them.

An environmental engineering analysis of the laboratory test results is not a part of our scope of work.



Table 1: Summary of the chemical analyses results of individual soil samples.

Analyte †	SES Sample Identification		
	E409-1,S1,2'	E409-1,S2,5 1/2'	E409-1,S2 DUP
<i>Physical analyses. Results in %.</i>			
Solids Content	94.6	93.2	95.7
Moisture Content	5.4	6.8	4.3
<i>Volatile Organic Compounds (VOC) analyses. Results in mg/kg.</i>			
No compounds detected above the method detection limits.			
<i>Perfluoroalkyl and Polyfluoroalkyl (PFAs) analyses. Results in ng/g.</i>			
Perfluorohexanesulfonic acid (PFHxS)	<0.404	<0.430>	0.744
Perfluorooctanoic acid (PFOA)	<0.285	<0.279	0.561
Perfluorononanoic acid (PFNA)	<0.373	0.573	0.681 Q
Perfluorooctanesulfonic acid (PFOS)	<0.757	8.23	4.55
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	<0.533	<0.521	<0.531

-
- † = Only compounds detected in at least one sample are listed. All other compounds in the analysis scan list were not detected above the Limit of Detection.
 - < = Values with less than sign (<) indicate a compound that was not detected above the Limit of Detection for the sample.
 - <> = Estimated value. Analyte detected at a level less than the Limit of Quantification but greater than or equal to the Limit of Detection.
 - = No sample submitted for this analysis.
 - Q = The ion transition ratio is outside of the acceptance criteria.



Table 1: Summary of the chemical analyses results of individual soil samples.
(continued)

Analyte †	SES Sample Identification		
	E409-2,S1,2'	E409-2,S2,5 1/2'	
<i>Physical analyses. Results in %.</i>			
Solids Content	96.3	96.0	
Moisture Content	3.7	4.0	
<i>Volatile Organic Compounds (VOC) analyses. Results in mg/kg.</i>			
No compounds detected above the method detection limits.			
<i>Perfluoroalkyl and Polyfluoroalkyl (PFAs) analyses. Results in ng/g.</i>			
Perfluorohexanesulfonic acid (PFHxS)	<0.403	<0.406	
Perfluorooctanoic acid (PFOA)	<0.285	<0.324>	
Perfluorononanoic acid (PFNA)	<0.372	<0.374	
Perfluorooctanesulfonic acid (PFOS)	1.34	13.5	
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	<0.532	22.1	

-
- † = Only compounds detected in at least one sample are listed. All other compounds in the analysis scan list were not detected above the Limit of Detection.
 - < = Values with less than sign (<) indicate a compound that was not detected above the Limit of Detection for the sample.
 - < > = Estimated value. Analyte detected at a level less than the Limit of Quantification but greater than or equal to the Limit of Detection.
 - = No sample submitted for this analysis.
 - Q = The ion transition ratio is outside of the acceptance criteria.



Table 2: Summary of the chemical analyses results of individual groundwater samples.

Analyte †	SES Sample Identification		
	E409-1	E409-1 DUP	E409-2
<i>Volatile Organic Compounds (VOC) analyses. Results in µg/L.</i>			
Dichlorodifluoromethane	<0.40	<0.40	<0.49>
<i>Perfluoroalkyl and Polyfluoroalkyl (PFA) analyses. Results in ng/L.</i>			
Perfluorobutanoic acid (PFBA)	16.7	16.8	9.07
Perfluoropentanoic acid (PFPeA)	32.2	32.9	9.99
Perfluorobutanesulfonic acid (PFBS)	5.47	6.06	<1.78>
Perfluorohexanoic acid (PFHxA)	28.8	28.7	8.73
Perfluoropentane sulfonic acid (PFPeS)	4.99	5.27	<1.24
Perfluoroheptanoic acid (PFHpA)	35.2	36.3	8.78
Perfluorohexanesulfonic acid (PFHxS)	115	107	29.0
Perfluorooctanoic acid (PFOA)	48.8	49.8	9.51
Perfluoroheptane sulfonate (PFHpS)	4.79	4.72	<1.10> Q
Perfluorononanoic acid (PFNA)	27.0	25.6	5.38
Perfluorooctane sulfonamide (PFOSA)	<1.10> Q	<1.19>	<1.28> Q
Perfluorooctanesulfonic acid (PFOS)	550	508	141
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	6.60	6.76	<1.88>

- † = Only compounds detected in at least one sample are listed. All other compounds in the analysis scan list were not detected above the Limit of Detection.
- < = Values with less than sign (<) indicate a compound that was not detected above the Limit of Detection for the sample.
- < > = Estimated value. Analyte detected at a level less than the Limit of Quantification but greater than or equal to the Limit of Detection.
- = No sample submitted for this analysis.
- Q = The ion transition ratio is outside of the acceptance criteria.



V. DISCUSSION

A. Groundwater Samples

1. PFA Analyses Results

The Wisconsin Department of Health Services (DHS) Per- and Polyfluoroalkyl Substances (PFAS) webpage [<https://www.dhs.wisconsin.gov/chemical/pfas.htm>] includes recommended groundwater limits for these substances. This webpage presents the DHS recommended limits for these substances presented to the Wisconsin Department of Natural Resources (WDNR) for use in developing the rules for the protection of public health. Per this webpage, DHS recommended a groundwater enforcement standard of 20 ng/L and a preventative action limit of 2 ng/L for PFOA and PFOS concentrations individually and combined. DHS issued additional enforcement standards and preventive action limits for PFAS compounds in their *Groundwater Standard Recommendations (Cycle 10)* and *Recommended Groundwater Standards (Cycle 11)* publications.^{1&2}

Per the DHS webpage and publications, the EPA does not have drinking water standards for any PFAS, but does have a health advisory level of 70 ppt for the combined concentrations of PFOA and PFOS.³

Following is a summary of the DHS recommended enforcement standards and preventive action limits for the analytes for which the groundwater samples for Engine Shop Building B409 encountered detections. All of the standards and limits provided in this table are in nanograms per liter (ng/L) rather than a combination of micrograms per liter (µg/L) and ng/L as the DHS website table lists the values.

Compound	Recommended DHS Enforcement Standard (ng/L)	Recommended DHS Preventive Action Limit (ng/L)
Perfluorobutanoic acid (PFBA)	10,000	2,000
Perfluoropentanoic acid (PFPeA)	not listed	not listed
Perfluorobutanesulfonic acid (PFBS)	450,000	90,000
Perfluorohexanoic acid (PFHxA)	150,000	30,000

¹"Groundwater Standard Recommendations (Cycle 10)." Wisconsin Department of Health Services, 21 June 2019, last revised 17 Nov. 2020, www.dhs.wisconsin.gov/water/gws-cycle10.htm.

²"Recommended Groundwater Standards (Cycle 11)." Wisconsin Department of Health Services, 6 Nov. 2020, last revised 15 Mar. 2021, www.dhs.wisconsin.gov/water/gws-cycle11.htm.

³ 1 part per trillion (ppt) = 1 nanograms per liter (ng/L)
1 part per billion (ppb) = 1 micrograms per liter (µg/L)
1 part per million (ppm) = 1 milligrams per liter (mg/L)



Compound	Recommended DHS Enforcement Standard (ng/L)	Recommended DHS Preventive Action Limit (ng/L)
Perfluoropentane sulfonic acid (PFPeS)	not listed	not listed
Perfluoroheptanoic acid (PFHpA)	not listed	not listed
Perfluorohexanesulfonic acid (PFHxS)	40	4
Perfluorooctanoic acid (PFOA)	20	2
Perfluoroheptane sulfonate (PFHpS)	not listed	not listed
Perfluorononanoic acid (PFNA)	30	3
Perfluorooctane sulfonamide (PFOSA)	20	2
Perfluorooctanesulfonic acid (PFOS)	20	2
Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS)	20	2
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	not listed	not listed

Per the DHS recommended standards and limits and EPA level presented above, the groundwater samples from the following borings had results for the following PFAS analytes that exceed either the recommended enforcement standards, preventative action limits, or health advisory level.

Boring	Test Result (ng/L)	Comment
Perfluorohexanesulfonic acid (PFHxS) Enforcement Standard = 40 Preventative Action Limit = 4		
E-409-1	115	Above Enforcement Standard
E-409-1 Duplicate	107	Above Enforcement Standard
E-409-2	29.0	Above Preventative Action Limit
Perfluorooctane sulfonamide (PFOA) Enforcement Standard = 20 Preventative Action Limit = 2		
E-409-1	48.8	Above Enforcement Standard
E-409-1 Duplicate	49.8	Above Enforcement Standard
E-409-2	9.51	Above Preventative Action Limit



Boring	Test Result (ng/L)	Comment
Perfluorononanoic acid (PFNA) Enforcement Standard = 30 Preventative Action Limit = 3		
E-409-1	27.0	Above Enforcement Standard
E-409-1 (Duplicate)	25.6	Above Enforcement Standard
E-409-2	5.38	Above Preventative Action Limit
Perfluorooctane sulfonamide (PFOSA) Enforcement Standard = 20 Preventative Action Limit = 2		
E-409-1	550	Above Enforcement Standard
E-409-1 (Duplicate)	508	Above Enforcement Standard
E-409-2	141	Above Enforcement Standard
Perfluorooctane sulfonamide (PFOS) Enforcement Standard = 20 Preventative Action Limit = 2		
E-409-1	115	Above Enforcement Standard
E-409-1 (Duplicate)	107	Above Enforcement Standard
E-409-2	29.0	Above Enforcement Standard
Perfluorooctanoic acid (PFOA) and Perfluorooctanesulfonic acid (PFOS) combined Enforcement Standard = 20 ng/L Preventative Action Limit = 2 ng/L EPA Health Advisory Level = 70 ppt		
E-409-1	598.8	Above Enforcement Standard, Above EPA Health Advisory Level
E-409-1 (Duplicate)	557.8	Above Enforcement Standard, Above EPA Health Advisory Level
E-409-2	150.51	Above Enforcement Standard, Above EPA Health Advisory Level

2. VOC Analyses Results

WDNR has established the following enforcement standards and preventative action limits in Wisconsin Administrative Code Chapter NR140 for the VOC compounds for which the groundwater samples from the borings for Engine Shop Building B409 encountered detections.

Compound	Recommended WDNR Enforcement Standard (µg/L)	Recommended WDNR Preventive Action Limit (µg/L)
Dichlorodifluoromethane	1,000	200



Using the Regional Screening Level calculator on the EPA's website [https://epa-prgs.ornl.gov/cgi-bin/chemicals/csl_search] for tap water with a Hazard Quotient of 1.0 and a target risk of 10^{-6} for chronic exposure for a resident, we computed the following screening levels for these VOC's.

Compound	EPA Health Screening Level (µg/L)
Dichlorodifluoromethane	197

Per the WDNR recommended standards and limits and EPA level presented above, none of the groundwater samples from the borings had VOC results that exceeded any of the recommended enforcement standards, preventative action limits, or health advisory level.

B. Soil Samples

WDNR and DHS do not have any set standards or limits for VOCs or PFAS to apply to soil. WDNR requires that soil residual contaminant levels be determined on a site by site basis based on the type of soils present and the usage of the site per Wisconsin Administrative Code Chapter NR720. Determining soil residual contaminant levels for the VOCs or PFAS is beyond the scope of our work.

We did use the EPA Regional Screening Level calculator for soil with a Hazard Quotient of 1.0 and a target risk of 10^{-6} for chronic exposure for a resident to compute the following screening levels for the PFAS components detected in the soil samples obtained from the borings performed. The EPA Health Screening Level obtained by using the screening calculator is provided in milligrams per kilogram (mg/kg) which we converted to nanograms per gram (ng/g) to match the units for the results for the soil samples analyzed.⁴

Compound	EPA Health Screening Level (ng/g)
Perfluorohexanesulfonic acid (PFHxS)	Not listed
Perfluorooctanoic acid (PFOA)	1,260
Perfluorononanoic acid (PFNA)	Not listed
Perfluorooctanesulfonic acid (PFOS)	1,260
8:2 Fluorotelomer sulfonic acid (8:2 FTS)	Not listed

⁴1 mg/kg = 1,000 ng/g



The test results of the soil samples tested from the borings are below the EPA Health Screening Levels listed for PFOA and PFOS.

VI. CLOSING COMMENTS

Soils & Engineering Services, Inc. prepared this *Environmental Exploration Report* for the exclusive use of Burns & McDonnell to aid in the design of modifications to Engine Shop Building B409 located on the F-35: ADAL B409 Engine Shop in the City of Madison, Dane County, Wisconsin.

Please read the *Important Information about This Geoenvironmental Report* advisory sheet enclosed in Appendix C which provides comments about how to interpret and use this *Environmental Exploration Report* for the F-35: ADAL B409 Engine Shop Truax Air National Guard Base project.

Soils & Engineering Services, Inc. prepared this report for the subject project in accordance with generally accepted engineering practices at this time. Soils & Engineering Services, Inc. offers no other expressed or implied warranty.

Soils & Engineering Services, Inc. will store the soil samples obtained from the borings performed for this project for a period of 60 calendar days after the date of this report. Please advise us if we should extend this period.

Soils & Engineering Services, Inc. respectfully submits this *Environmental Exploration Report*, dated March 22, 2021, to **Burns & McDonnell**.



APPENDIX A

Appendix A Contents

- Location Sketch, Drawings 508.02-1A and 508.02-1B
- Notes and Legend Record for WDNR Boring Log Information Forms
- WDNR Boring Log Information Forms for Borings E-409-1, E-409-1X, and E-409-2
- WDNR Well/Drillhole/Borehole Abandonment Forms for Borings E-409-1, E-409-1X, and E-409-2





N
↑
NOT-TO-SCALE

See Drawing 508.02-1B

Hoffman Street

Mitchell Street

© 2021 Microsoft Corporation © 2021 Maxar ©CNES (2021) Distribution Airbus DS

²
= Boring 2 (typical)


Soils & Engineering Services, Inc.
 1102 STEWART STREET
 MADISON, WISCONSIN 53713-4648
 Phone: 608-274-7600
 CONSULTING CIVIL ENGINEERS SINCE 1966

LOCATION SKETCH
 F-35: ADAL B409 Engine Shop
 Hoffman Street
 Truax Air National Guard Base
 City of Madison, Dane County, Wisconsin
 Project ID XGFG182003

DRAWING
 508.02-1A



N
↑
NOT-TO-SCALE

² = Boring 2 (typical)

	Soils & Engineering Services, Inc.
	1102 STEWART STREET MADISON, WISCONSIN 53713-4648 Phone: 608-274-7600
	CONSULTING CIVIL ENGINEERS SINCE 1966

LOCATION SKETCH
 F-35: ADAL B409 Engine Shop
 Hoffman Street
 Truax Air National Guard Base
 City of Madison, Dane County, Wisconsin
 Project ID XGFG182003

DRAWING
 508.02-1B

NOTES

1. The boundary lines between different subsurface strata, as shown on the WDNR Soil Boring Log Information Forms 4400-122 and WDNR Soil Boring Log Information Supplement Forms 4400-122a, are approximate and may be gradual.
2. The boring field log contains a description of the subsurface conditions between samples based on the equipment performance and the cuttings returned to the ground surface. The WDNR Soil Boring Log Information Forms 4400-122 and WDNR Soil Boring Log Information Supplement Forms 4400-122a contains the description of the subsurface conditions as interpreted by a geotechnical engineer and/or a geologist after review of the boring field logs and subsurface samples and/or laboratory test results.
3. We define "Caved Level" as the depth below the existing ground surface at a boring location where material has collapsed into the borehole following removal of the drilling tools.
4. We define "Water Level" as the depth below the existing ground surface at a boring location to the level of water in the open borehole at the time indicated unless otherwise defined on the WDNR Soil Boring Log Information Forms 4400-122 or WDNR Soil Boring Log Information Supplement Forms 4400-122a.
5. We define "at completion" for a boring as being the time when our drilling crew has completed the removal of all drilling tools from the borehole.
6. The Notes and Legend Record and the WDNR Soil Boring Log Information Forms 4400-122 and WDNR Soil Boring Log Information Supplement Forms 4400-122a are a part of the environmental report. The environmental report should be included in the bidding or reference documents.

RELATIVE PERCENTAGE TERMS

(Used in Material Descriptions)

no	0%
trace	<5%
few	5 to <10%
little	10 to <30%
some	30 to < 50%

SOIL PROPERTIES LEGEND

Pocket Penetrometer, ^{ton}/_{ft²}
 Water Content = % moisture by weight
 Liquid Limit = % moisture by weight
 Plasticity Index = % moisture by weight
 P200 = % Passing the No. 200-mesh Sieve

RELATIVE MOISTURE TERMS AT TIME OF SAMPLING

Frozen or F = Frozen material
 Dry = Dusty, dry to touch, absence of moisture
 Moist or M = Damp to touch, no visible water
 Wet or W = Visible free water


DRILLING METHODS LEGEND


DP = Direct push
 HSA = Continuous flight hollow-stem augers

RQD/COMMENTS LEGEND

PID = Photoionization Detector Reading, equivalent units of isobutylene calibration gas

SAMPLER TYPE LEGEND

 1 3/8-inch-inside-diameter, direct push sampler

 <p>Soils & Engineering Services, Inc. 1102 STEWART STREET MADISON, WISCONSIN 53713-4648 Phone: (608) 274-7600 CONSULTING CIVIL ENGINEERS SINCE 1966</p>	<p>NOTES AND LEGEND RECORD F-35: ADAL B409 Engine Shop Truax Air National Guard Base Hoffman Street City of Madison, Dane County, Wisconsin Project ID XGFG182003</p>	<p>13348</p>
--	---	--------------

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

SES Project Number **13348**

Facility/Project Name F-35: ADAL B409 Engine Shop, Truax Air National Guard Base, Hoffman Street		License/Permit/Monitoring Number		Boring Number E-409-1	
Boring Drilled By: Name of crew chief (first, last) and Firm Scott W. Klumb Soils & Engineering Services, Inc.		Date Drilling Started January 25, 2021		Date Drilling Completed January 25, 2021	
WI Unique Well No.		DNR Well ID No.		Common Well Name	
Final Static Water Level		Surface Elevation 857.3 Feet		Borehole Diameter 2.25 in, 6.25 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>		State Plane _____ ft. N, _____ ft. E. S / C / N		Local Grid Location	
NW 1/4 of NE 1/4 of Sec. 29, T. 8 N, R. 10 (E) W		Lat _____ Long _____		<input type="checkbox"/> N <input type="checkbox"/> E <input type="checkbox"/> S <input type="checkbox"/> W	
Facility ID		County Dane		County Code 13	
				Civil Town/City/ or Village City of Madison/Civil Township of Burke	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID Readings	Soil Properties						RQD/ Comments
									Pocket Penetrometer	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1	45 42		0-1	FILL; hot mix asphalt-[3" thick] POORLY-GRADED GRAVEL WITH SILT AND SAND (GP-GM) — fine to coarse grained; non-plastic to low plasticity fines; light yellowish-brown (10YR 6/4); frozen; FILL; crushed stone base course-[33" thick]	GP-GM			0.3							0'-0" to 3'-0" Frozen
2	48 38		1-4	LEAN CLAY (CL) — medium plasticity; very dark brown (10YR 2/2); moist	CL			0.1							Dry (caved) 5'-7" at completion M
			4-6	POORLY-GRADED SAND WITH SILT (SP-SM) — fine grained; non-plastic to low plasticity fines; pale brown (10YR 6/3) to brown (10YR 5/3); moist to wet; trace to little gravel; with occasional fine to medium and fine to coarse grained seams	SP-SM										

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Craig M. Bower Firm **Soils & Engineering Services, Inc.** Tel: (608) 274-7600
1102 Stewart Street Madison, Wisconsin 53713-4648 Fax: (608) 274-7511

Facility/Project Name **F-35: ADAL B409 Engine Shop, Truax Air National Guard Base,
 Hoffman Street**

SES Project Number **13348**

Boring Number **E-409-1**

Use only as an attachment to Form 4400-122.

Page **2** of **2**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID Readings	Soil Properties					RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Pocket Penetrometer	Moisture Content	Liquid Limit	Plasticity Index	P 200	

NOTES

1. Insufficient soil recovered from 4'-0" to 8'-0" sample to fill all of chemical sample jars.
2. Set temporary ³/₄-inch-diameter PVC well with 5 feet of screen to 8'-2" depth. Insufficient water in well.
3. Due to insufficient water and soil sample, moved 2 feet east to Boring E-409-1X to obtain water and additional soil samples.
4. The Notes and Legend Record is considered a part of the WDNR Soil Boring Log Information Form 4400-122 for Boring E-409-1.

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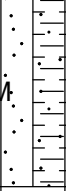
Facility/Project Name **F-35: ADAL B409 Engine Shop, Truax Air National Guard Base,
Hoffman Street**

SES Project Number **13348**

Boring Number **E-409-1X**

Use only as an attachment to Form 4400-122.

Page **2** of **2**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID Readings	Soil Properties						RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Pocket Penetrometer	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			11	POORLY-GRADED SAND WITH SILT (SP-SM) — <i>fine grained; non-plastic to low plasticity fines; brown (10YR 5/3); moist to wet; trace to little gravel; with occasional fine to medium and fine to coarse grained seams (continued)</i>	SP-SM										
			12												
			13												

NOTES

- Boring completed due to insufficient soil and water sample volume at Boring E-409-1.
- Set temporary 3/4-inch-diameter PVC well with 5 feet of screen to 12'-0" depth. Used peristaltic pump to purge an approximate rate of 1 liter per 2 minutes. Purged approximately 22.5 liters (5.9 gallons) of water in approximately 45 minutes. Then collected water samples from peristaltic pump discharge. First collected PFOS/PFOA sample, then VOC sample, and finally a sample for field testing for the following measurements:
 Temperature = 13.3 °C
 Dissolved Oxygen = 10.06 mg/L
 Specific Conductance = 14.0 µS/cm
 pH = 7.07
 Turbidity = 16.41 NTU
- The Notes and Legend Record is considered a part of the WDNR Soil Boring Log Information Form 4400-122 and WDNR Soil Boring Log Information Supplement Form 4400-122A for Boring E-409-1X.

			18											
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			26											

Route To: Watershed/Wastewater Waste Management
Remediation/Redevelopment Other

SES Project Number **13348**

Facility/Project Name F-35: ADAL B409 Engine Shop, Truax Air National Guard Base, Hoffman Street		License/Permit/Monitoring Number		Boring Number E-409-2	
Boring Drilled By: Name of crew chief (first, last) and Firm Scott W. Klumb Soils & Engineering Services, Inc.		Date Drilling Started January 25, 2021		Date Drilling Completed January 25, 2021	
WI Unique Well No.		DNR Well ID No.		Common Well Name	
Final Static Water Level		Surface Elevation 857.4 Feet		Borehole Diameter 2.25 in, 6.25 in	
Local Grid Origin <input type="checkbox"/> (estimated: <input type="checkbox"/>) or Boring Location <input type="checkbox"/>		State Plane _____ ft. N, _____ ft. E. S / C / N		Local Grid Location	
NW 1/4 of NE 1/4 of Sec. 29, T. 8 N, R. 10 (E) W		Lat _____		_____ N <input type="checkbox"/> E <input type="checkbox"/>	
Long _____		_____ Feet <input type="checkbox"/> S _____ Feet <input type="checkbox"/> W			
Facility ID		County Dane		County Code 13	
				Civil Town/City/ or Village City of Madison/Civil Township of Burke	

Sample Number and Type	Length Att. & Recovered (in)	Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	USCS	Graphic Log	Well Diagram	PID Readings	Soil Properties						RQD/ Comments
									Pocket Penetrometer	Moisture Content	Liquid Limit	Plasticity Index	P 200		
1	37 43.25		1-2	FILL; hot mix asphalt-[4³/₄" thick] POORLY-GRADED GRAVEL WITH SILT AND SAND (GP-GM) — fine to coarse grained; non-plastic to low plasticity fines; light yellowish-brown (10YR 6/4); frozen; FILL; crushed stone base course-[3'-1¹/₄" thick]	GP-GM			0.3							0'-0" to 3'-6" Frozen
2	26 48		4-6	LEAN CLAY (CL) — medium plasticity; very dark brown (10YR 2/2); moist POORLY-GRADED SAND WITH SILT (SP-SM) — fine grained; non-plastic to low plasticity fines; pale brown (10YR 6/3) to brown (10YR 5/3); moist; trace to little gravel; with occasional fine to medium and fine to coarse grained seams	CL			0.2						M 6'-3" through temporary well screen before water sampling Wet (caved) 6'-3" at completion	

I hereby certify that the information on this form is true and correct to the best of my knowledge.

Signature Craig M. Bower Firm **Soils & Engineering Services, Inc.** Tel: (608) 274-7600
1102 Stewart Street Madison, Wisconsin 53713-4648 Fax: (608) 274-7511

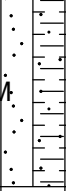
This form is authorized by Chapters 281, 283, 289, 291, 292, 293, 295, and 299, Wis. Stats. Completion of this form is mandatory. Failure to file this form may result in forfeiture of between \$10 and \$25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. NOTE: See instructions for more information, including where the completed form should be sent.
Printed on 3/22/2021

Facility/Project Name **F-35: ADAL B409 Engine Shop, Truax Air National Guard Base,
 Hoffman Street**
 Boring Number **E-409-2**

SES Project Number **13348**

Use only as an attachment to Form 4400-122.

Page **2** of **2**

Sample		Blow Counts	Depth In Feet	Soil/Rock Description And Geologic Origin For Each Major Unit	U S C S	Graphic Log	Well Diagram	PID Readings	Soil Properties						RQD/ Comments
Number and Type	Length Att. & Recovered (in)								Pocket Penetrometer	Moisture Content	Liquid Limit	Plasticity Index	P 200		
			11		SP-SM										
			12												
			13												

NOTE:

- Set temporary 3/4-inch-diameter PVC well with 5 feet of screen to 11'-0" depth. Used peristaltic pump to purge an approximate rate of 1 liter per 2 minutes. Purged approximately 15.0 liters (4.0 gallons) of water in approximately 30 minutes. Then collected water samples from peristaltic pump discharge. First collected PFOS/PFOA sample, then VOC sample, and finally a sample for field testing for the following measurements:
 Temperature = 7.4 °C
 Dissolved Oxygen = 1.10 mg/L
 Specific Conductance = 515 µS/cm
 pH = 8.29
 Turbidity = 8.25 NTU
- The Notes and Legend Record is considered a part of the WDNR Soil Boring Log Information Form 4400-122 and WDNR Soil Boring Log Information Supplement Form 4400-122A for Boring E-409-2.

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Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Route to:

Verification Only of Fill and Seal

Drinking Water

Watershed/Wastewater

Remediation/Redevelopment

Waste Management

Other: _____

SES Project Number 13348

1. Well Location Information Boring Location Information

County **Dane** Boring Number **E-409-1X**

Latitude / Longitude (Degrees and Minutes) _____
 Format Code DD GPS008
 DDM SCR002
 OTH001

1/4 1/4 **NW** 1/4 **NE** Section **29** Township **8 N** Range **10** E W
 or Gov't Lot # _____

Well Street Address Boring **Hoffman Street**

Well City, Village or Town Boring **City of Madison/Civil Township of Burke** Well ZIP Code Boring _____
 Subdivision Name Lot # _____

Reason For Removal From Service **Soil Boring for GEOTECHNICAL sampling.** WI Unique Well # of Replacement Well **NA**

3. Well / Drillhole / Borehole Information

Monitoring Well Water Well Drillhole / Borehole
 Original Construction Date (mm/dd/yyyy) Boring Completion **01/25/2021**
 If a Well Construction Report is available, please attach. **NA**

Construction Type:
 Drilled Driven (Sandpoint) Dug
 Other (specify): _____

Formation Type:
 Unconsolidated Formation Bedrock

Total Well Depth From Ground Surface (ft.) Boring **12.0** Casing Diameter (in.) **NA**

Lower Drillhole Diameter (in.) **6.3" to 0.3', 2.3" to 12.0'** Casing Depth (ft.) **NA**

Was well annular space grouted? **NA** Yes No Unknown

If yes, to what depth (feet)? _____ Depth to Water (Feet) **5.83**

2. Facility / Owner Information

Facility Name **F-35: ADAL B409 Engine Shop, Truax Air National Guard Base**

Facility ID (FID or PWS) **NA**

License/Permit/Monitoring No **NA**

Original Well Owner **NA**

Present Well Owner **Present Property Owner Unknown**

Mailing Address of Present Owner _____

City of Present Owner _____ State _____ Zip Code _____

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed? Yes No N/A
 Liner(s) removed? Yes No N/A
 Screen removed? Yes No N/A
 Casing left in place? Yes No N/A
 Was casing cut off below surface? Yes No N/A
 Did sealing material rise to surface? Yes No N/A
 Did material settle after 24 hours? Yes No N/A
 If yes, was hole retopped? Yes No N/A
 If bentonite chips were used, were they hydrated with water from a known safe source? Yes No N/A

Required Method of Placing Sealing Material
 Conductor Pipe-Gravity Conductor Pipe-Pumped
 Screened & Poured (Bentonite Chips) Other (Explain): _____

Sealings Materials
 Neat Cement Grout Concrete
 Sand-Cement (Concrete) Grout Bentonite Chips
 For monitoring wells and monitoring well boreholes only
 Bentonite Chips Bentonite - Cement Grout
 Granular Bentonite Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

	From (Ft.)	To (Ft.)	No. Yards Sacks Sealant or Volume (Circle one)	Mix Ratio or Mud Weight
Cold Mix Asphalt Patching Compound	Surface	0.25	0.053 ft³	
Base Course	0.25	1.00	0.021 ft³	
Bentonite Chips	1.00	5.50	0.3 - 50 lb Bag	
Caved Soil	5.50	12.00	0.18 ft³	

6. Comments

NA = Not applicable to soil borings.

7. Supervision of Work

				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)	Date Received	Noted By	
SOILS & ENGINEERING SERVICES, INC.		01/25/2021			
Street or Route	Telephone Number		Comments		
1102 Stewart Street	(608) 274-7600				
City	State	ZIP Code	Signature of Person Doing Work		Date Signed
Madison	WI	53713	<i>Craig M. Bower</i>		03/22/2021

Notice: Completion of this report is required by chs. 160, 281, 283, 289, 291-293, 295, and 299, Wis. Stats., and ch. NR 141 and 812, Wis. Adm. Code. In accordance with chs. 281, 289, 291-293, 295, and 299, Wis. Stats., failure to file this form may result in a forfeiture of between \$10-25,000, or imprisonment for up to one year, depending on the program and conduct involved. Personally identifiable information on this form is not intended to be used for any other purpose. Return form to the appropriate DNR office and bureau. See instructions on reverse for more information.

Route to:

Verification Only of Fill and Seal

Drinking Water

Watershed/Wastewater

Remediation/Redevelopment

Waste Management

Other: _____

SES Project Number 13348

1. Well Location Information Boring Location Information

County **Dane** Boring Number **E-409-2**

Latitude / Longitude (Degrees and Minutes) _____
 Format Code DD GPS008
 DDM SCR002
 OTH001

1/4 1/4 **NW** 1/4 **NE** Section **29** Township **8 N** Range **10** E W
 or Gov't Lot # _____

Well Street Address Boring **Hoffman Street**

Well City, Village or Town Boring **City of Madison/Civil Township of Burke** Well ZIP Code Boring _____

Subdivision Name _____ Lot # _____

2. Facility / Owner Information

Facility Name **F-35: ADAL B409 Engine Shop, Truax Air National Guard Base**

Facility ID (FID or PWS) _____

NA

License/Permit/Monitoring No

NA

Original Well Owner

NA

Present Well Owner **Present Property Owner**

Unknown

Mailing Address of Present Owner _____

City of Present Owner _____ State _____ Zip Code _____

Reason For Removal From Service **Soil Boring for GEOTECHNICAL sampling.** WI Unique Well # of Replacement Well **NA**

3. Well / Drillhole / Borehole Information

Monitoring Well Water Well Drillhole / Borehole
 Original Construction Date (mm/dd/yyyy) Boring Completion **01/25/2021**
 If a Well Construction Report is available, please attach. **NA**

Construction Type:

Drilled Driven (Sandpoint) Dug
 Other (specify): _____

Formation Type:

Unconsolidated Formation Bedrock

Total Well Depth From Ground Surface (ft.) Boring **12.0** Casing Diameter (in.) **NA**

Lower Drillhole Diameter (in.) **6.3" to 0.4', 2.3" to 12.0'** Casing Depth (ft.) **NA**

Was well annular space grouted? **NA** Yes No Unknown

If yes, to what depth (feet)? _____ Depth to Water (Feet) **6.25**

4. Pump, Liner, Screen, Casing & Sealing Material

Pump and piping removed? Yes No N/A
 Liner(s) removed? Yes No N/A
 Screen removed? Yes No N/A
 Casing left in place? Yes No N/A
 Was casing cut off below surface? Yes No N/A
 Did sealing material rise to surface? Yes No N/A
 Did material settle after 24 hours? Yes No N/A
 If yes, was hole retopped? Yes No N/A
 If bentonite chips were used, were they hydrated with water from a known safe source? Yes No N/A

Required Method of Placing Sealing Material

Conductor Pipe-Gravity Conductor Pipe-Pumped
 Screened & Poured (Bentonite Chips) Other (Explain): _____

Sealings Materials

Neat Cement Grout Concrete
 Sand-Cement (Concrete) Grout Bentonite Chips

For monitoring wells and monitoring well boreholes only

Bentonite Chips Bentonite - Cement Grout
 Granular Bentonite Bentonite - Sand Slurry

5. Material Used To Fill Well / Drillhole

	From (Ft.)	To (Ft.)	No. Yards Sacks Sealant or Volume (circle one)	Mix Ratio or Mud Weight
Cold Mix Asphalt Patching Compound	Surface	0.33	0.070 ft³	
Base Course	0.33	1.00	0.031 ft³	
Bentonite Chips	1.00	6.25	0.33 - 50 lb Bag	
Caved Soil	6.25	12.00	0.16 ft³	

6. Comments

NA = Not applicable to soil borings.

7. Supervision of Work

				DNR Use Only	
Name of Person or Firm Doing Filling & Sealing	License #	Date of Filling & Sealing (mm/dd/yyyy)	Date Received	Noted By	
SOILS & ENGINEERING SERVICES, INC.		01/25/2021			
Street or Route	Telephone Number		Comments		
1102 Stewart Street	(608) 274-7600				
City	State	ZIP Code	Signature of Person Doing Work		Date Signed
Madison	WI	53713	<i>Craig M. Bower</i>		03/22/2021

APPENDIX B

Appendix B Contents

- CT Laboratories, LLC Analytical Report dated February 17, 2021.
- VISTA Analytical Laboratory Analytical Report dated February 16, 2021



ANALYTICAL REPORT

SOILS & ENGINEERING SERVICES
 DUANE REICHEL
 1102 STEWART ST
 MADISON, WI 53713

Project Name: TRUAX FIELD
 Project Phase: ADAL B409
 Contract #: 1560
 Project #: XGFG 182003
 Folder #: 159412
 Purchase Order #: SES # 508.02

Page 1 of 32
 Arrival Temperature: 1.2
 Report Date: 02/17/2021
 Date Received: 01/27/2021
 Reprint Date: 02/17/2021

CT LAB Sample#: 528294 Sample Description: E409-1,S1,2' Sampled: 01/25/2021 1045

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	94.6	%	0.1	0.1	1			02/03/2021 10:12	BMM	EPA 8000C
Organic Results										
1,1,1,2-Tetrachloroethane	<0.064	mg/kg	0.064	0.21	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,1,1-Trichloroethane	<0.017	mg/kg	0.017	0.056	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,1,2,2-Tetrachloroethane	<0.021	mg/kg	0.021	0.075	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,1,2-Trichloroethane	<0.011	mg/kg	0.011	0.043	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,1-Dichloroethane	<0.0075	mg/kg	0.0075	0.025	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,1-Dichloroethene	<0.022	mg/kg	0.022	0.076	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,1-Dichloropropene	<0.032	mg/kg	0.032	0.096	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,2,3-Trichlorobenzene	<0.012	mg/kg	0.012	0.040	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,2,3-Trichloropropane	<0.043	mg/kg	0.043	0.15	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,2,4-Trichlorobenzene	<0.018	mg/kg	0.018	0.062	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,2,4-Trimethylbenzene	<0.012	mg/kg	0.012	0.037	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,2-Dibromo-3-chloropropane	<0.075	mg/kg	0.075	0.26	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,2-Dibromoethane	<0.011	mg/kg	0.011	0.043	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528294 Sample Description: E409-1,S1,2'

Sampled: 01/25/2021 1045

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,2-Dichlorobenzene	<0.016	mg/kg	0.016	0.052	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,2-Dichloroethane	<0.023	mg/kg	0.023	0.079	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,2-Dichloropropane	<0.028	mg/kg	0.028	0.092	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,3,5-Trimethylbenzene	<0.014	mg/kg	0.014	0.047	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,3-Dichlorobenzene	<0.015	mg/kg	0.015	0.048	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,3-Dichloropropane	<0.015	mg/kg	0.015	0.051	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
1,4-Dichlorobenzene	<0.016	mg/kg	0.016	0.054	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
2,2-Dichloropropane	<0.022	mg/kg	0.022	0.075	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
2-Butanone	<0.43	mg/kg	0.43	1.3	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
2-Chlorotoluene	<0.019	mg/kg	0.019	0.063	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
2-Hexanone	<0.21	mg/kg	0.21	0.75	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
4-Chlorotoluene	<0.016	mg/kg	0.016	0.052	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
4-Methyl-2-pentanone	<0.19	mg/kg	0.19	0.65	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Acetone	<0.43	mg/kg	0.43	1.4	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Benzene	<0.012	mg/kg	0.012	0.037	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Bromobenzene	<0.017	mg/kg	0.017	0.056	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Bromochloromethane	<0.018	mg/kg	0.018	0.062	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Bromodichloromethane	<0.015	mg/kg	0.015	0.049	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Bromoform	<0.064	mg/kg	0.064	0.20	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Bromomethane	<0.096	mg/kg	0.096	0.32	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Carbon disulfide	<0.043	mg/kg	0.043	0.13	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Carbon tetrachloride	<0.015	mg/kg	0.015	0.048	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Chlorobenzene	<0.011	mg/kg	0.011	0.034	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Chloroethane	<0.032	mg/kg	0.032	0.13	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Chloroform	<0.017	mg/kg	0.017	0.057	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528294 Sample Description: E409-1,S1,2'

Sampled: 01/25/2021 1045

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Chloromethane	<0.032	mg/kg	0.032	0.11	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
cis-1,2-Dichloroethene	<0.029	mg/kg	0.029	0.096	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
cis-1,3-Dichloropropene	<0.015	mg/kg	0.015	0.051	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Dibromochloromethane	<0.043	mg/kg	0.043	0.15	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Dibromomethane	<0.022	mg/kg	0.022	0.075	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Dichlorodifluoromethane	<0.053	mg/kg	0.053	0.18	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Diisopropyl ether	<0.019	mg/kg	0.019	0.065	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Ethylbenzene	<0.012	mg/kg	0.012	0.037	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Hexachlorobutadiene	<0.025	mg/kg	0.025	0.083	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Isopropylbenzene	<0.014	mg/kg	0.014	0.046	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
m & p-Xylene	<0.027	mg/kg	0.027	0.088	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Methyl tert-butyl ether	<0.017	mg/kg	0.017	0.057	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Methylene chloride	<0.064	mg/kg	0.064	0.22	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
n-Butylbenzene	<0.018	mg/kg	0.018	0.059	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
n-Propylbenzene	<0.014	mg/kg	0.014	0.045	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Naphthalene	<0.016	mg/kg	0.016	0.052	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
o-Xylene	<0.0075	mg/kg	0.0075	0.023	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
p-Isopropyltoluene	<0.014	mg/kg	0.014	0.047	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
sec-Butylbenzene	<0.012	mg/kg	0.012	0.037	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Styrene	<0.017	mg/kg	0.017	0.056	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
tert-Butylbenzene	<0.013	mg/kg	0.013	0.044	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Tetrachloroethene	<0.012	mg/kg	0.012	0.040	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Tetrahydrofuran	<0.27	mg/kg	0.27	0.89	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Toluene	<0.017	mg/kg	0.017	0.057	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
trans-1,2-Dichloroethene	<0.015	mg/kg	0.015	0.050	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C

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CT LAB Sample#: 528294 Sample Description: E409-1,S1,2'

Sampled: 01/25/2021 1045

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
trans-1,3-Dichloropropene	<0.043	mg/kg	0.043	0.13	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Trichloroethene	<0.020	mg/kg	0.020	0.066	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Trichlorofluoromethane	<0.043	mg/kg	0.043	0.13	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C
Vinyl chloride	<0.020	mg/kg	0.020	0.068	1		01/27/2021 12:30	01/28/2021 12:32	RLD	EPA 8260C

Sub Lab Results

PFOA	attached	mg/kg	N/A	N/A	1			02/17/2021 00:00	SUB	
PFOS	attached	mg/kg	N/A	N/A	1			02/17/2021 00:00	SUB	

CT LAB Sample#: 528296 Sample Description: E409-1,S2,5 1/2'

Sampled: 01/25/2021 1200

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	93.2	%	0.1	0.1	1			02/03/2021 10:12	BMM	EPA 8000C
Organic Results										
1,1,1,2-Tetrachloroethane	<0.069	mg/kg	0.069	0.23	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,1,1-Trichloroethane	<0.018	mg/kg	0.018	0.060	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,1,2,2-Tetrachloroethane	<0.023	mg/kg	0.023	0.081	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,1,2-Trichloroethane	<0.012	mg/kg	0.012	0.046	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,1-Dichloroethane	<0.0081	mg/kg	0.0081	0.027	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,1-Dichloroethene	<0.024	mg/kg	0.024	0.082	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,1-Dichloropropene	<0.035	mg/kg	0.035	0.10	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,2,3-Trichlorobenzene	<0.013	mg/kg	0.013	0.043	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,2,3-Trichloropropane	<0.046	mg/kg	0.046	0.16	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,2,4-Trichlorobenzene	<0.020	mg/kg	0.020	0.067	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C

CT LAB Sample#: 528296 Sample Description: E409-1,S2,5 1/2'

Sampled: 01/25/2021 1200

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,2,4-Trimethylbenzene	<0.013	mg/kg	0.013	0.040	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,2-Dibromo-3-chloropropane	<0.081	mg/kg	0.081	0.28	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,2-Dibromoethane	<0.012	mg/kg	0.012	0.046	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,2-Dichlorobenzene	<0.017	mg/kg	0.017	0.057	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,2-Dichloroethane	<0.025	mg/kg	0.025	0.085	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,2-Dichloropropane	<0.030	mg/kg	0.030	0.099	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,3,5-Trimethylbenzene	<0.015	mg/kg	0.015	0.051	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,3-Dichlorobenzene	<0.016	mg/kg	0.016	0.052	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,3-Dichloropropane	<0.016	mg/kg	0.016	0.055	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
1,4-Dichlorobenzene	<0.017	mg/kg	0.017	0.059	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
2,2-Dichloropropane	<0.024	mg/kg	0.024	0.081	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
2-Butanone	<0.46	mg/kg	0.46	1.4	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
2-Chlorotoluene	<0.021	mg/kg	0.021	0.068	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
2-Hexanone	<0.23	mg/kg	0.23	0.81	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
4-Chlorotoluene	<0.017	mg/kg	0.017	0.057	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
4-Methyl-2-pentanone	<0.21	mg/kg	0.21	0.70	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Acetone	<0.46	mg/kg	0.46	1.5	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Benzene	<0.013	mg/kg	0.013	0.040	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Bromobenzene	<0.018	mg/kg	0.018	0.060	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Bromochloromethane	<0.020	mg/kg	0.020	0.067	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Bromodichloromethane	<0.016	mg/kg	0.016	0.053	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Bromoform	<0.069	mg/kg	0.069	0.22	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Bromomethane	<0.10	mg/kg	0.10	0.35	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Carbon disulfide	<0.046	mg/kg	0.046	0.14	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Carbon tetrachloride	<0.016	mg/kg	0.016	0.052	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528296 Sample Description: E409-1,S2,5 1/2'

Sampled: 01/25/2021 1200

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Chlorobenzene	<0.012	mg/kg	0.012	0.037	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Chloroethane	<0.035	mg/kg	0.035	0.14	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Chloroform	<0.018	mg/kg	0.018	0.061	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Chloromethane	<0.035	mg/kg	0.035	0.12	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
cis-1,2-Dichloroethene	<0.031	mg/kg	0.031	0.10	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
cis-1,3-Dichloropropene	<0.016	mg/kg	0.016	0.055	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Dibromochloromethane	<0.046	mg/kg	0.046	0.16	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Dibromomethane	<0.024	mg/kg	0.024	0.081	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Dichlorodifluoromethane	<0.058	mg/kg	0.058	0.20	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Diisopropyl ether	<0.021	mg/kg	0.021	0.070	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Ethylbenzene	<0.013	mg/kg	0.013	0.040	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Hexachlorobutadiene	<0.027	mg/kg	0.027	0.090	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Isopropylbenzene	<0.015	mg/kg	0.015	0.050	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
m & p-Xylene	<0.029	mg/kg	0.029	0.095	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Methyl tert-butyl ether	<0.018	mg/kg	0.018	0.061	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Methylene chloride	<0.069	mg/kg	0.069	0.24	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
n-Butylbenzene	<0.020	mg/kg	0.020	0.063	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
n-Propylbenzene	<0.015	mg/kg	0.015	0.048	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Naphthalene	<0.017	mg/kg	0.017	0.057	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
o-Xylene	<0.0081	mg/kg	0.0081	0.025	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
p-Isopropyltoluene	<0.015	mg/kg	0.015	0.051	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
sec-Butylbenzene	<0.013	mg/kg	0.013	0.040	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Styrene	<0.018	mg/kg	0.018	0.060	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
tert-Butylbenzene	<0.014	mg/kg	0.014	0.047	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Tetrachloroethene	<0.013	mg/kg	0.013	0.043	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C

CT LAB Sample#: 528296 Sample Description: E409-1,S2,5 1/2'

Sampled: 01/25/2021 1200

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Tetrahydrofuran	<0.29	mg/kg	0.29	0.96	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Toluene	<0.018	mg/kg	0.018	0.061	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
trans-1,2-Dichloroethene	<0.016	mg/kg	0.016	0.054	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
trans-1,3-Dichloropropene	<0.046	mg/kg	0.046	0.14	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Trichloroethene	<0.022	mg/kg	0.022	0.072	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Trichlorofluoromethane	<0.046	mg/kg	0.046	0.14	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C
Vinyl chloride	<0.022	mg/kg	0.022	0.074	1		01/27/2021 12:30	01/28/2021 13:02	RLD	EPA 8260C

Sub Lab Results

PFOA	attached	mg/kg	N/A	N/A	1			02/17/2021 00:00	SUB	
PFOS	attached	mg/kg	N/A	N/A	1			02/17/2021 00:00	SUB	

CT LAB Sample#: 528297 Sample Description: E409-1,S2 DUP

Sampled: 01/25/2021 1200

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	95.7	%	0.1	0.1	1			02/03/2021 10:12	BMM	EPA 8000C
Organic Results										
1,1,1,2-Tetrachloroethane	<0.077	mg/kg	0.077	0.26	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,1,1-Trichloroethane	<0.021	mg/kg	0.021	0.067	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,1,2,2-Tetrachloroethane	<0.026	mg/kg	0.026	0.090	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,1,2-Trichloroethane	<0.013	mg/kg	0.013	0.051	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,1-Dichloroethane	<0.0090	mg/kg	0.0090	0.030	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,1-Dichloroethene	<0.027	mg/kg	0.027	0.091	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,1-Dichloropropene	<0.039	mg/kg	0.039	0.12	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C

CT LAB Sample#: 528297 Sample Description: E409-1,S2 DUP

Sampled: 01/25/2021 1200

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,2,3-Trichlorobenzene	<0.014	mg/kg	0.014	0.047	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,2,3-Trichloropropane	<0.051	mg/kg	0.051	0.18	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,2,4-Trichlorobenzene	<0.022	mg/kg	0.022	0.074	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,2,4-Trimethylbenzene	<0.014	mg/kg	0.014	0.045	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,2-Dibromo-3-chloropropane	<0.090	mg/kg	0.090	0.31	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,2-Dibromoethane	<0.013	mg/kg	0.013	0.051	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,2-Dichlorobenzene	<0.019	mg/kg	0.019	0.063	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,2-Dichloroethane	<0.028	mg/kg	0.028	0.095	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,2-Dichloropropane	<0.033	mg/kg	0.033	0.11	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,3,5-Trimethylbenzene	<0.017	mg/kg	0.017	0.056	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,3-Dichlorobenzene	<0.018	mg/kg	0.018	0.058	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,3-Dichloropropane	<0.018	mg/kg	0.018	0.062	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
1,4-Dichlorobenzene	<0.019	mg/kg	0.019	0.065	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
2,2-Dichloropropane	<0.027	mg/kg	0.027	0.090	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
2-Butanone	<0.51	mg/kg	0.51	1.5	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
2-Chlorotoluene	<0.023	mg/kg	0.023	0.076	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
2-Hexanone	<0.26	mg/kg	0.26	0.90	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
4-Chlorotoluene	<0.019	mg/kg	0.019	0.063	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
4-Methyl-2-pentanone	<0.23	mg/kg	0.23	0.78	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Acetone	<0.51	mg/kg	0.51	1.7	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Benzene	<0.014	mg/kg	0.014	0.045	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Bromobenzene	<0.021	mg/kg	0.021	0.067	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Bromochloromethane	<0.022	mg/kg	0.022	0.074	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Bromodichloromethane	<0.018	mg/kg	0.018	0.059	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Bromoform	<0.077	mg/kg	0.077	0.24	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C

CT LAB Sample#: 528297 Sample Description: E409-1,S2 DUP

Sampled: 01/25/2021 1200

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Bromomethane	<0.12	mg/kg	0.12	0.39	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Carbon disulfide	<0.051	mg/kg	0.051	0.15	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Carbon tetrachloride	<0.018	mg/kg	0.018	0.058	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Chlorobenzene	<0.013	mg/kg	0.013	0.041	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Chloroethane	<0.039	mg/kg	0.039	0.15	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Chloroform	<0.021	mg/kg	0.021	0.068	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Chloromethane	<0.039	mg/kg	0.039	0.13	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
cis-1,2-Dichloroethene	<0.035	mg/kg	0.035	0.12	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
cis-1,3-Dichloropropene	<0.018	mg/kg	0.018	0.062	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Dibromochloromethane	<0.051	mg/kg	0.051	0.18	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Dibromomethane	<0.027	mg/kg	0.027	0.090	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Dichlorodifluoromethane	<0.064	mg/kg	0.064	0.22	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Diisopropyl ether	<0.023	mg/kg	0.023	0.078	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Ethylbenzene	<0.014	mg/kg	0.014	0.045	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Hexachlorobutadiene	<0.030	mg/kg	0.030	0.10	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Isopropylbenzene	<0.017	mg/kg	0.017	0.055	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
m & p-Xylene	<0.032	mg/kg	0.032	0.11	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Methyl tert-butyl ether	<0.021	mg/kg	0.021	0.068	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Methylene chloride	<0.077	mg/kg	0.077	0.27	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
n-Butylbenzene	<0.022	mg/kg	0.022	0.071	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
n-Propylbenzene	<0.017	mg/kg	0.017	0.054	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Naphthalene	<0.019	mg/kg	0.019	0.063	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
o-Xylene	<0.0090	mg/kg	0.0090	0.028	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
p-Isopropyltoluene	<0.017	mg/kg	0.017	0.056	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
sec-Butylbenzene	<0.014	mg/kg	0.014	0.045	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528297 Sample Description: E409-1,S2 DUP

Sampled: 01/25/2021 1200

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Styrene	<0.021	mg/kg	0.021	0.067	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
tert-Butylbenzene	<0.015	mg/kg	0.015	0.053	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Tetrachloroethene	<0.014	mg/kg	0.014	0.047	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Tetrahydrofuran	<0.32	mg/kg	0.32	1.1	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Toluene	<0.021	mg/kg	0.021	0.068	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
trans-1,2-Dichloroethene	<0.018	mg/kg	0.018	0.060	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
trans-1,3-Dichloropropene	<0.051	mg/kg	0.051	0.15	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Trichloroethene	<0.024	mg/kg	0.024	0.080	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Trichlorofluoromethane	<0.051	mg/kg	0.051	0.15	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C
Vinyl chloride	<0.024	mg/kg	0.024	0.082	1		01/27/2021 12:30	01/28/2021 13:31	RLD	EPA 8260C

Sub Lab Results

PFOA	attached	mg/kg	N/A	N/A	1			02/17/2021 00:00	SUB	
PFOS	attached	mg/kg	N/A	N/A	1			02/17/2021 00:00	SUB	

CT LAB Sample#: 528298 Sample Description: E409-1

Sampled: 01/25/2021 1310

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,1,1,2-Tetrachloroethane	<0.40	ug/L	0.40	1.4	1			02/03/2021 17:08	RLD	EPA 8260C
1,1,1-Trichloroethane	<0.29	ug/L	0.29	0.98	1			02/03/2021 17:08	RLD	EPA 8260C
1,1,2,2-Tetrachloroethane	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
1,1,2-Trichloroethane	<0.30	ug/L	0.30	0.99	1			02/03/2021 17:08	RLD	EPA 8260C
1,1-Dichloroethane	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
1,1-Dichloroethene	<0.40	ug/L	0.40	1.2	1			02/03/2021 17:08	RLD	EPA 8260C

Organic Results

CT LAB Sample#: 528298 Sample Description: E409-1

Sampled: 01/25/2021 1310

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,1-Dichloropropene	<0.30	ug/L	0.30	1.0	1			02/03/2021 17:08	RLD	EPA 8260C
1,2,3-Trichlorobenzene	<0.23	ug/L	0.23	0.77	1			02/03/2021 17:08	RLD	EPA 8260C
1,2,3-Trichloropropane	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
1,2,4-Trichlorobenzene	<0.28	ug/L	0.28	0.93	1			02/03/2021 17:08	RLD	EPA 8260C
1,2,4-Trimethylbenzene	<0.29	ug/L	0.29	0.96	1			02/03/2021 17:08	RLD	EPA 8260C
1,2-Dibromo-3-chloropropane	<0.25	ug/L	0.25	0.82	1			02/03/2021 17:08	RLD	EPA 8260C
1,2-Dibromoethane	<0.30	ug/L	0.30	1.0	1			02/03/2021 17:08	RLD	EPA 8260C
1,2-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
1,2-Dichloroethane	<0.24	ug/L	0.24	0.81	1			02/03/2021 17:08	RLD	EPA 8260C
1,2-Dichloropropane	<0.18	ug/L	0.18	0.61	1			02/03/2021 17:08	RLD	EPA 8260C
1,3,5-Trimethylbenzene	<0.27	ug/L	0.27	0.89	1			02/03/2021 17:08	RLD	EPA 8260C
1,3-Dichlorobenzene	<0.26	ug/L	0.26	0.87	1			02/03/2021 17:08	RLD	EPA 8260C
1,3-Dichloropropane	<0.17	ug/L	0.17	0.57	1			02/03/2021 17:08	RLD	EPA 8260C
1,4-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
2,2-Dichloropropane	<0.30	ug/L	0.30	0.99	1			02/03/2021 17:08	RLD	EPA 8260C
2-Butanone	<2.6	ug/L	2.6	8.8	1			02/03/2021 17:08	RLD	EPA 8260C
2-Chlorotoluene	<0.25	ug/L	0.25	0.84	1			02/03/2021 17:08	RLD	EPA 8260C
2-Hexanone	<3.0	ug/L	3.0	10	1			02/03/2021 17:08	RLD	EPA 8260C
4-Chlorotoluene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
4-Methyl-2-pentanone	<2.2	ug/L	2.2	7.4	1			02/03/2021 17:08	RLD	EPA 8260C
Acetone	<4.0	ug/L	4.0	12	1			02/03/2021 17:08	RLD	EPA 8260C
Benzene	<0.40	ug/L	0.40	1.4	1			02/03/2021 17:08	RLD	EPA 8260C
Bromobenzene	<0.40	ug/L	0.40	1.3	1			02/03/2021 17:08	RLD	EPA 8260C
Bromochloromethane	<0.30	ug/L	0.30	1.0	1			02/03/2021 17:08	RLD	EPA 8260C
Bromodichloromethane	<0.29	ug/L	0.29	0.95	1			02/03/2021 17:08	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528298 Sample Description: E409-1

Sampled: 01/25/2021 1310

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Bromoform	<0.40	ug/L	0.40	1.3	1			02/03/2021 17:08	RLD	EPA 8260C
Bromomethane	<0.90	ug/L	0.90	3.1	1			02/03/2021 17:08	RLD	EPA 8260C
Carbon disulfide	<0.60	ug/L	0.60	1.9	1			02/03/2021 17:08	RLD	EPA 8260C
Carbon tetrachloride	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
Chlorobenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
Chloroethane	<0.50	ug/L	0.50	1.6	1			02/03/2021 17:08	RLD	EPA 8260C
Chloroform	<0.30	ug/L	0.30	1.2	1			02/03/2021 17:08	RLD	EPA 8260C
Chloromethane	<0.60	ug/L	0.60	2.1	1			02/03/2021 17:08	RLD	EPA 8260C
cis-1,2-Dichloroethene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
cis-1,3-Dichloropropene	<0.16	ug/L	0.16	0.54	1			02/03/2021 17:08	RLD	EPA 8260C
Dibromochloromethane	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
Dibromomethane	<0.22	ug/L	0.22	0.73	1			02/03/2021 17:08	RLD	EPA 8260C
Dichlorodifluoromethane	<0.40	ug/L	0.40	1.3	1			02/03/2021 17:08	RLD	EPA 8260C
Diisopropyl ether	<0.40	ug/L	0.40	1.3	1			02/03/2021 17:08	RLD	EPA 8260C
Ethylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
Hexachlorobutadiene	<0.40	ug/L	0.40	1.2	1			02/03/2021 17:08	RLD	EPA 8260C
Isopropylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
m & p-Xylene	<0.70	ug/L	0.70	2.4	1			02/03/2021 17:08	RLD	EPA 8260C
Methyl tert-butyl ether	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
Methylene chloride	<0.40	ug/L	0.40	1.5	1			02/03/2021 17:08	RLD	EPA 8260C
n-Butylbenzene	<0.29	ug/L	0.29	0.98	1			02/03/2021 17:08	RLD	EPA 8260C
n-Propylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
Naphthalene	<0.30	ug/L	0.30	1.0	1			02/03/2021 17:08	RLD	EPA 8260C
o-Xylene	<0.26	ug/L	0.26	0.88	1			02/03/2021 17:08	RLD	EPA 8260C
p-Isopropyltoluene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C

CT LAB Sample#: 528298 Sample Description: E409-1

Sampled: 01/25/2021 1310

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
sec-Butylbenzene	<0.40	ug/L	0.40	1.2	1			02/03/2021 17:08	RLD	EPA 8260C
Styrene	<0.29	ug/L	0.29	0.95	1			02/03/2021 17:08	RLD	EPA 8260C
tert-Butylbenzene	<0.40	ug/L	0.40	1.2	1			02/03/2021 17:08	RLD	EPA 8260C
Tetrachloroethene	<0.27	ug/L	0.27	0.89	1			02/03/2021 17:08	RLD	EPA 8260C
Tetrahydrofuran	<3.0	ug/L	3.0	10	1			02/03/2021 17:08	RLD	EPA 8260C
Toluene	<0.21	ug/L	0.21	0.69	1			02/03/2021 17:08	RLD	EPA 8260C
trans-1,2-Dichloroethene	<0.30	ug/L	0.30	1.2	1			02/03/2021 17:08	RLD	EPA 8260C
trans-1,3-Dichloropropene	<0.23	ug/L	0.23	0.77	1			02/03/2021 17:08	RLD	EPA 8260C
Trichloroethene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:08	RLD	EPA 8260C
Trichlorofluoromethane	<0.40	ug/L	0.40	1.4	1			02/03/2021 17:08	RLD	EPA 8260C
Vinyl chloride	<0.14	ug/L	0.14	0.46	1			02/03/2021 17:08	RLD	EPA 8260C

Sub Lab Results

PFOA	attached	ug/L	N/A	N/A	1			02/17/2021 00:00	SUB	
PFOS	attached	ug/L	N/A	N/A	1			02/17/2021 00:00	SUB	

CT LAB Sample#: 528299 Sample Description: E409-1 DUP

Sampled: 01/25/2021 1310

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,1,1,2-Tetrachloroethane	<0.40	ug/L	0.40	1.4	1			02/03/2021 17:39	RLD	EPA 8260C
1,1,1-Trichloroethane	<0.29	ug/L	0.29	0.98	1			02/03/2021 17:39	RLD	EPA 8260C
1,1,2,2-Tetrachloroethane	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
1,1,2-Trichloroethane	<0.30	ug/L	0.30	0.99	1			02/03/2021 17:39	RLD	EPA 8260C
1,1-Dichloroethane	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C

CT LAB Sample#: 528299 Sample Description: E409-1 DUP

Sampled: 01/25/2021 1310

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,1-Dichloroethene	<0.40	ug/L	0.40	1.2	1			02/03/2021 17:39	RLD	EPA 8260C
1,1-Dichloropropene	<0.30	ug/L	0.30	1.0	1			02/03/2021 17:39	RLD	EPA 8260C
1,2,3-Trichlorobenzene	<0.23	ug/L	0.23	0.77	1			02/03/2021 17:39	RLD	EPA 8260C
1,2,3-Trichloropropane	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
1,2,4-Trichlorobenzene	<0.28	ug/L	0.28	0.93	1			02/03/2021 17:39	RLD	EPA 8260C
1,2,4-Trimethylbenzene	<0.29	ug/L	0.29	0.96	1			02/03/2021 17:39	RLD	EPA 8260C
1,2-Dibromo-3-chloropropane	<0.25	ug/L	0.25	0.82	1			02/03/2021 17:39	RLD	EPA 8260C
1,2-Dibromoethane	<0.30	ug/L	0.30	1.0	1			02/03/2021 17:39	RLD	EPA 8260C
1,2-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
1,2-Dichloroethane	<0.24	ug/L	0.24	0.81	1			02/03/2021 17:39	RLD	EPA 8260C
1,2-Dichloropropane	<0.18	ug/L	0.18	0.61	1			02/03/2021 17:39	RLD	EPA 8260C
1,3,5-Trimethylbenzene	<0.27	ug/L	0.27	0.89	1			02/03/2021 17:39	RLD	EPA 8260C
1,3-Dichlorobenzene	<0.26	ug/L	0.26	0.87	1			02/03/2021 17:39	RLD	EPA 8260C
1,3-Dichloropropane	<0.17	ug/L	0.17	0.57	1			02/03/2021 17:39	RLD	EPA 8260C
1,4-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
2,2-Dichloropropane	<0.30	ug/L	0.30	0.99	1			02/03/2021 17:39	RLD	EPA 8260C
2-Butanone	<2.6	ug/L	2.6	8.8	1			02/03/2021 17:39	RLD	EPA 8260C
2-Chlorotoluene	<0.25	ug/L	0.25	0.84	1			02/03/2021 17:39	RLD	EPA 8260C
2-Hexanone	<3.0	ug/L	3.0	10	1			02/03/2021 17:39	RLD	EPA 8260C
4-Chlorotoluene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
4-Methyl-2-pentanone	<2.2	ug/L	2.2	7.4	1			02/03/2021 17:39	RLD	EPA 8260C
Acetone	<4.0	ug/L	4.0	12	1			02/03/2021 17:39	RLD	EPA 8260C
Benzene	<0.40	ug/L	0.40	1.4	1			02/03/2021 17:39	RLD	EPA 8260C
Bromobenzene	<0.40	ug/L	0.40	1.3	1			02/03/2021 17:39	RLD	EPA 8260C
Bromochloromethane	<0.30	ug/L	0.30	1.0	1			02/03/2021 17:39	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528299 Sample Description: E409-1 DUP

Sampled: 01/25/2021 1310

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Bromodichloromethane	<0.29	ug/L	0.29	0.95	1			02/03/2021 17:39	RLD	EPA 8260C
Bromoform	<0.40	ug/L	0.40	1.3	1			02/03/2021 17:39	RLD	EPA 8260C
Bromomethane	<0.90	ug/L	0.90	3.1	1			02/03/2021 17:39	RLD	EPA 8260C
Carbon disulfide	<0.60	ug/L	0.60	1.9	1			02/03/2021 17:39	RLD	EPA 8260C
Carbon tetrachloride	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
Chlorobenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
Chloroethane	<0.50	ug/L	0.50	1.6	1			02/03/2021 17:39	RLD	EPA 8260C
Chloroform	<0.30	ug/L	0.30	1.2	1			02/03/2021 17:39	RLD	EPA 8260C
Chloromethane	<0.60	ug/L	0.60	2.1	1			02/03/2021 17:39	RLD	EPA 8260C
cis-1,2-Dichloroethene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
cis-1,3-Dichloropropene	<0.16	ug/L	0.16	0.54	1			02/03/2021 17:39	RLD	EPA 8260C
Dibromochloromethane	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
Dibromomethane	<0.22	ug/L	0.22	0.73	1			02/03/2021 17:39	RLD	EPA 8260C
Dichlorodifluoromethane	<0.40	ug/L	0.40	1.3	1			02/03/2021 17:39	RLD	EPA 8260C
Diisopropyl ether	<0.40	ug/L	0.40	1.3	1			02/03/2021 17:39	RLD	EPA 8260C
Ethylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
Hexachlorobutadiene	<0.40	ug/L	0.40	1.2	1			02/03/2021 17:39	RLD	EPA 8260C
Isopropylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
m & p-Xylene	<0.70	ug/L	0.70	2.4	1			02/03/2021 17:39	RLD	EPA 8260C
Methyl tert-butyl ether	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
Methylene chloride	<0.40	ug/L	0.40	1.5	1			02/03/2021 17:39	RLD	EPA 8260C
n-Butylbenzene	<0.29	ug/L	0.29	0.98	1			02/03/2021 17:39	RLD	EPA 8260C
n-Propylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
Naphthalene	<0.30	ug/L	0.30	1.0	1			02/03/2021 17:39	RLD	EPA 8260C
o-Xylene	<0.26	ug/L	0.26	0.88	1			02/03/2021 17:39	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528299 Sample Description: E409-1 DUP

Sampled: 01/25/2021 1310

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
p-Isopropyltoluene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
sec-Butylbenzene	<0.40	ug/L	0.40	1.2	1			02/03/2021 17:39	RLD	EPA 8260C
Styrene	<0.29	ug/L	0.29	0.95	1			02/03/2021 17:39	RLD	EPA 8260C
tert-Butylbenzene	<0.40	ug/L	0.40	1.2	1			02/03/2021 17:39	RLD	EPA 8260C
Tetrachloroethene	<0.27	ug/L	0.27	0.89	1			02/03/2021 17:39	RLD	EPA 8260C
Tetrahydrofuran	<3.0	ug/L	3.0	10	1			02/03/2021 17:39	RLD	EPA 8260C
Toluene	<0.21	ug/L	0.21	0.69	1			02/03/2021 17:39	RLD	EPA 8260C
trans-1,2-Dichloroethene	<0.30	ug/L	0.30	1.2	1			02/03/2021 17:39	RLD	EPA 8260C
trans-1,3-Dichloropropene	<0.23	ug/L	0.23	0.77	1			02/03/2021 17:39	RLD	EPA 8260C
Trichloroethene	<0.30	ug/L	0.30	1.1	1			02/03/2021 17:39	RLD	EPA 8260C
Trichlorofluoromethane	<0.40	ug/L	0.40	1.4	1			02/03/2021 17:39	RLD	EPA 8260C
Vinyl chloride	<0.14	ug/L	0.14	0.46	1			02/03/2021 17:39	RLD	EPA 8260C

Sub Lab Results

PFOA	attached	ug/L	N/A	N/A	1			02/17/2021 00:00	SUB	
PFOS	attached	ug/L	N/A	N/A	1			02/17/2021 00:00	SUB	

CT LAB Sample#: 528300 Sample Description: E409-2,S1,2'

Sampled: 01/25/2021 1355

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	96.3	%	0.1	0.1	1			02/03/2021 10:12	BMM	EPA 8000C
Organic Results										
1,1,1,2-Tetrachloroethane	<0.075	mg/kg	0.075	0.25	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,1,1-Trichloroethane	<0.020	mg/kg	0.020	0.065	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C

CT LAB Sample#: 528300 Sample Description: E409-2,S1,2'

Sampled: 01/25/2021 1355

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
1,1,2,2-Tetrachloroethane	<0.025	mg/kg	0.025	0.087	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,1,2-Trichloroethane	<0.012	mg/kg	0.012	0.050	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,1-Dichloroethane	<0.0087	mg/kg	0.0087	0.029	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,1-Dichloroethene	<0.026	mg/kg	0.026	0.088	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,1-Dichloropropene	<0.037	mg/kg	0.037	0.11	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,2,3-Trichlorobenzene	<0.014	mg/kg	0.014	0.046	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,2,3-Trichloropropane	<0.050	mg/kg	0.050	0.17	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,2,4-Trichlorobenzene	<0.021	mg/kg	0.021	0.072	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,2,4-Trimethylbenzene	<0.014	mg/kg	0.014	0.043	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,2-Dibromo-3-chloropropane	<0.087	mg/kg	0.087	0.30	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,2-Dibromoethane	<0.012	mg/kg	0.012	0.050	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,2-Dichlorobenzene	<0.019	mg/kg	0.019	0.061	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,2-Dichloroethane	<0.027	mg/kg	0.027	0.092	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,2-Dichloropropane	<0.032	mg/kg	0.032	0.11	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,3,5-Trimethylbenzene	<0.016	mg/kg	0.016	0.055	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,3-Dichlorobenzene	<0.017	mg/kg	0.017	0.056	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,3-Dichloropropane	<0.017	mg/kg	0.017	0.060	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
1,4-Dichlorobenzene	<0.019	mg/kg	0.019	0.063	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
2,2-Dichloropropane	<0.026	mg/kg	0.026	0.087	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
2-Butanone	<0.50	mg/kg	0.50	1.5	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
2-Chlorotoluene	<0.022	mg/kg	0.022	0.073	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
2-Hexanone	<0.25	mg/kg	0.25	0.87	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
4-Chlorotoluene	<0.019	mg/kg	0.019	0.061	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
4-Methyl-2-pentanone	<0.22	mg/kg	0.22	0.76	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Acetone	<0.50	mg/kg	0.50	1.6	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528300 Sample Description: E409-2,S1,2'

Sampled: 01/25/2021 1355

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Benzene	<0.014	mg/kg	0.014	0.043	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Bromobenzene	<0.020	mg/kg	0.020	0.065	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Bromochloromethane	<0.021	mg/kg	0.021	0.072	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Bromodichloromethane	<0.017	mg/kg	0.017	0.057	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Bromoform	<0.075	mg/kg	0.075	0.24	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Bromomethane	<0.11	mg/kg	0.11	0.37	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Carbon disulfide	<0.050	mg/kg	0.050	0.15	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Carbon tetrachloride	<0.017	mg/kg	0.017	0.056	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Chlorobenzene	<0.012	mg/kg	0.012	0.040	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Chloroethane	<0.037	mg/kg	0.037	0.15	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Chloroform	<0.020	mg/kg	0.020	0.066	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Chloromethane	<0.037	mg/kg	0.037	0.12	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
cis-1,2-Dichloroethene	<0.034	mg/kg	0.034	0.11	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
cis-1,3-Dichloropropene	<0.017	mg/kg	0.017	0.060	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Dibromochloromethane	<0.050	mg/kg	0.050	0.17	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Dibromomethane	<0.026	mg/kg	0.026	0.087	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Dichlorodifluoromethane	<0.062	mg/kg	0.062	0.21	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Diisopropyl ether	<0.022	mg/kg	0.022	0.076	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Ethylbenzene	<0.014	mg/kg	0.014	0.043	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Hexachlorobutadiene	<0.029	mg/kg	0.029	0.097	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Isopropylbenzene	<0.016	mg/kg	0.016	0.053	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
m & p-Xylene	<0.031	mg/kg	0.031	0.10	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Methyl tert-butyl ether	<0.020	mg/kg	0.020	0.066	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Methylene chloride	<0.075	mg/kg	0.075	0.26	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
n-Butylbenzene	<0.021	mg/kg	0.021	0.068	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528300 Sample Description: E409-2,S1,2'

Sampled: 01/25/2021 1355

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
n-Propylbenzene	<0.016	mg/kg	0.016	0.052	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Naphthalene	<0.019	mg/kg	0.019	0.061	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
o-Xylene	<0.0087	mg/kg	0.0087	0.027	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
p-Isopropyltoluene	<0.016	mg/kg	0.016	0.055	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
sec-Butylbenzene	<0.014	mg/kg	0.014	0.043	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Styrene	<0.020	mg/kg	0.020	0.065	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
tert-Butylbenzene	<0.015	mg/kg	0.015	0.051	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Tetrachloroethene	<0.014	mg/kg	0.014	0.046	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Tetrahydrofuran	<0.31	mg/kg	0.31	1.0	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Toluene	<0.020	mg/kg	0.020	0.066	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
trans-1,2-Dichloroethene	<0.017	mg/kg	0.017	0.058	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
trans-1,3-Dichloropropene	<0.050	mg/kg	0.050	0.15	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Trichloroethene	<0.024	mg/kg	0.024	0.077	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Trichlorofluoromethane	<0.050	mg/kg	0.050	0.15	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C
Vinyl chloride	<0.024	mg/kg	0.024	0.079	1		01/27/2021 12:30	01/28/2021 14:00	RLD	EPA 8260C

Sub Lab Results

PFOA	attached	mg/kg	N/A	N/A	1			02/17/2021 00:00	SUB	
PFOS	attached	mg/kg	N/A	N/A	1			02/17/2021 00:00	SUB	

CT LAB Sample#: 528301 Sample Description: E409-2,S2,5 1/2'

Sampled: 01/25/2021 1405

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Inorganic Results										
Solids, Percent	96.0	%	0.1	0.1	1			02/03/2021 10:12	BMM	EPA 8000C

CT LAB Sample#: 528301 Sample Description: E409-2,S2,5 1/2'

Sampled: 01/25/2021 1405

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
1,1,1,2-Tetrachloroethane	<0.074	mg/kg	0.074	0.25	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,1,1-Trichloroethane	<0.020	mg/kg	0.020	0.064	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,1,2,2-Tetrachloroethane	<0.025	mg/kg	0.025	0.087	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,1,2-Trichloroethane	<0.012	mg/kg	0.012	0.049	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,1-Dichloroethane	<0.0087	mg/kg	0.0087	0.028	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,1-Dichloroethene	<0.026	mg/kg	0.026	0.088	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,1-Dichloropropene	<0.037	mg/kg	0.037	0.11	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,2,3-Trichlorobenzene	<0.014	mg/kg	0.014	0.046	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,2,3-Trichloropropane	<0.049	mg/kg	0.049	0.17	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,2,4-Trichlorobenzene	<0.021	mg/kg	0.021	0.072	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,2,4-Trimethylbenzene	<0.014	mg/kg	0.014	0.043	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,2-Dibromo-3-chloropropane	<0.087	mg/kg	0.087	0.30	1	Z	01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,2-Dibromoethane	<0.012	mg/kg	0.012	0.049	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,2-Dichlorobenzene	<0.019	mg/kg	0.019	0.061	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,2-Dichloroethane	<0.027	mg/kg	0.027	0.092	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,2-Dichloropropane	<0.032	mg/kg	0.032	0.11	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,3,5-Trimethylbenzene	<0.016	mg/kg	0.016	0.054	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,3-Dichlorobenzene	<0.017	mg/kg	0.017	0.056	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,3-Dichloropropane	<0.017	mg/kg	0.017	0.059	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
1,4-Dichlorobenzene	<0.019	mg/kg	0.019	0.063	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
2,2-Dichloropropane	<0.026	mg/kg	0.026	0.087	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
2-Butanone	<0.49	mg/kg	0.49	1.5	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
2-Chlorotoluene	<0.022	mg/kg	0.022	0.073	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
2-Hexanone	<0.25	mg/kg	0.25	0.87	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528301 Sample Description: E409-2,S2,5 1/2'

Sampled: 01/25/2021 1405

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
4-Chlorotoluene	<0.019	mg/kg	0.019	0.061	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
4-Methyl-2-pentanone	<0.22	mg/kg	0.22	0.75	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Acetone	<0.49	mg/kg	0.49	1.6	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Benzene	<0.014	mg/kg	0.014	0.043	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Bromobenzene	<0.020	mg/kg	0.020	0.064	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Bromochloromethane	<0.021	mg/kg	0.021	0.072	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Bromodichloromethane	<0.017	mg/kg	0.017	0.057	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Bromoform	<0.074	mg/kg	0.074	0.24	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Bromomethane	<0.11	mg/kg	0.11	0.37	1	Z	01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Carbon disulfide	<0.049	mg/kg	0.049	0.15	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Carbon tetrachloride	<0.017	mg/kg	0.017	0.056	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Chlorobenzene	<0.012	mg/kg	0.012	0.040	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Chloroethane	<0.037	mg/kg	0.037	0.15	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Chloroform	<0.020	mg/kg	0.020	0.066	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Chloromethane	<0.037	mg/kg	0.037	0.12	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
cis-1,2-Dichloroethene	<0.033	mg/kg	0.033	0.11	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
cis-1,3-Dichloropropene	<0.017	mg/kg	0.017	0.059	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Dibromochloromethane	<0.049	mg/kg	0.049	0.17	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Dibromomethane	<0.026	mg/kg	0.026	0.087	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Dichlorodifluoromethane	<0.062	mg/kg	0.062	0.21	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Diisopropyl ether	<0.022	mg/kg	0.022	0.075	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Ethylbenzene	<0.014	mg/kg	0.014	0.043	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Hexachlorobutadiene	<0.028	mg/kg	0.028	0.096	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Isopropylbenzene	<0.016	mg/kg	0.016	0.053	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
m & p-Xylene	<0.031	mg/kg	0.031	0.10	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C

CT LAB Sample#: 528301 Sample Description: E409-2,S2,5 1/2'

Sampled: 01/25/2021 1405

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Methyl tert-butyl ether	<0.020	mg/kg	0.020	0.066	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Methylene chloride	<0.074	mg/kg	0.074	0.26	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
n-Butylbenzene	<0.021	mg/kg	0.021	0.068	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
n-Propylbenzene	<0.016	mg/kg	0.016	0.052	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Naphthalene	<0.019	mg/kg	0.019	0.061	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
o-Xylene	<0.0087	mg/kg	0.0087	0.027	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
p-Isopropyltoluene	<0.016	mg/kg	0.016	0.054	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
sec-Butylbenzene	<0.014	mg/kg	0.014	0.043	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Styrene	<0.020	mg/kg	0.020	0.064	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
tert-Butylbenzene	<0.015	mg/kg	0.015	0.051	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Tetrachloroethene	<0.014	mg/kg	0.014	0.046	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Tetrahydrofuran	<0.31	mg/kg	0.31	1.0	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Toluene	<0.020	mg/kg	0.020	0.066	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
trans-1,2-Dichloroethene	<0.017	mg/kg	0.017	0.058	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
trans-1,3-Dichloropropene	<0.049	mg/kg	0.049	0.15	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Trichloroethene	<0.024	mg/kg	0.024	0.077	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Trichlorofluoromethane	<0.049	mg/kg	0.049	0.15	1	M	01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C
Vinyl chloride	<0.024	mg/kg	0.024	0.079	1		01/27/2021 12:30	01/28/2021 14:30	RLD	EPA 8260C

Sub Lab Results

PFOA	attached	mg/kg	N/A	N/A	1			02/17/2021 00:00	SUB	
PFOS	attached	mg/kg	N/A	N/A	1			02/17/2021 00:00	SUB	

CT LAB Sample#: 528302 Sample Description: E409 FIELD BLANK

Sampled: 01/25/2021 1500

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
1,1,1,2-Tetrachloroethane	<0.40	ug/L	0.40	1.4	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,1,1-Trichloroethane	<0.29	ug/L	0.29	0.98	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,1,2,2-Tetrachloroethane	<0.30	ug/L	0.30	1.1	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,1,2-Trichloroethane	<0.30	ug/L	0.30	0.99	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,1-Dichloroethane	<0.30	ug/L	0.30	1.1	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,1-Dichloroethene	<0.40	ug/L	0.40	1.2	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,1-Dichloropropene	<0.30	ug/L	0.30	1.0	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,2,3-Trichlorobenzene	<0.23	ug/L	0.23	0.77	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,2,3-Trichloropropane	<0.30	ug/L	0.30	1.1	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,2,4-Trichlorobenzene	<0.28	ug/L	0.28	0.93	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,2,4-Trimethylbenzene	<0.29	ug/L	0.29	0.96	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,2-Dibromo-3-chloropropane	<0.25	ug/L	0.25	0.82	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,2-Dibromoethane	<0.30	ug/L	0.30	1.0	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,2-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,2-Dichloroethane	<0.24	ug/L	0.24	0.81	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,2-Dichloropropane	<0.18	ug/L	0.18	0.61	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,3,5-Trimethylbenzene	<0.27	ug/L	0.27	0.89	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,3-Dichlorobenzene	<0.26	ug/L	0.26	0.87	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,3-Dichloropropane	<0.17	ug/L	0.17	0.57	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
1,4-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
2,2-Dichloropropane	<0.30	ug/L	0.30	0.99	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
2-Butanone	<2.6	ug/L	2.6	8.8	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
2-Chlorotoluene	<0.25	ug/L	0.25	0.84	1		02/03/2021 16:37	16:37	RLD	EPA 8260C
2-Hexanone	<3.0	ug/L	3.0	10	1		02/03/2021 16:37	16:37	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528302 Sample Description: E409 FIELD BLANK

Sampled: 01/25/2021 1500

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
4-Chlorotoluene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
4-Methyl-2-pentanone	<2.2	ug/L	2.2	7.4	1			02/03/2021 16:37	RLD	EPA 8260C
Acetone	<4.0	ug/L	4.0	12	1			02/03/2021 16:37	RLD	EPA 8260C
Benzene	<0.40	ug/L	0.40	1.4	1			02/03/2021 16:37	RLD	EPA 8260C
Bromobenzene	<0.40	ug/L	0.40	1.3	1			02/03/2021 16:37	RLD	EPA 8260C
Bromochloromethane	<0.30	ug/L	0.30	1.0	1			02/03/2021 16:37	RLD	EPA 8260C
Bromodichloromethane	<0.29	ug/L	0.29	0.95	1			02/03/2021 16:37	RLD	EPA 8260C
Bromoform	<0.40	ug/L	0.40	1.3	1			02/03/2021 16:37	RLD	EPA 8260C
Bromomethane	<0.90	ug/L	0.90	3.1	1			02/03/2021 16:37	RLD	EPA 8260C
Carbon disulfide	<0.60	ug/L	0.60	1.9	1			02/03/2021 16:37	RLD	EPA 8260C
Carbon tetrachloride	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
Chlorobenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
Chloroethane	<0.50	ug/L	0.50	1.6	1			02/03/2021 16:37	RLD	EPA 8260C
Chloroform	<0.30	ug/L	0.30	1.2	1			02/03/2021 16:37	RLD	EPA 8260C
Chloromethane	<0.60	ug/L	0.60	2.1	1			02/03/2021 16:37	RLD	EPA 8260C
cis-1,2-Dichloroethene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
cis-1,3-Dichloropropene	<0.16	ug/L	0.16	0.54	1			02/03/2021 16:37	RLD	EPA 8260C
Dibromochloromethane	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
Dibromomethane	<0.22	ug/L	0.22	0.73	1			02/03/2021 16:37	RLD	EPA 8260C
Dichlorodifluoromethane	<0.40	ug/L	0.40	1.3	1			02/03/2021 16:37	RLD	EPA 8260C
Diisopropyl ether	<0.40	ug/L	0.40	1.3	1			02/03/2021 16:37	RLD	EPA 8260C
Ethylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
Hexachlorobutadiene	<0.40	ug/L	0.40	1.2	1			02/03/2021 16:37	RLD	EPA 8260C
Isopropylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
m & p-Xylene	<0.70	ug/L	0.70	2.4	1			02/03/2021 16:37	RLD	EPA 8260C

CT LAB Sample#: 528302 Sample Description: E409 FIELD BLANK

Sampled: 01/25/2021 1500

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Methyl tert-butyl ether	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
Methylene chloride	3.2	ug/L	0.40	1.5	1			02/03/2021 16:37	RLD	EPA 8260C
n-Butylbenzene	<0.29	ug/L	0.29	0.98	1			02/03/2021 16:37	RLD	EPA 8260C
n-Propylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
Naphthalene	<0.30	ug/L	0.30	1.0	1			02/03/2021 16:37	RLD	EPA 8260C
o-Xylene	<0.26	ug/L	0.26	0.88	1			02/03/2021 16:37	RLD	EPA 8260C
p-Isopropyltoluene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
sec-Butylbenzene	<0.40	ug/L	0.40	1.2	1			02/03/2021 16:37	RLD	EPA 8260C
Styrene	<0.29	ug/L	0.29	0.95	1			02/03/2021 16:37	RLD	EPA 8260C
tert-Butylbenzene	<0.40	ug/L	0.40	1.2	1			02/03/2021 16:37	RLD	EPA 8260C
Tetrachloroethene	<0.27	ug/L	0.27	0.89	1			02/03/2021 16:37	RLD	EPA 8260C
Tetrahydrofuran	<3.0	ug/L	3.0	10	1			02/03/2021 16:37	RLD	EPA 8260C
Toluene	0.58	ug/L	0.21 *	0.69	1			02/03/2021 16:37	RLD	EPA 8260C
trans-1,2-Dichloroethene	<0.30	ug/L	0.30	1.2	1			02/03/2021 16:37	RLD	EPA 8260C
trans-1,3-Dichloropropene	<0.23	ug/L	0.23	0.77	1			02/03/2021 16:37	RLD	EPA 8260C
Trichloroethene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:37	RLD	EPA 8260C
Trichlorofluoromethane	<0.40	ug/L	0.40	1.4	1			02/03/2021 16:37	RLD	EPA 8260C
Vinyl chloride	<0.14	ug/L	0.14	0.46	1			02/03/2021 16:37	RLD	EPA 8260C
Sub Lab Results										
PFOA	attached	ug/L	N/A	N/A	1			02/17/2021 00:00	SUB	
PFOS	attached	ug/L	N/A	N/A	1			02/17/2021 00:00	SUB	

CT LAB Sample#: 528303 Sample Description: E409-2

Sampled: 01/25/2021 1520

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
1,1,1,2-Tetrachloroethane	<0.40	ug/L	0.40	1.4	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,1,1-Trichloroethane	<0.29	ug/L	0.29	0.98	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,1,2,2-Tetrachloroethane	<0.30	ug/L	0.30	1.1	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,1,2-Trichloroethane	<0.30	ug/L	0.30	0.99	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,1-Dichloroethane	<0.30	ug/L	0.30	1.1	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,1-Dichloroethene	<0.40	ug/L	0.40	1.2	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,1-Dichloropropene	<0.30	ug/L	0.30	1.0	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,2,3-Trichlorobenzene	<0.23	ug/L	0.23	0.77	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,2,3-Trichloropropane	<0.30	ug/L	0.30	1.1	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,2,4-Trichlorobenzene	<0.28	ug/L	0.28	0.93	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,2,4-Trimethylbenzene	<0.29	ug/L	0.29	0.96	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,2-Dibromo-3-chloropropane	<0.25	ug/L	0.25	0.82	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,2-Dibromoethane	<0.30	ug/L	0.30	1.0	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,2-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,2-Dichloroethane	<0.24	ug/L	0.24	0.81	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,2-Dichloropropane	<0.18	ug/L	0.18	0.61	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,3,5-Trimethylbenzene	<0.27	ug/L	0.27	0.89	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,3-Dichlorobenzene	<0.26	ug/L	0.26	0.87	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,3-Dichloropropane	<0.17	ug/L	0.17	0.57	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
1,4-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
2,2-Dichloropropane	<0.30	ug/L	0.30	0.99	1	M,Y	02/03/2021 18:10	18:10	RLD	EPA 8260C
2-Butanone	<2.6	ug/L	2.6	8.8	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
2-Chlorotoluene	<0.25	ug/L	0.25	0.84	1		02/03/2021 18:10	18:10	RLD	EPA 8260C
2-Hexanone	<3.0	ug/L	3.0	10	1		02/03/2021 18:10	18:10	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528303 Sample Description: E409-2

Sampled: 01/25/2021 1520

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
4-Chlorotoluene	<0.30	ug/L	0.30	1.1	1		02/03/2021	18:10	RLD	EPA 8260C
4-Methyl-2-pentanone	<2.2	ug/L	2.2	7.4	1		02/03/2021	18:10	RLD	EPA 8260C
Acetone	<4.0	ug/L	4.0	12	1		02/03/2021	18:10	RLD	EPA 8260C
Benzene	<0.40	ug/L	0.40	1.4	1		02/03/2021	18:10	RLD	EPA 8260C
Bromobenzene	<0.40	ug/L	0.40	1.3	1		02/03/2021	18:10	RLD	EPA 8260C
Bromochloromethane	<0.30	ug/L	0.30	1.0	1		02/03/2021	18:10	RLD	EPA 8260C
Bromodichloromethane	<0.29	ug/L	0.29	0.95	1		02/03/2021	18:10	RLD	EPA 8260C
Bromoform	<0.40	ug/L	0.40	1.3	1		02/03/2021	18:10	RLD	EPA 8260C
Bromomethane	<0.90	ug/L	0.90	3.1	1		02/03/2021	18:10	RLD	EPA 8260C
Carbon disulfide	<0.60	ug/L	0.60	1.9	1		02/03/2021	18:10	RLD	EPA 8260C
Carbon tetrachloride	<0.30	ug/L	0.30	1.1	1		02/03/2021	18:10	RLD	EPA 8260C
Chlorobenzene	<0.30	ug/L	0.30	1.1	1		02/03/2021	18:10	RLD	EPA 8260C
Chloroethane	<0.50	ug/L	0.50	1.6	1		02/03/2021	18:10	RLD	EPA 8260C
Chloroform	<0.30	ug/L	0.30	1.2	1		02/03/2021	18:10	RLD	EPA 8260C
Chloromethane	<0.60	ug/L	0.60	2.1	1		02/03/2021	18:10	RLD	EPA 8260C
cis-1,2-Dichloroethene	<0.30	ug/L	0.30	1.1	1		02/03/2021	18:10	RLD	EPA 8260C
cis-1,3-Dichloropropene	<0.16	ug/L	0.16	0.54	1		02/03/2021	18:10	RLD	EPA 8260C
Dibromochloromethane	<0.30	ug/L	0.30	1.1	1		02/03/2021	18:10	RLD	EPA 8260C
Dibromomethane	<0.22	ug/L	0.22	0.73	1		02/03/2021	18:10	RLD	EPA 8260C
Dichlorodifluoromethane	0.49	ug/L	0.40 *	1.3	1		02/03/2021	18:10	RLD	EPA 8260C
Diisopropyl ether	<0.40	ug/L	0.40	1.3	1		02/03/2021	18:10	RLD	EPA 8260C
Ethylbenzene	<0.30	ug/L	0.30	1.1	1		02/03/2021	18:10	RLD	EPA 8260C
Hexachlorobutadiene	<0.40	ug/L	0.40	1.2	1	M,Y	02/03/2021	18:10	RLD	EPA 8260C
Isopropylbenzene	<0.30	ug/L	0.30	1.1	1		02/03/2021	18:10	RLD	EPA 8260C
m & p-Xylene	<0.70	ug/L	0.70	2.4	1		02/03/2021	18:10	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528303 Sample Description: E409-2

Sampled: 01/25/2021 1520

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Methyl tert-butyl ether	<0.30	ug/L	0.30	1.1	1			02/03/2021 18:10	RLD	EPA 8260C
Methylene chloride	<0.40	ug/L	0.40	1.5	1			02/03/2021 18:10	RLD	EPA 8260C
n-Butylbenzene	<0.29	ug/L	0.29	0.98	1	M,Y		02/03/2021 18:10	RLD	EPA 8260C
n-Propylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 18:10	RLD	EPA 8260C
Naphthalene	<0.30	ug/L	0.30	1.0	1			02/03/2021 18:10	RLD	EPA 8260C
o-Xylene	<0.26	ug/L	0.26	0.88	1			02/03/2021 18:10	RLD	EPA 8260C
p-Isopropyltoluene	<0.30	ug/L	0.30	1.1	1	Y		02/03/2021 18:10	RLD	EPA 8260C
sec-Butylbenzene	<0.40	ug/L	0.40	1.2	1	Y		02/03/2021 18:10	RLD	EPA 8260C
Styrene	<0.29	ug/L	0.29	0.95	1			02/03/2021 18:10	RLD	EPA 8260C
tert-Butylbenzene	<0.40	ug/L	0.40	1.2	1			02/03/2021 18:10	RLD	EPA 8260C
Tetrachloroethene	<0.27	ug/L	0.27	0.89	1			02/03/2021 18:10	RLD	EPA 8260C
Tetrahydrofuran	<3.0	ug/L	3.0	10	1			02/03/2021 18:10	RLD	EPA 8260C
Toluene	<0.21	ug/L	0.21	0.69	1			02/03/2021 18:10	RLD	EPA 8260C
trans-1,2-Dichloroethene	<0.30	ug/L	0.30	1.2	1			02/03/2021 18:10	RLD	EPA 8260C
trans-1,3-Dichloropropene	<0.23	ug/L	0.23	0.77	1			02/03/2021 18:10	RLD	EPA 8260C
Trichloroethene	<0.30	ug/L	0.30	1.1	1			02/03/2021 18:10	RLD	EPA 8260C
Trichlorofluoromethane	<0.40	ug/L	0.40	1.4	1			02/03/2021 18:10	RLD	EPA 8260C
Vinyl chloride	<0.14	ug/L	0.14	0.46	1			02/03/2021 18:10	RLD	EPA 8260C
Sub Lab Results										
PFOA	attached	ug/L	N/A	N/A	1			02/17/2021 00:00	SUB	
PFOS	attached	ug/L	N/A	N/A	1			02/17/2021 00:00	SUB	

CT LAB Sample#: 528304 Sample Description: TRIP BLANK

Sampled: 01/25/2021

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Organic Results										
1,1,1,2-Tetrachloroethane	<0.40	ug/L	0.40	1.4	1		02/03/2021	16:06	RLD	EPA 8260C
1,1,1-Trichloroethane	<0.29	ug/L	0.29	0.98	1		02/03/2021	16:06	RLD	EPA 8260C
1,1,2,2-Tetrachloroethane	<0.30	ug/L	0.30	1.1	1		02/03/2021	16:06	RLD	EPA 8260C
1,1,2-Trichloroethane	<0.30	ug/L	0.30	0.99	1		02/03/2021	16:06	RLD	EPA 8260C
1,1-Dichloroethane	<0.30	ug/L	0.30	1.1	1		02/03/2021	16:06	RLD	EPA 8260C
1,1-Dichloroethene	<0.40	ug/L	0.40	1.2	1		02/03/2021	16:06	RLD	EPA 8260C
1,1-Dichloropropene	<0.30	ug/L	0.30	1.0	1		02/03/2021	16:06	RLD	EPA 8260C
1,2,3-Trichlorobenzene	<0.23	ug/L	0.23	0.77	1		02/03/2021	16:06	RLD	EPA 8260C
1,2,3-Trichloropropane	<0.30	ug/L	0.30	1.1	1		02/03/2021	16:06	RLD	EPA 8260C
1,2,4-Trichlorobenzene	<0.28	ug/L	0.28	0.93	1		02/03/2021	16:06	RLD	EPA 8260C
1,2,4-Trimethylbenzene	<0.29	ug/L	0.29	0.96	1		02/03/2021	16:06	RLD	EPA 8260C
1,2-Dibromo-3-chloropropane	<0.25	ug/L	0.25	0.82	1		02/03/2021	16:06	RLD	EPA 8260C
1,2-Dibromoethane	<0.30	ug/L	0.30	1.0	1		02/03/2021	16:06	RLD	EPA 8260C
1,2-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1		02/03/2021	16:06	RLD	EPA 8260C
1,2-Dichloroethane	<0.24	ug/L	0.24	0.81	1		02/03/2021	16:06	RLD	EPA 8260C
1,2-Dichloropropane	<0.18	ug/L	0.18	0.61	1		02/03/2021	16:06	RLD	EPA 8260C
1,3,5-Trimethylbenzene	<0.27	ug/L	0.27	0.89	1		02/03/2021	16:06	RLD	EPA 8260C
1,3-Dichlorobenzene	<0.26	ug/L	0.26	0.87	1		02/03/2021	16:06	RLD	EPA 8260C
1,3-Dichloropropane	<0.17	ug/L	0.17	0.57	1		02/03/2021	16:06	RLD	EPA 8260C
1,4-Dichlorobenzene	<0.30	ug/L	0.30	1.1	1		02/03/2021	16:06	RLD	EPA 8260C
2,2-Dichloropropane	<0.30	ug/L	0.30	0.99	1		02/03/2021	16:06	RLD	EPA 8260C
2-Butanone	<2.6	ug/L	2.6	8.8	1		02/03/2021	16:06	RLD	EPA 8260C
2-Chlorotoluene	<0.25	ug/L	0.25	0.84	1		02/03/2021	16:06	RLD	EPA 8260C
2-Hexanone	<3.0	ug/L	3.0	10	1		02/03/2021	16:06	RLD	EPA 8260C

Unless specifically stated to the contrary, soil/sediment/sludge sample results/LOD/LOQ/RLs were reported on a Dry Weight Basis

CT LAB Sample#: 528304 Sample Description: TRIP BLANK

Sampled: 01/25/2021

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
4-Chlorotoluene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
4-Methyl-2-pentanone	<2.2	ug/L	2.2	7.4	1			02/03/2021 16:06	RLD	EPA 8260C
Acetone	<4.0	ug/L	4.0	12	1			02/03/2021 16:06	RLD	EPA 8260C
Benzene	<0.40	ug/L	0.40	1.4	1			02/03/2021 16:06	RLD	EPA 8260C
Bromobenzene	<0.40	ug/L	0.40	1.3	1			02/03/2021 16:06	RLD	EPA 8260C
Bromochloromethane	<0.30	ug/L	0.30	1.0	1			02/03/2021 16:06	RLD	EPA 8260C
Bromodichloromethane	<0.29	ug/L	0.29	0.95	1			02/03/2021 16:06	RLD	EPA 8260C
Bromoform	<0.40	ug/L	0.40	1.3	1			02/03/2021 16:06	RLD	EPA 8260C
Bromomethane	<0.90	ug/L	0.90	3.1	1			02/03/2021 16:06	RLD	EPA 8260C
Carbon disulfide	<0.60	ug/L	0.60	1.9	1			02/03/2021 16:06	RLD	EPA 8260C
Carbon tetrachloride	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
Chlorobenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
Chloroethane	<0.50	ug/L	0.50	1.6	1			02/03/2021 16:06	RLD	EPA 8260C
Chloroform	<0.30	ug/L	0.30	1.2	1			02/03/2021 16:06	RLD	EPA 8260C
Chloromethane	<0.60	ug/L	0.60	2.1	1			02/03/2021 16:06	RLD	EPA 8260C
cis-1,2-Dichloroethene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
cis-1,3-Dichloropropene	<0.16	ug/L	0.16	0.54	1			02/03/2021 16:06	RLD	EPA 8260C
Dibromochloromethane	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
Dibromomethane	<0.22	ug/L	0.22	0.73	1			02/03/2021 16:06	RLD	EPA 8260C
Dichlorodifluoromethane	<0.40	ug/L	0.40	1.3	1			02/03/2021 16:06	RLD	EPA 8260C
Diisopropyl ether	<0.40	ug/L	0.40	1.3	1			02/03/2021 16:06	RLD	EPA 8260C
Ethylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
Hexachlorobutadiene	<0.40	ug/L	0.40	1.2	1			02/03/2021 16:06	RLD	EPA 8260C
Isopropylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
m & p-Xylene	<0.70	ug/L	0.70	2.4	1			02/03/2021 16:06	RLD	EPA 8260C

CT LAB Sample#: 528304 Sample Description: TRIP BLANK

Sampled: 01/25/2021

Analyte	Result	Units	LOD	LOQ	Dilution	Qualifier	Prep Date/Time	Analysis Date/Time	Analyst	Method
Methyl tert-butyl ether	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
Methylene chloride	<0.40	ug/L	0.40	1.5	1			02/03/2021 16:06	RLD	EPA 8260C
n-Butylbenzene	<0.29	ug/L	0.29	0.98	1			02/03/2021 16:06	RLD	EPA 8260C
n-Propylbenzene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
Naphthalene	<0.30	ug/L	0.30	1.0	1			02/03/2021 16:06	RLD	EPA 8260C
o-Xylene	<0.26	ug/L	0.26	0.88	1			02/03/2021 16:06	RLD	EPA 8260C
p-Isopropyltoluene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
sec-Butylbenzene	<0.40	ug/L	0.40	1.2	1			02/03/2021 16:06	RLD	EPA 8260C
Styrene	<0.29	ug/L	0.29	0.95	1			02/03/2021 16:06	RLD	EPA 8260C
tert-Butylbenzene	<0.40	ug/L	0.40	1.2	1			02/03/2021 16:06	RLD	EPA 8260C
Tetrachloroethene	<0.27	ug/L	0.27	0.89	1			02/03/2021 16:06	RLD	EPA 8260C
Tetrahydrofuran	<3.0	ug/L	3.0	10	1			02/03/2021 16:06	RLD	EPA 8260C
Toluene	<0.21	ug/L	0.21	0.69	1			02/03/2021 16:06	RLD	EPA 8260C
trans-1,2-Dichloroethene	<0.30	ug/L	0.30	1.2	1			02/03/2021 16:06	RLD	EPA 8260C
trans-1,3-Dichloropropene	<0.23	ug/L	0.23	0.77	1			02/03/2021 16:06	RLD	EPA 8260C
Trichloroethene	<0.30	ug/L	0.30	1.1	1			02/03/2021 16:06	RLD	EPA 8260C
Trichlorofluoromethane	<0.40	ug/L	0.40	1.4	1			02/03/2021 16:06	RLD	EPA 8260C
Vinyl chloride	<0.14	ug/L	0.14	0.46	1			02/03/2021 16:06	RLD	EPA 8260C

Notes regarding entire Chain of Custody:

Notes: * Indicates a value in between the LOD (limit of detection) and the LOQ (limit of quantitation). All LOD/LOQs are adjusted to reflect dilution and also any differences in the sample weight / volume as compared to standard amounts.

All samples were received intact and properly preserved unless otherwise noted. The results reported relate only to the samples tested. This report shall not be reproduced, except in full, without written approval of this laboratory. The Chain of Custody is attached.

Submitted by: Eric T. Korthals
 Project Manager
 608-356-2760

QC Qualifiers

Code	Description
B	Analyte detected in the associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
I	Incubator temperature was outside acceptance limits during test period.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was below detection limit.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Specified calibration criteria was not met.

Current CT Laboratories Certifications

Wisconsin (WDNR) Chemistry ID# 157066030
 Wisconsin (DATCP) Bacteriology ID# 289
 Louisiana NELAP (primary) ID# ACC20190002
 Illinois NELAP Lab ID# 200073
 Kansas NELAP Lab ID# E-10368
 Virginia NELAP Lab ID# 460203
 ISO/IEC 17025-2005 A2LA Cert # 3806.01
 DoD-ELAP A2LA 3806.01
 GA EPD Stipulation ID ACC20190002



February 16, 2021

Vista Work Order No. 2101208

Mr. Dennis Linley
C T Laboratories
1230 Lange Court
Baraboo, WI 53913-3109

Dear Mr. Linley,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on January 28, 2021 under your Project Name 'TRUAX FIELD / 159412 VISTA'.

Vista Analytical Laboratory is committed to serving you effectively. If you require additional information, please contact me at 916-673-1520 or by email at mmaier@vista-analytical.com.

Thank you for choosing Vista as part of your analytical support team.

Sincerely,

Martha Maier
Laboratory Director



Vista Analytical Laboratory certifies that the report herein meets all the requirements set forth by NELAP for those applicable test methods. Results relate only to the samples as received by the laboratory. This report should not be reproduced except in full without the written approval of Vista.

Vista Work Order No. 2101208

Case Narrative

Sample Condition on Receipt:

Five soil samples and four groundwater samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology. The samples were received in good condition and within the recommended temperature requirements.

Analytical Notes:

PFAS Isotope Dilution Method - Solid

The soil samples were extracted and analyzed for a selected list of PFAS using Vista's Isotope Dilution Method. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the method acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit (RL). The OPR recoveries were within the method acceptance criteria.

As requested, an MS/MSD was performed on sample "E409-2,S2,5 1/2". The MS/MSD recoveries and/or RPDs were outside of the acceptance criteria for PFPeS, HFPO-DA, 8:2 FTS, 10:2 FTS and PFTrDA. The recoveries and RPDs for all other analytes were within the acceptance criteria.

The labeled standard recoveries for all QC and field samples were within the acceptance criteria.

PFAS Isotope Dilution Method - Aqueous

The groundwater samples were extracted and analyzed for a selected list of PFAS using Vista's PFAS Isotope Dilution Method (Modified EPA Method 537). The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Results for all other analytes include the linear isomers only.

Holding Times

The samples were extracted and analyzed within the hold times.

Quality Control

The Initial Calibration and Continuing Calibration Verifications met the acceptance criteria.

A Method Blank and Ongoing Precision and Recovery (OPR) sample were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above the Reporting Limit. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries for all QC and field samples were within the acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
2101208-01	E409-1,S1,2'	25-Jan-21 10:45	28-Jan-21 11:16	HDPE Jar, 6 oz
2101208-02	E409-1,S2,5 1/2'	25-Jan-21 12:00	28-Jan-21 11:16	HDPE Jar, 6 oz
2101208-03	E409-1,S2 DUP	25-Jan-21 12:00	28-Jan-21 11:16	HDPE Jar, 6 oz
2101208-04	E409-1	25-Jan-21 13:10	28-Jan-21 11:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
2101208-05	E409-1 DUP	25-Jan-21 13:10	28-Jan-21 11:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
2101208-06	E409-2,S1,2'	25-Jan-21 13:55	28-Jan-21 11:16	HDPE Jar, 6 oz
2101208-07	E409-2,S2,5 1/2'	25-Jan-21 14:05	28-Jan-21 11:16	HDPE Jar, 6 oz HDPE Jar, 6 oz
2101208-08	E409 FIELD BLANK	25-Jan-21 15:00	28-Jan-21 11:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL
2101208-09	E409-2	25-Jan-21 15:20	28-Jan-21 11:16	HDPE Bottle, 250 mL HDPE Bottle, 250 mL HDPE Bottle, 250 mL HDPE Bottle, 250 mL

ANALYTICAL RESULTS

Sample ID: Method Blank
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Solid	Lab Sample:	B1A0197-BLK1	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA						

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.266	0.266	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFPeA	2706-90-3	<0.252	0.252	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFBS	375-73-5	<0.438	0.438	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
4:2 FTS	757124-72-4	<0.416	0.416	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFHxA	307-24-4	<0.638	0.638	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFPeS	2706-91-4	<0.324	0.324	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
HFPO-DA	13252-13-6	<0.548	0.548	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFHpA	375-85-9	<0.332	0.332	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
ADONA	919005-14-4	<0.350	0.350	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFHxS	355-46-4	<0.408	0.408	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
6:2 FTS	27619-97-2	<0.648	0.648	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFOA	335-67-1	<0.288	0.288	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFHpS	375-92-8	<0.630	0.630	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFNA	375-95-1	<0.376	0.376	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFOSA	754-91-6	<0.452	0.452	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFOS	1763-23-1	<0.764	0.764	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
9Cl-PF3ONS	756426-58-1	<0.714	0.714	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFDA	335-76-2	<0.652	0.652	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
8:2 FTS	39108-34-4	<0.538	0.538	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFNS	68259-12-1	<0.622	0.622	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
MeFOSAA	2355-31-9	<0.384	0.384	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
EtFOSAA	2991-50-6	<0.704	0.704	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFUnA	2058-94-8	<0.312	0.312	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFDS	335-77-3	<0.752	0.752	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
11Cl-PF3OUdS	763051-92-9	<1.13	1.13	1.50		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
10:2 FTS	120226-60-0	<0.522	0.522	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFDoA	307-55-1	<0.408	0.408	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
MeFOSA	31506-32-8	<3.16	3.16	10.0		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFTrDA	72629-94-8	<0.618	0.618	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFDoS	79780-39-5	<1.01	1.01	1.50		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFTeDA	376-06-7	<0.608	0.608	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
EtFOSA	4151-50-2	<5.00	5.00	10.0		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFHxDA	67905-19-5	<0.250	0.250	0.500		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
PFODA	16517-11-6	<0.970	0.970	1.00		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
MeFOSE	24448-09-7	<3.08	3.08	10.0		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
EtFOSE	1691-99-2	<3.52	3.52	10.0		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	114	25 - 150			B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Solid	Lab Sample:	B1A0197-BLK1	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	80.0	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C3-PFBS	IS	88.4	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C3-HFPO-DA	IS	84.3	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-4:2 FTS	IS	86.3	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-PFHxA	IS	79.7	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C4-PFHpA	IS	78.6	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C3-PFHxS	IS	86.7	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-6:2 FTS	IS	93.4	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C5-PFNA	IS	71.4	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C8-PFOA	IS	41.2	10 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-PFOA	IS	78.4	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C8-PFOS	IS	82.0	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-PFDA	IS	55.4	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-8:2 FTS	IS	73.4	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
d3-MeFOSAA	IS	55.1	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-PFUnA	IS	47.6	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
d5-EtFOSAA	IS	54.2	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-10:2 FTS	IS	59.8	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-PFDoA	IS	52.7	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
d3-MeFOSA	IS	16.6	10 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-PFTeDA	IS	59.5	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
d5-EtFOSA	IS	15.0	10 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
13C2-PFHxDA	IS	68.6	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
d7-MeFOSE	IS	27.1	10 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1
d9-EtFOSE	IS	27.8	10 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 17:53	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data						
Name:	C T Laboratories		Matrix:	Solid	Lab Sample:	B1A0197-BS1	Column:	BEH C18			
Project:	TRUAX FIELD / 159412 VISTA										

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	2.41	2.00	121	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFPeA	2706-90-3	2.37	2.00	118	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFBS	375-73-5	2.44	2.00	122	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
4:2 FTS	757124-72-4	2.24	2.00	112	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFHxA	307-24-4	2.24	2.00	112	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFPeS	2706-91-4	2.19	2.00	109	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
HFPO-DA	13252-13-6	1.82	2.00	91.1	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFHpA	375-85-9	2.32	2.00	116	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
ADONA	919005-14-4	2.21	2.00	110	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFHxS	355-46-4	2.29	2.00	114	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
6:2 FTS	27619-97-2	2.17	2.00	108	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFOA	335-67-1	2.22	2.00	111	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFHpS	375-92-8	2.24	2.00	112	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFNA	375-95-1	2.33	2.00	117	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFOSA	754-91-6	2.27	2.00	113	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFOS	1763-23-1	2.07	2.00	103	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
9Cl-PF3ONS	756426-58-1	2.28	2.00	114	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFDA	335-76-2	2.26	2.00	113	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
8:2 FTS	39108-34-4	2.46	2.00	123	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFNS	68259-12-1	2.16	2.00	108	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
MeFOSAA	2355-31-9	2.11	2.00	105	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
EtFOSAA	2991-50-6	2.17	2.00	108	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFUnA	2058-94-8	2.40	2.00	120	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFDS	335-77-3	1.97	2.00	98.5	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
11Cl-PF3OUdS	763051-92-9	2.43	2.00	122	50 - 150	Q	B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
10:2 FTS	120226-60-0	2.25	2.00	112	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFDoA	307-55-1	2.21	2.00	111	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
MeFOSA	31506-32-8	8.19	10.0	81.9	50 - 150	J	B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFTTrDA	72629-94-8	2.35	2.00	118	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFDoS	79780-39-5	2.34	2.00	117	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFTTeDA	376-06-7	2.42	2.00	121	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
EtFOSA	4151-50-2	10.8	10.0	108	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFHxDA	67905-19-5	2.15	2.00	108	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
PFODA	16517-11-6	2.01	2.00	100	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data						
Name:	C T Laboratories	Matrix:	Solid		Lab Sample:	B1A0197-BS1	Column:	BEH C18			
Project:	TRUAX FIELD / 159412 VISTA										

Analyte	CAS Number	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	11.4	10.0	114	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
EtFOSE	1691-99-2	11.0	10.0	110	50 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		110	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C3-PFPeA		IS		77.0	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C3-PFBS		IS		89.7	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C3-HFPO-DA		IS		92.0	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-4:2 FTS		IS		96.5	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-PFHxA		IS		81.4	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C4-PFHpA		IS		80.1	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C3-PFHxS		IS		91.1	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-6:2 FTS		IS		95.2	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C5-PFNA		IS		72.1	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C8-PFOA		IS		43.3	10 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-PFOA		IS		81.6	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C8-PFOS		IS		85.7	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-PFDA		IS		57.1	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-8:2 FTS		IS		72.8	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
d3-MeFOSAA		IS		62.1	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-PFUnA		IS		55.4	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
d5-EtFOSAA		IS		58.6	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-10:2 FTS		IS		71.6	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-PFDoA		IS		63.4	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
d3-MeFOSA		IS		17.0	10 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-PFTeDA		IS		70.2	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
d5-EtFOSA		IS		14.8	10 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
13C2-PFHxDA		IS		78.5	25 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
d7-MeFOSE		IS		31.9	10 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1
d9-EtFOSE		IS		30.8	10 - 150		B1A0197	01-Feb-21	1.00 g	03-Feb-21 18:03	1

Sample ID: E409-1,S1,2'

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Soil	Lab Sample:	2101208-01	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 10:45	Date Received:	28-Jan-21 11:16		
Location:	528294			% Solids:	93.5		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.264	0.264	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFPeA	2706-90-3	<0.250	0.250	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFBS	375-73-5	<0.434	0.434	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
4:2 FTS	757124-72-4	<0.412	0.412	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFHxA	307-24-4	<0.632	0.632	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFPeS	2706-91-4	<0.321	0.321	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
HFPO-DA	13252-13-6	<0.543	0.543	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFHpA	375-85-9	<0.329	0.329	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
ADONA	919005-14-4	<0.347	0.347	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFHxS	355-46-4	<0.404	0.404	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
6:2 FTS	27619-97-2	<0.642	0.642	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFOA	335-67-1	<0.285	0.285	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFHpS	375-92-8	<0.624	0.624	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFNA	375-95-1	<0.373	0.373	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFOSA	754-91-6	<0.448	0.448	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFOS	1763-23-1	<0.757	0.757	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
9Cl-PF3ONS	756426-58-1	<0.707	0.707	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFDA	335-76-2	<0.646	0.646	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
8:2 FTS	39108-34-4	<0.533	0.533	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFNS	68259-12-1	<0.616	0.616	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
MeFOSAA	2355-31-9	<0.380	0.380	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
EtFOSAA	2991-50-6	<0.697	0.697	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFUnA	2058-94-8	<0.309	0.309	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFDS	335-77-3	<0.745	0.745	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
11Cl-PF3OUdS	763051-92-9	<1.12	1.12	1.49		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
10:2 FTS	120226-60-0	<0.517	0.517	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFDoA	307-55-1	<0.404	0.404	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
MeFOSA	31506-32-8	<3.13	3.13	9.91		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFTrDA	72629-94-8	<0.612	0.612	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFDoS	79780-39-5	<0.999	0.999	1.49		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFTeDA	376-06-7	<0.602	0.602	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
EtFOSA	4151-50-2	<4.95	4.95	9.91		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFHxDA	67905-19-5	<0.248	0.248	0.495		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
PFODA	16517-11-6	<0.961	0.961	0.991		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
MeFOSE	24448-09-7	<3.05	3.05	9.91		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
EtFOSE	1691-99-2	<3.49	3.49	9.91		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	113	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1

Sample ID: E409-1,S1,2'

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Soil	Lab Sample:	2101208-01	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 10:45	Date Received:	28-Jan-21 11:16		
Location:	528294			% Solids:	93.5		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	80.0	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C3-PFBS	IS	82.0	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C3-HFPO-DA	IS	80.4	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-4:2 FTS	IS	89.9	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-PFHxA	IS	79.5	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C4-PFHpA	IS	78.1	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C3-PFHxS	IS	89.9	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-6:2 FTS	IS	86.5	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C5-PFNA	IS	68.4	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C8-PFOA	IS	49.7	10 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-PFOA	IS	77.2	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C8-PFOS	IS	80.6	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-PFDA	IS	54.5	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-8:2 FTS	IS	78.9	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
d3-MeFOSAA	IS	64.5	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-PFUnA	IS	57.8	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
d5-EtFOSAA	IS	60.4	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-10:2 FTS	IS	78.0	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-PFDoA	IS	64.4	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
d3-MeFOSA	IS	17.1	10 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-PFTeDA	IS	60.6	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
d5-EtFOSA	IS	16.1	10 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
13C2-PFHxDA	IS	50.5	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
d7-MeFOSE	IS	35.7	10 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1
d9-EtFOSE	IS	39.1	10 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:35	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: E409-1,S2,5 1/2'

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Soil	Lab Sample:	2101208-02	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 12:00	Date Received:	28-Jan-21 11:16		
Location:	528296			% Solids:	91.4		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.258	0.258	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFPeA	2706-90-3	<0.244	0.244	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFBS	375-73-5	<0.424	0.424	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
4:2 FTS	757124-72-4	<0.403	0.403	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFHxA	307-24-4	<0.618	0.618	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFPeS	2706-91-4	<0.314	0.314	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
HFPO-DA	13252-13-6	<0.531	0.531	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFHpA	375-85-9	<0.322	0.322	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
ADONA	919005-14-4	<0.339	0.339	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFHxS	355-46-4	0.430	0.395	0.484	J	B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
6:2 FTS	27619-97-2	<0.628	0.628	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFOA	335-67-1	<0.279	0.279	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFHpS	375-92-8	<0.610	0.610	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFNA	375-95-1	0.573	0.364	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFOSA	754-91-6	<0.438	0.438	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFOS	1763-23-1	8.23	0.740	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
9Cl-PF3ONS	756426-58-1	<0.691	0.691	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFDA	335-76-2	<0.631	0.631	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
8:2 FTS	39108-34-4	<0.521	0.521	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFNS	68259-12-1	<0.602	0.602	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
MeFOSAA	2355-31-9	<0.372	0.372	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
EtFOSAA	2991-50-6	<0.682	0.682	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFUnA	2058-94-8	<0.302	0.302	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFDS	335-77-3	<0.728	0.728	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
11Cl-PF3OUdS	763051-92-9	<1.09	1.09	1.45		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
10:2 FTS	120226-60-0	<0.505	0.505	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFDoA	307-55-1	<0.395	0.395	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
MeFOSA	31506-32-8	<3.06	3.06	9.68		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFTrDA	72629-94-8	<0.598	0.598	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFDoS	79780-39-5	<0.976	0.976	1.45		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFTeDA	376-06-7	<0.589	0.589	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
EtFOSA	4151-50-2	<4.84	4.84	9.68		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFHxDA	67905-19-5	<0.242	0.242	0.484		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
PFODA	16517-11-6	<0.939	0.939	0.968		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
MeFOSE	24448-09-7	<2.98	2.98	9.68		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
EtFOSE	1691-99-2	<3.41	3.41	9.68		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	123	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1

Sample ID: E409-1,S2,5 1/2'

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Soil	Lab Sample:	2101208-02	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 12:00	Date Received:	28-Jan-21 11:16		
Location:	528296			% Solids:	91.4		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	83.8	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C3-PFBS	IS	95.2	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C3-HFPO-DA	IS	89.1	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-4:2 FTS	IS	101	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-PFHxA	IS	86.2	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C4-PFHpA	IS	82.4	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C3-PFHxS	IS	99.0	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-6:2 FTS	IS	104	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C5-PFNA	IS	69.7	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C8-PFOA	IS	50.8	10 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-PFOA	IS	80.1	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C8-PFOS	IS	93.5	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-PFDA	IS	63.4	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-8:2 FTS	IS	79.5	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
d3-MeFOSAA	IS	67.1	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-PFUnA	IS	57.7	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
d5-EtFOSAA	IS	71.7	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-10:2 FTS	IS	80.3	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-PFDoA	IS	64.5	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
d3-MeFOSA	IS	15.8	10 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-PFTeDA	IS	70.0	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
d5-EtFOSA	IS	14.3	10 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
13C2-PFHxDA	IS	68.1	25 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
d7-MeFOSE	IS	39.8	10 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1
d9-EtFOSE	IS	41.3	10 - 150		B1A0197	01-Feb-21	1.13 g	03-Feb-21 18:45	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: E409-1,S2 DUP
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Soil	Lab Sample:	2101208-03	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 12:00	Date Received:	28-Jan-21 11:16		
Location:	528297			% Solids:	93.8		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.263	0.263	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFPeA	2706-90-3	<0.249	0.249	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFBS	375-73-5	<0.433	0.433	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
4:2 FTS	757124-72-4	<0.411	0.411	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFHxA	307-24-4	<0.630	0.630	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFPeS	2706-91-4	<0.320	0.320	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
HFPO-DA	13252-13-6	<0.541	0.541	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFHpA	375-85-9	<0.328	0.328	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
ADONA	919005-14-4	<0.346	0.346	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFHxS	355-46-4	0.744	0.403	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
6:2 FTS	27619-97-2	<0.640	0.640	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFOA	335-67-1	0.561	0.284	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFHpS	375-92-8	<0.622	0.622	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFNA	375-95-1	0.681	0.371	0.494	Q	B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFOSA	754-91-6	<0.446	0.446	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFOS	1763-23-1	4.55	0.754	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
9CI-PF3ONS	756426-58-1	<0.705	0.705	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFDA	335-76-2	<0.644	0.644	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
8:2 FTS	39108-34-4	<0.531	0.531	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFNS	68259-12-1	<0.614	0.614	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
MeFOSAA	2355-31-9	<0.379	0.379	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
EtFOSAA	2991-50-6	<0.695	0.695	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFUnA	2058-94-8	<0.308	0.308	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFDS	335-77-3	<0.743	0.743	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
11CI-PF3OUdS	763051-92-9	<1.11	1.11	1.48		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
10:2 FTS	120226-60-0	<0.515	0.515	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFDoA	307-55-1	<0.403	0.403	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
MeFOSA	31506-32-8	<3.12	3.12	9.87		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFTTrDA	72629-94-8	<0.610	0.610	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFDoS	79780-39-5	<0.995	0.995	1.48		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFTeDA	376-06-7	<0.600	0.600	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
EtFOSA	4151-50-2	<4.94	4.94	9.87		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFHxDA	67905-19-5	<0.247	0.247	0.494		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
PFODA	16517-11-6	<0.958	0.958	0.987		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
MeFOSE	24448-09-7	<3.04	3.04	9.87		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
EtFOSE	1691-99-2	<3.48	3.48	9.87		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	118	25 - 150			B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1

Sample ID: E409-1,S2 DUP
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Soil	Lab Sample:	2101208-03	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 12:00	Date Received:	28-Jan-21 11:16		
Location:	528297			% Solids:	93.8		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	80.4	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C3-PFBS	IS	92.6	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C3-HFPO-DA	IS	91.9	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-4:2 FTS	IS	99.0	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-PFHxA	IS	79.2	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C4-PFHpA	IS	82.1	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C3-PFHxS	IS	91.6	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-6:2 FTS	IS	97.7	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C5-PFNA	IS	69.3	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C8-PFOA	IS	49.2	10 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-PFOA	IS	81.3	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C8-PFOS	IS	82.6	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-PFDA	IS	63.3	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-8:2 FTS	IS	78.1	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
d3-MeFOSAA	IS	65.1	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-PFUnA	IS	62.3	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
d5-EtFOSAA	IS	66.1	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-10:2 FTS	IS	75.1	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-PFDoA	IS	66.7	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
d3-MeFOSA	IS	14.0	10 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-PFTeDA	IS	67.2	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
d5-EtFOSA	IS	12.8	10 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
13C2-PFHxDA	IS	77.5	25 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
d7-MeFOSE	IS	36.5	10 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1
d9-EtFOSE	IS	39.2	10 - 150		B1A0197	01-Feb-21	1.08 g	03-Feb-21 18:55	1

MDL - Method Detection Limit

RL - Reporting limit

 The results are reported in dry weight.
 The sample size is reported in wet weight.
 Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: E409-2,S1,2'

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Soil	Lab Sample:	2101208-06	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 13:55	Date Received:	28-Jan-21 11:16		
Location:	528300			% Solids:	94.6		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.263	0.263	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFPeA	2706-90-3	<0.249	0.249	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFBS	375-73-5	<0.433	0.433	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
4:2 FTS	757124-72-4	<0.411	0.411	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFHxA	307-24-4	<0.631	0.631	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFPeS	2706-91-4	<0.320	0.320	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
HFPO-DA	13252-13-6	<0.542	0.542	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFHpA	375-85-9	<0.328	0.328	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
ADONA	919005-14-4	<0.346	0.346	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFHxS	355-46-4	<0.403	0.403	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
6:2 FTS	27619-97-2	<0.641	0.641	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFOA	335-67-1	<0.285	0.285	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFHpS	375-92-8	<0.623	0.623	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFNA	375-95-1	<0.372	0.372	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFOSA	754-91-6	<0.447	0.447	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFOS	1763-23-1	1.34	0.755	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
9Cl-PF3ONS	756426-58-1	<0.706	0.706	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFDA	335-76-2	<0.644	0.644	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
8:2 FTS	39108-34-4	<0.532	0.532	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFNS	68259-12-1	<0.615	0.615	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
MeFOSAA	2355-31-9	<0.380	0.380	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
EtFOSAA	2991-50-6	<0.696	0.696	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFUnA	2058-94-8	<0.308	0.308	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFDS	335-77-3	<0.743	0.743	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
11Cl-PF3OUdS	763051-92-9	<1.11	1.11	1.48		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
10:2 FTS	120226-60-0	<0.516	0.516	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFDoA	307-55-1	<0.403	0.403	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
MeFOSA	31506-32-8	<3.12	3.12	9.88		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFTrDA	72629-94-8	<0.611	0.611	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFDoS	79780-39-5	<0.996	0.996	1.48		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFTeDA	376-06-7	<0.601	0.601	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
EtFOSA	4151-50-2	<4.94	4.94	9.88		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFHxDA	67905-19-5	<0.247	0.247	0.494		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
PFODA	16517-11-6	<0.959	0.959	0.988		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
MeFOSE	24448-09-7	<3.04	3.04	9.88		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
EtFOSE	1691-99-2	<3.48	3.48	9.88		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	118	25 - 150			B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1

Sample ID: E409-2,S1,2'

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Soil	Lab Sample:	2101208-06	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 13:55	Date Received:	28-Jan-21 11:16		
Location:	528300			% Solids:	94.6		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	77.7	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C3-PFBS	IS	91.1	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C3-HFPO-DA	IS	88.8	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-4:2 FTS	IS	101	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-PFHxA	IS	79.8	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C4-PFHpA	IS	80.5	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C3-PFHxS	IS	94.1	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-6:2 FTS	IS	93.8	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C5-PFNA	IS	65.4	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C8-PFOA	IS	46.8	10 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-PFOA	IS	74.7	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C8-PFOS	IS	83.8	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-PFDA	IS	52.9	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-8:2 FTS	IS	74.7	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
d3-MeFOSAA	IS	62.1	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-PFUnA	IS	53.5	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
d5-EtFOSAA	IS	63.3	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-10:2 FTS	IS	78.7	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-PFDoA	IS	62.2	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
d3-MeFOSA	IS	13.6	10 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-PFTeDA	IS	61.1	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
d5-EtFOSA	IS	12.3	10 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
13C2-PFHxDA	IS	41.5	25 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
d7-MeFOSE	IS	34.9	10 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1
d9-EtFOSE	IS	37.3	10 - 150		B1A0197	01-Feb-21	1.07 g	03-Feb-21 19:06	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: E409-2,S2,5 1/2'

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Soil	Lab Sample:	2101208-07	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 14:05	Date Received:	28-Jan-21 11:16		
Location:	528301			% Solids:	95.7		

Analyte	CAS Number	Conc. (ng/g)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.265	0.265	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFPeA	2706-90-3	<0.251	0.251	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFBS	375-73-5	<0.436	0.436	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
4:2 FTS	757124-72-4	<0.414	0.414	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFHxA	307-24-4	<0.635	0.635	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFPeS	2706-91-4	<0.323	0.323	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
HFPO-DA	13252-13-6	<0.546	0.546	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFHpA	375-85-9	<0.331	0.331	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
ADONA	919005-14-4	<0.348	0.348	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFHxS	355-46-4	<0.406	0.406	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
6:2 FTS	27619-97-2	<0.645	0.645	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFOA	335-67-1	0.324	0.287	0.498	J	B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFHpS	375-92-8	<0.627	0.627	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFNA	375-95-1	<0.374	0.374	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFOSA	754-91-6	<0.450	0.450	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFOS	1763-23-1	13.5	0.761	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
9Cl-PF3ONS	756426-58-1	<0.711	0.711	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFDA	335-76-2	<0.649	0.649	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
8:2 FTS	39108-34-4	22.1	0.536	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFNS	68259-12-1	<0.619	0.619	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
MeFOSAA	2355-31-9	<0.382	0.382	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
EtFOSAA	2991-50-6	<0.701	0.701	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFUnA	2058-94-8	<0.311	0.311	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFDS	335-77-3	<0.749	0.749	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
11Cl-PF3OUdS	763051-92-9	<1.12	1.12	1.49		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
10:2 FTS	120226-60-0	<0.520	0.520	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFDoA	307-55-1	<0.406	0.406	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
MeFOSA	31506-32-8	<3.15	3.15	9.96		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFTrDA	72629-94-8	<0.615	0.615	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFDoS	79780-39-5	<1.00	1.00	1.49		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFTeDA	376-06-7	<0.605	0.605	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
EtFOSA	4151-50-2	<4.98	4.98	9.96		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFHxDA	67905-19-5	<0.249	0.249	0.498		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
PFODA	16517-11-6	<0.966	0.966	0.996		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
MeFOSE	24448-09-7	<3.07	3.07	9.96		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
EtFOSE	1691-99-2	<3.50	3.50	9.96		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	128	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1

Sample ID: E409-2,S2,5 1/2'

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Soil	Lab Sample:	2101208-07	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 14:05	Date Received:	28-Jan-21 11:16		
Location:	528301			% Solids:	95.7		

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	89.6	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C3-PFBS	IS	96.5	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C3-HFPO-DA	IS	97.6	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-4:2 FTS	IS	108	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-PFHxA	IS	88.1	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C4-PFHpA	IS	87.3	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C3-PFHxS	IS	103	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-6:2 FTS	IS	99.1	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C5-PFNA	IS	78.4	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C8-PFOA	IS	46.3	10 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-PFOA	IS	84.9	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C8-PFOS	IS	95.6	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-PFDA	IS	69.1	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-8:2 FTS	IS	87.3	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
d3-MeFOSAA	IS	71.6	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-PFUnA	IS	65.0	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
d5-EtFOSAA	IS	70.8	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-10:2 FTS	IS	76.3	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-PFDoA	IS	69.2	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
d3-MeFOSA	IS	18.5	10 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-PFTeDA	IS	75.8	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
d5-EtFOSA	IS	17.5	10 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
13C2-PFHxDA	IS	76.4	25 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
d7-MeFOSE	IS	35.6	10 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1
d9-EtFOSE	IS	37.5	10 - 150		B1A0197	01-Feb-21	1.05 g	03-Feb-21 19:16	1

MDL - Method Detection Limit

RL - Reporting limit

The results are reported in dry weight.
The sample size is reported in wet weight.
Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: E409-2,S2,5 1/2'

PFAS Isotope Dilution Method

Name:	C T Laboratories	Lab Sample:	B1A0197-MS1/B1A0197-MSD1	Source Lab Sample:	2101208-07
Project:	TRUAX FIELD / 159412 VISTA	QC Batch:	B1A0197	Date Extracted:	01-Feb-21
Matrix:	Solid	Samp Size:	1.06/1.07 g	Column:	BEH C18

Analyte	CAS Number	Sample (ng/g)	MS (ng/g)	MS Spike	MS % Rec	MS Quals	MSD (ng/g)	MSD Spike	MSD % Rec	MSD RPD	MSD Quals	%Rec Limits	RPD Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil
PFBA	375-22-4	ND	2.55	1.97	129		2.41	1.95	123	4.76		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFPeA	2706-90-3	ND	2.28	1.97	112		2.23	1.95	111	0.897		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFBS	375-73-5	ND	2.48	1.97	126		2.01	1.95	103	20.1		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
4:2 FTS	757124-72-4	ND	2.19	1.97	111		2.13	1.95	109	1.82		60-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFHxA	307-24-4	ND	2.44	1.97	124		2.23	1.95	114	8.40		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFPeS	2706-91-4	ND	2.72	1.97	138	H	2.10	1.95	108	24.4		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
HFPO-DA	13252-13-6	ND	2.71	1.97	137	H, Q	1.67	1.95	85.8	46.0		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFHpA	375-85-9	ND	2.44	1.97	118		2.45	1.95	120	1.68		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
ADONA	919005-14-4	ND	2.19	1.97	111		2.19	1.95	112	0.897		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFHxS	355-46-4	ND	2.72	1.97	123		2.38	1.95	107	13.9		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
6:2 FTS	27619-97-2	ND	2.19	1.97	111		2.43	1.95	124	11.1		60-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFOA	335-67-1	0.324	2.51	1.97	111		2.45	1.95	109	1.82		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFHpS	375-92-8	ND	2.24	1.97	114		2.30	1.95	118	3.45		60-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFNA	375-95-1	ND	2.44	1.97	106		2.58	1.95	114	7.27		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFOSA	754-91-6	ND	2.63	1.97	123		2.46	1.95	116	5.86		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFOS	1763-23-1	13.5	15.3	1.97	88.0		15.9	1.95	123	33.2		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
9Cl-PF3ONS	756426-58-1	ND	2.18	1.97	110		2.29	1.95	118	7.02		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFDA	335-76-2	ND	2.31	1.97	113		2.20	1.95	109	3.60		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
8:2 FTS	39108-34-4	22.1	24.1	1.97	104		25.7	1.95	185	56.1	H	60-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFNS	68259-12-1	ND	1.83	1.97	92.9		2.14	1.95	110	16.9		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
MeFOSAA	2355-31-9	ND	2.22	1.97	113		2.01	1.95	103	9.26		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
EtFOSAA	2991-50-6	ND	2.29	1.97	116		2.08	1.95	107	8.07		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFUnA	2058-94-8	ND	2.18	1.97	111		2.33	1.95	119	6.96		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFDS	335-77-3	ND	2.19	1.97	111		2.02	1.95	103	7.48		60-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
11Cl-PF3OUdS	763051-92-9	ND	2.44	1.97	124		2.46	1.95	126	1.60		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
10:2 FTS	120226-60-0	ND	2.75	1.97	133	H	2.36	1.95	115	14.5		60-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFDoA	307-55-1	ND	2.26	1.97	115		2.13	1.95	109	5.36		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
MeFOSA	31506-32-8	ND	8.03	9.86	81.4	J	7.83	9.77	80.2	1.49	J	70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFTTrDA	72629-94-8	ND	2.51	1.97	127		2.56	1.95	131	3.10	H	60-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFDoS	79780-39-5	ND	2.47	1.97	126		2.54	1.95	130	3.13		60-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFTeDA	376-06-7	ND	2.38	1.97	121		2.20	1.95	113	6.84		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
EtFOSA	4151-50-2	ND	11.8	9.86	119		9.76	9.77	99.9	17.5	J	70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
PFHxDA	67905-19-5	ND	2.26	1.97	115		2.20	1.95	113	1.75		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1

Sample ID: E409-2,S2,5 1/2'

PFAS Isotope Dilution Method

Name:	C T Laboratories	Lab Sample:	B1A0197-MS1/B1A0197-MSD1	Source Lab Sample:	2101208-07
Project:	TRUAX FIELD / 159412 VISTA	QC Batch:	B1A0197	Date Extracted:	01-Feb-21
Matrix:	Solid	Samp Size:	1.06/1.07 g	Column:	BEH C18

Analyte	CAS Number	Sample (ng/g)	MS (ng/g)	MS Spike	MS % Rec	MS Quals	MSD (ng/g)	MSD Spike	MSD % Rec	RPD	MSD Quals	%Rec Limits	RPD Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil
PFODA	16517-11-6	ND	2.16	1.97	110		1.36	1.95	69.7	44.9		40-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
MeFOSE	24448-09-7	ND	10.8	9.86	110		10.1	9.77	104	5.61		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1
EtFOSE	1691-99-2	ND	10.9	9.86	111		10.3	9.77	105	5.56		70-130	50	03-Feb-21 18:14	1	03-Feb-21 18:24	1

Labeled Standards	Type	MS % Rec	MS Quals	MSD % Rec	MSD Quals	Limits	MS Analyzed	MS Dil	MSD Analyzed	MSD Dil
13C3-PFBA	IS	105		125		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C3-PFPeA	IS	74.8		88.0		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C3-PFBS	IS	81.6		92.8		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C3-HFPO-DA	IS	68.9		84.0		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-4:2 FTS	IS	87.8		101		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-PFHxA	IS	75.0		88.2		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C4-PFHpA	IS	74.9		87.1		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C3-PFHxS	IS	82.3		95.9		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-6:2 FTS	IS	88.3		95.3		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C5-PFNA	IS	73.4		76.9		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C8-PFOA	IS	42.9		53.1		10 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-PFOA	IS	76.2		86.1		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C8-PFOS	IS	81.8		87.9		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-PFDA	IS	59.2		60.5		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-8:2 FTS	IS	79.1		80.9		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
d3-MeFOSAA	IS	61.1		70.4		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-PFUnA	IS	55.0		60.9		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
d5-EtFOSAA	IS	62.2		66.7		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-10:2 FTS	IS	66.6		75.7		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-PFDoA	IS	61.1		64.9		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
d3-MeFOSA	IS	15.2		20.0		10 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-PFTeDA	IS	64.8		72.2		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
d5-EtFOSA	IS	13.4		18.4		10 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
13C2-PFHxDA	IS	69.4		65.0		25 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
d7-MeFOSE	IS	34.5		36.2		10 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1
d9-EtFOSE	IS	36.1		38.4		10 - 150	03-Feb-21 18:14	1	03-Feb-21 18:24	1

Sample ID: Method Blank
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Aqueous	Lab Sample:	B1B0013-BLK1	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA						

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.365	0.365	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFPeA	2706-90-3	<0.640	0.640	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFBS	375-73-5	<0.895	0.895	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
4:2 FTS	757124-72-4	<0.695	0.695	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFHxA	307-24-4	<1.09	1.09	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFPeS	2706-91-4	<1.21	1.21	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
HFPO-DA	13252-13-6	<2.41	2.41	2.50		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFHpA	375-85-9	<0.296	0.296	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
ADONA	919005-14-4	<0.361	0.361	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFHxS	355-46-4	<0.474	0.474	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
6:2 FTS	27619-97-2	<1.00	1.00	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFOA	335-67-1	<0.326	0.326	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFHpS	375-92-8	<0.469	0.469	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFNA	375-95-1	<0.405	0.405	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFOSA	754-91-6	<0.885	0.885	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFOS	1763-23-1	<0.404	0.404	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
9Cl-PF3ONS	756426-58-1	<0.725	0.725	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFDA	335-76-2	<0.745	0.745	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
8:2 FTS	39108-34-4	<1.03	1.03	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFNS	68259-12-1	<1.94	1.94	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
MeFOSAA	2355-31-9	<0.825	0.825	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
EtFOSAA	2991-50-6	<0.685	0.685	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFUnA	2058-94-8	<0.525	0.525	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFDS	335-77-3	<0.615	0.615	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
11Cl-PF3OUdS	763051-92-9	<1.21	1.21	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
10:2 FTS	120226-60-0	<1.57	1.57	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFDoA	307-55-1	<0.396	0.396	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
MeFOSA	31506-32-8	<6.85	6.85	8.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFTrDA	72629-94-8	<0.247	0.247	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFDoS	79780-39-5	<2.09	2.09	2.50		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFTeDA	376-06-7	<0.378	0.378	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
EtFOSA	4151-50-2	<7.30	7.30	8.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFHxDA	67905-19-5	<0.147	0.147	2.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
PFODA	16517-11-6	<3.07	3.07	3.50		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
MeFOSE	24448-09-7	<8.00	8.00	8.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
EtFOSE	1691-99-2	<5.55	5.55	8.00		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	82.9	25 - 150			B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1

Sample ID: Method Blank **PFAS Isotope Dilution Method**

Client Data	Laboratory Data
Name: C T Laboratories	Lab Sample: B1B0013-BLK1
Project: TRUAX FIELD / 159412 VISTA	Column: BEH C18
Matrix: Aqueous	

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	90.4	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C3-PFBS	IS	101	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C3-HFPO-DA	IS	106	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-4:2 FTS	IS	98.1	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-PFHxA	IS	91.9	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C4-PFHpA	IS	93.7	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C3-PFHxS	IS	98.6	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-6:2 FTS	IS	91.0	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C5-PFNA	IS	95.6	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C8-PFOA	IS	47.0	10 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-PFOA	IS	92.7	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C8-PFOS	IS	95.2	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-PFDA	IS	98.1	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-8:2 FTS	IS	96.4	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
d3-MeFOSAA	IS	81.5	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-PFUnA	IS	97.1	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
d5-EtFOSAA	IS	85.6	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-10:2 FTS	IS	91.8	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-PFDoA	IS	89.3	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
d3-MeFOSA	IS	21.5	10 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-PFTeDA	IS	78.4	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
d5-EtFOSA	IS	20.0	10 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
13C2-PFHxDA	IS	81.2	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
d7-MeFOSE	IS	39.7	10 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1
d9-EtFOSE	IS	40.3	10 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:35	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data						
Name:	C T Laboratories		Matrix:	Aqueous	Lab Sample:	B1B0013-BS1	Column:	BEH C18			
Project:	TRUAX FIELD / 159412 VISTA										

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	8.20	8.00	102	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFPeA	2706-90-3	7.99	8.00	99.9	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFBS	375-73-5	8.50	8.00	106	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
4:2 FTS	757124-72-4	8.49	8.00	106	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFHxA	307-24-4	8.78	8.00	110	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFPeS	2706-91-4	9.64	8.00	120	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
HFPO-DA	13252-13-6	9.48	8.00	119	50 - 150	Q	B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFHpA	375-85-9	8.63	8.00	108	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
ADONA	919005-14-4	8.16	8.00	102	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFHxS	355-46-4	7.93	8.00	99.2	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
6:2 FTS	27619-97-2	8.34	8.00	104	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFOA	335-67-1	8.19	8.00	102	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFHpS	375-92-8	7.70	8.00	96.3	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFNA	375-95-1	8.67	8.00	108	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFOSA	754-91-6	9.33	8.00	117	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFOS	1763-23-1	7.89	8.00	98.6	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
9Cl-PF3ONS	756426-58-1	8.81	8.00	110	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFDA	335-76-2	8.24	8.00	103	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
8:2 FTS	39108-34-4	8.69	8.00	109	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFNS	68259-12-1	7.85	8.00	98.2	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
MeFOSAA	2355-31-9	8.43	8.00	105	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
EtFOSAA	2991-50-6	8.61	8.00	108	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFUnA	2058-94-8	7.56	8.00	94.5	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFDS	335-77-3	8.12	8.00	101	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
11Cl-PF3OUdS	763051-92-9	8.91	8.00	111	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
10:2 FTS	120226-60-0	9.30	8.00	116	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFDoA	307-55-1	8.46	8.00	106	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
MeFOSA	31506-32-8	46.9	40.0	117	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFTTrDA	72629-94-8	9.20	8.00	115	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFDoS	79780-39-5	8.83	8.00	110	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFTTeDA	376-06-7	8.13	8.00	102	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
EtFOSA	4151-50-2	38.2	40.0	95.6	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFHxDA	67905-19-5	8.40	8.00	105	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
PFODA	16517-11-6	5.90	8.00	73.7	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1

Sample ID: OPR

PFAS Isotope Dilution Method

Client Data					Laboratory Data						
Name:	C T Laboratories	Matrix:	Aqueous		Lab Sample:	B1B0013-BS1	Column:	BEH C18			
Project:	TRUAX FIELD / 159412 VISTA										

Analyte	CAS Number	Amt Found (ng/L)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
MeFOSE	24448-09-7	46.6	40.0	117	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
EtFOSE	1691-99-2	39.8	40.0	99.6	50 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
Labeled Standards		Type		% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA		IS		86.9	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C3-PFPeA		IS		93.9	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C3-PFBS		IS		94.2	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C3-HFPO-DA		IS		77.2	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-4:2 FTS		IS		100	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-PFHxA		IS		93.8	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C4-PFHpA		IS		95.8	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C3-PFHxS		IS		100	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-6:2 FTS		IS		96.8	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C5-PFNA		IS		95.0	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C8-PFOSA		IS		50.5	10 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-PFOA		IS		97.9	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C8-PFOS		IS		99.5	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-PFDA		IS		101	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-8:2 FTS		IS		105	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
d3-MeFOSAA		IS		86.4	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-PFUnA		IS		98.6	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
d5-EtFOSAA		IS		83.5	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-10:2 FTS		IS		87.6	40 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-PFDoA		IS		88.2	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
d3-MeFOSA		IS		25.3	10 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-PFTeDA		IS		89.9	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
d5-EtFOSA		IS		26.0	10 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
13C2-PFHxDA		IS		84.7	25 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
d7-MeFOSE		IS		44.0	10 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1
d9-EtFOSE		IS		44.1	10 - 150		B1B0013	04-Feb-21	0.250 L	09-Feb-21 15:45	1

Sample ID: E409-1
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Groundwater	Lab Sample:	2101208-04	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 13:10	Date Received:	28-Jan-21 11:16		
Location:	528298						

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	16.7	0.368	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFPeA	2706-90-3	32.2	0.647	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFBS	375-73-5	5.47	0.905	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
4:2 FTS	757124-72-4	<0.702	0.702	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFHxA	307-24-4	28.8	1.10	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFPeS	2706-91-4	4.99	1.22	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
HFPO-DA	13252-13-6	<2.44	2.44	2.53		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFHpA	375-85-9	35.2	0.299	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
ADONA	919005-14-4	<0.365	0.365	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFHxS	355-46-4	115	0.479	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
6:2 FTS	27619-97-2	<1.01	1.01	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFOA	335-67-1	48.8	0.329	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFHpS	375-92-8	4.79	0.474	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFNA	375-95-1	27.0	0.409	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFOSA	754-91-6	1.10	0.894	2.02	J, Q	B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFOS	1763-23-1	550	0.408	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
9Cl-PF3ONS	756426-58-1	<0.733	0.733	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFDA	335-76-2	<0.753	0.753	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
8:2 FTS	39108-34-4	6.60	1.04	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFNS	68259-12-1	<1.96	1.96	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
MeFOSAA	2355-31-9	<0.834	0.834	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
EtFOSAA	2991-50-6	<0.692	0.692	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFUnA	2058-94-8	<0.531	0.531	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFDS	335-77-3	<0.622	0.622	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
11Cl-PF3OUdS	763051-92-9	<1.22	1.22	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
10:2 FTS	120226-60-0	<1.58	1.58	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFDoA	307-55-1	<0.400	0.400	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
MeFOSA	31506-32-8	<6.92	6.92	8.09		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFTrDA	72629-94-8	<0.250	0.250	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFDoS	79780-39-5	<2.11	2.11	2.53		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFTeDA	376-06-7	<0.382	0.382	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
EtFOSA	4151-50-2	<7.38	7.38	8.09		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFHxDA	67905-19-5	<0.149	0.149	2.02		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
PFODA	16517-11-6	<3.10	3.10	3.54		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
MeFOSE	24448-09-7	<8.09	8.09	8.09		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
EtFOSE	1691-99-2	<5.61	5.61	8.09		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	89.9	25 - 150			B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1

Sample ID: E409-1

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Groundwater	Lab Sample:	2101208-04	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 13:10	Date Received:	28-Jan-21 11:16		
Location:	528298						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	94.7	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C3-PFBS	IS	98.5	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C3-HFPO-DA	IS	86.8	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-4:2 FTS	IS	102	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-PFHxA	IS	95.8	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C4-PFHpA	IS	96.6	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C3-PFHxS	IS	97.5	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-6:2 FTS	IS	90.4	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C5-PFNA	IS	102	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C8-PFOA	IS	63.8	10 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-PFOA	IS	99.9	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C8-PFOS	IS	89.8	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-PFDA	IS	99.1	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-8:2 FTS	IS	100	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
d3-MeFOSAA	IS	91.3	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-PFUnA	IS	99.5	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
d5-EtFOSAA	IS	93.1	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-10:2 FTS	IS	91.8	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-PFDoA	IS	91.6	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
d3-MeFOSA	IS	31.5	10 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-PFTeDA	IS	91.4	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
d5-EtFOSA	IS	29.5	10 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
13C2-PFHxDA	IS	90.0	25 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
d7-MeFOSE	IS	60.3	10 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1
d9-EtFOSE	IS	58.4	10 - 150		B1B0013	04-Feb-21	0.247 L	09-Feb-21 15:56	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: E409-1 DUP
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Groundwater	Lab Sample:	2101208-05	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 13:10	Date Received:	28-Jan-21 11:16		
Location:	528299						

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	16.8	0.372	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFPeA	2706-90-3	32.9	0.653	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFBS	375-73-5	6.06	0.913	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
4:2 FTS	757124-72-4	<0.709	0.709	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFHxA	307-24-4	28.7	1.11	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFPeS	2706-91-4	5.27	1.23	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
HFPO-DA	13252-13-6	<2.46	2.46	2.55		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFHpA	375-85-9	36.3	0.301	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
ADONA	919005-14-4	<0.368	0.368	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFHxS	355-46-4	107	0.483	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
6:2 FTS	27619-97-2	<1.02	1.02	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFOA	335-67-1	49.8	0.332	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFHpS	375-92-8	4.72	0.478	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFNA	375-95-1	25.6	0.413	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFOSA	754-91-6	1.19	0.902	2.04	J	B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFOS	1763-23-1	508	0.411	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
9Cl-PF3ONS	756426-58-1	<0.739	0.739	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFDA	335-76-2	<0.760	0.760	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
8:2 FTS	39108-34-4	6.76	1.05	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFNS	68259-12-1	<1.97	1.97	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
MeFOSAA	2355-31-9	<0.841	0.841	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
EtFOSAA	2991-50-6	<0.698	0.698	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFUnA	2058-94-8	<0.535	0.535	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFDS	335-77-3	<0.627	0.627	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
11Cl-PF3OUdS	763051-92-9	<1.23	1.23	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
10:2 FTS	120226-60-0	<1.60	1.60	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFDoA	307-55-1	<0.404	0.404	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
MeFOSA	31506-32-8	<6.98	6.98	8.16		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFTrDA	72629-94-8	<0.252	0.252	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFDoS	79780-39-5	<2.13	2.13	2.55		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFTeDA	376-06-7	<0.385	0.385	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
EtFOSA	4151-50-2	<7.44	7.44	8.16		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFHxDA	67905-19-5	<0.150	0.150	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
PFODA	16517-11-6	<3.13	3.13	3.57		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
MeFOSE	24448-09-7	<8.16	8.16	8.16		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
EtFOSE	1691-99-2	<5.66	5.66	8.16		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	91.1	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1

Sample ID: E409-1 DUP
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Groundwater	Lab Sample:	2101208-05	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 13:10	Date Received:	28-Jan-21 11:16		
Location:	528299						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	96.7	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C3-PFBS	IS	93.0	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C3-HFPO-DA	IS	82.9	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-4:2 FTS	IS	100	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-PFHxA	IS	96.0	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C4-PFHpA	IS	96.3	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C3-PFHxS	IS	103	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-6:2 FTS	IS	90.1	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C5-PFNA	IS	101	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C8-PFOA	IS	65.8	10 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-PFOA	IS	100	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C8-PFOS	IS	96.3	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-PFDA	IS	96.7	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-8:2 FTS	IS	104	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
d3-MeFOSAA	IS	91.5	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-PFUnA	IS	102	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
d5-EtFOSAA	IS	95.9	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-10:2 FTS	IS	89.8	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-PFDoA	IS	93.4	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
d3-MeFOSA	IS	36.2	10 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-PFTeDA	IS	94.4	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
d5-EtFOSA	IS	34.9	10 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
13C2-PFHxDA	IS	82.7	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
d7-MeFOSE	IS	62.9	10 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1
d9-EtFOSE	IS	62.0	10 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:07	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: E409 FIELD BLANK
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Groundwater	Lab Sample:	2101208-08	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 15:00	Date Received:	28-Jan-21 11:16		
Location:	528302						

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	<0.377	0.377	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFPeA	2706-90-3	<0.662	0.662	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFBS	375-73-5	<0.926	0.926	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
4:2 FTS	757124-72-4	<0.719	0.719	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFHxA	307-24-4	<1.13	1.13	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFPeS	2706-91-4	<1.25	1.25	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
HFPO-DA	13252-13-6	<2.49	2.49	2.59		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFHpA	375-85-9	<0.306	0.306	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
ADONA	919005-14-4	<0.374	0.374	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFHxS	355-46-4	<0.490	0.490	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
6:2 FTS	27619-97-2	<1.03	1.03	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFOA	335-67-1	<0.337	0.337	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFHpS	375-92-8	<0.485	0.485	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFNA	375-95-1	<0.419	0.419	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFOSA	754-91-6	<0.916	0.916	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFOS	1763-23-1	<0.418	0.418	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
9Cl-PF3ONS	756426-58-1	<0.750	0.750	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFDA	335-76-2	<0.771	0.771	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
8:2 FTS	39108-34-4	<1.07	1.07	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFNS	68259-12-1	<2.00	2.00	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
MeFOSAA	2355-31-9	<0.854	0.854	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
EtFOSAA	2991-50-6	<0.709	0.709	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFUnA	2058-94-8	<0.543	0.543	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFDS	335-77-3	<0.637	0.637	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
11Cl-PF3OUdS	763051-92-9	<1.25	1.25	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
10:2 FTS	120226-60-0	<1.62	1.62	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFDoA	307-55-1	<0.410	0.410	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
MeFOSA	31506-32-8	<7.09	7.09	8.28		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFTrDA	72629-94-8	<0.256	0.256	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFDoS	79780-39-5	<2.16	2.16	2.59		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFTeDA	376-06-7	<0.391	0.391	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
EtFOSA	4151-50-2	<7.56	7.56	8.28		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFHxDA	67905-19-5	<0.152	0.152	2.07		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
PFODA	16517-11-6	<3.18	3.18	3.62		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
MeFOSE	24448-09-7	<8.28	8.28	8.28		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
EtFOSE	1691-99-2	<5.74	5.74	8.28		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	85.8	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1

Sample ID: E409 FIELD BLANK
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Groundwater	Lab Sample:	2101208-08	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 15:00	Date Received:	28-Jan-21 11:16		
Location:	528302						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	93.6	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C3-PFBS	IS	97.9	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C3-HFPO-DA	IS	89.8	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-4:2 FTS	IS	97.4	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-PFHxA	IS	93.4	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C4-PFHpA	IS	96.9	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C3-PFHxS	IS	104	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-6:2 FTS	IS	99.1	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C5-PFNA	IS	99.9	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C8-PFOA	IS	50.7	10 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-PFOA	IS	97.9	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C8-PFOS	IS	101	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-PFDA	IS	100	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-8:2 FTS	IS	108	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
d3-MeFOSAA	IS	86.5	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-PFUnA	IS	102	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
d5-EtFOSAA	IS	91.7	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-10:2 FTS	IS	96.3	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-PFDoA	IS	96.7	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
d3-MeFOSA	IS	21.2	10 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-PFTeDA	IS	91.5	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
d5-EtFOSA	IS	21.0	10 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
13C2-PFHxDA	IS	94.2	25 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
d7-MeFOSE	IS	44.6	10 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1
d9-EtFOSE	IS	42.8	10 - 150		B1B0013	04-Feb-21	0.242 L	09-Feb-21 16:17	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

Sample ID: E409-2
PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Groundwater	Lab Sample:	2101208-09	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 15:20	Date Received:	28-Jan-21 11:16		
Location:	528303						

Analyte	CAS Number	Conc. (ng/L)	MDL	RL	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	375-22-4	9.07	0.372	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFPeA	2706-90-3	9.99	0.654	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFBS	375-73-5	1.78	0.914	2.04	J	B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
4:2 FTS	757124-72-4	<0.710	0.710	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFHxA	307-24-4	8.73	1.11	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFPeS	2706-91-4	<1.24	1.24	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
HFPO-DA	13252-13-6	<2.46	2.46	2.55		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFHpA	375-85-9	8.78	0.302	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
ADONA	919005-14-4	<0.369	0.369	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFHxS	355-46-4	29.0	0.484	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
6:2 FTS	27619-97-2	<1.02	1.02	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFOA	335-67-1	9.51	0.333	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFHpS	375-92-8	1.10	0.479	2.04	J, Q	B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFNA	375-95-1	5.38	0.414	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFOSA	754-91-6	1.28	0.904	2.04	J, Q	B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFOS	1763-23-1	141	0.412	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
9Cl-PF3ONS	756426-58-1	<0.741	0.741	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFDA	335-76-2	<0.761	0.761	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
8:2 FTS	39108-34-4	1.88	1.05	2.04	J	B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFNS	68259-12-1	<1.98	1.98	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
MeFOSAA	2355-31-9	<0.843	0.843	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
EtFOSAA	2991-50-6	<0.700	0.700	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFUnA	2058-94-8	<0.536	0.536	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFDS	335-77-3	<0.628	0.628	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
11Cl-PF3OUdS	763051-92-9	<1.23	1.23	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
10:2 FTS	120226-60-0	<1.60	1.60	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFDoA	307-55-1	<0.405	0.405	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
MeFOSA	31506-32-8	<7.00	7.00	8.17		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFTTrDA	72629-94-8	<0.252	0.252	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFDoS	79780-39-5	<2.13	2.13	2.55		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFTeDA	376-06-7	<0.386	0.386	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
EtFOSA	4151-50-2	<7.46	7.46	8.17		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFHxDA	67905-19-5	<0.150	0.150	2.04		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
PFODA	16517-11-6	<3.14	3.14	3.58		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
MeFOSE	24448-09-7	<8.17	8.17	8.17		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
EtFOSE	1691-99-2	<5.67	5.67	8.17		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFBA	IS	89.5	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1

Sample ID: E409-2

PFAS Isotope Dilution Method

Client Data				Laboratory Data			
Name:	C T Laboratories	Matrix:	Groundwater	Lab Sample:	2101208-09	Column:	BEH C18
Project:	TRUAX FIELD / 159412 VISTA	Date Collected:	25-Jan-21 15:20	Date Received:	28-Jan-21 11:16		
Location:	528303						

Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C3-PFPeA	IS	95.7	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C3-PFBS	IS	99.2	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C3-HFPO-DA	IS	108	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-4:2 FTS	IS	97.9	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-PFHxA	IS	97.3	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C4-PFHpA	IS	101	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C3-PFHxS	IS	99.4	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-6:2 FTS	IS	93.8	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C5-PFNA	IS	99.3	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C8-PFOA	IS	64.1	10 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-PFOA	IS	99.3	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C8-PFOS	IS	96.3	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-PFDA	IS	99.0	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-8:2 FTS	IS	93.6	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
d3-MeFOSAA	IS	95.4	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-PFUnA	IS	98.1	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
d5-EtFOSAA	IS	94.1	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-10:2 FTS	IS	88.0	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-PFDoA	IS	92.7	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
d3-MeFOSA	IS	21.3	10 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-PFTeDA	IS	92.5	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
d5-EtFOSA	IS	20.6	10 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
13C2-PFHxDA	IS	95.1	25 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
d7-MeFOSE	IS	52.8	10 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1
d9-EtFOSE	IS	52.6	10 - 150		B1B0013	04-Feb-21	0.245 L	09-Feb-21 16:28	1

MDL - Method Detection Limit

RL - Reporting limit

Results reported to MDL.

When reported, PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.

DATA QUALIFIERS & ABBREVIATIONS

B	This compound was also detected in the method blank
Conc.	Concentration
CRS	Cleanup Recovery Standard
D	Dilution
DL	Detection Limit
E	The associated compound concentration exceeded the calibration range of the instrument
H	Recovery and/or RPD was outside laboratory acceptance limits
I	Chemical Interference
IS	Internal Standard
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limit of Detection
LOQ	Limit of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
MDL	Method Detection Limit
NA	Not applicable
ND	Not Detected
OPR	Ongoing Precision and Recovery sample
P	The reported concentration may include contribution from chlorinated diphenyl ether(s).
Q	The ion transition ratio is outside of the acceptance criteria.
RL	Reporting Limit
RL	For 537.1, the reported RLs are the MRLs.
TEQ	Toxic Equivalency
U	Not Detected (specific projects only)
*	See Cover Letter

Unless otherwise noted, solid sample results are reported in dry weight. Tissue samples are reported in wet weight.

Vista Analytical Laboratory Certifications

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	19-013-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-23
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2018017
Massachusetts Department of Environmental Protection	N/A
Michigan Department of Environmental Quality	9932
Minnesota Department of Health	1521520
New Hampshire Environmental Accreditation Program	207718-B
New Jersey Department of Environmental Protection	190001
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-010
Pennsylvania Department of Environmental Protection	016
Texas Commission on Environmental Quality	T104704189-19-10
Vermont Department of Health	VT-4042
Virginia Department of General Services	10272
Washington Department of Ecology	C584-19
Wisconsin Department of Natural Resources	998036160

Current certificates and lists of licensed parameters are located in the Quality Assurance office and are available upon request.

NELAP Accredited Test Methods

MATRIX: Air	
Description of Test	Method
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA 23
Determination of Polychlorinated p-Dioxins & Polychlorinated Dibenzofurans	EPA TO-9A

MATRIX: Biological Tissue	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Drinking Water	
Description of Test	Method
2,3,7,8-Tetrachlorodibenzo- p-dioxin (2,3,7,8-TCDD) GC/HRMS	EPA 1613/1613B
1,4-Dioxane (1,4-Diethyleneoxide) analysis by GC/HRMS	EPA 522
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	ISO 25101 2009

MATRIX: Non-Potable Water	
Description of Test	Method
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Dioxin by GC/HRMS	EPA 613
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

MATRIX: Solids	
Description of Test	Method
Tetra-Octa Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613
Tetra- through Octa-Chlorinated Dioxins and Furans by Isotope Dilution GC/HRMS	EPA 1613B
Brominated Diphenyl Ethers by HRGC/HRMS	EPA 1614A
Chlorinated Biphenyl Congeners in Water, Soil, Sediment, and Tissue by GC/HRMS	EPA 1668A/C
Pesticides in Water, Soil, Sediment, Biosolids, and Tissue by HRGC/HRMS	EPA 1699
Perfluorinated Alkyl Acids in Drinking Water by SPE and LC/MS/MS	EPA 537
Polychlorinated Dibenzo-p-Dioxins and Polychlorinated Dibenzofurans by GC/HRMS	EPA 8280A/B
Polychlorinated Dibenzodioxins (PCDDs) and Polychlorinated Dibenzofurans (PCDFs) by GC/HRMS	EPA 8290/8290A

2101208 2.4°C

Sub-Contract Laboratory Chain-of-Custody and Purchase Order

PURCHASE ORDER # 159412 VISTA

The PO# must appear on all invoice and reports!

Upon Receipt of Samples, please verify that samples were received in acceptable condition then sign this form and fax to (608)356-2766 or email to the project manager. Sample temperature, upon receipt, must be recorded on this document unless thermal preservation is not a method requirement.

Ship to: Vista Analytical
1104 Winfield Way
El Dorado Hills, CA

Return Invoice and Results to: **ekorthals@ctlaboratories.com**

Government UPS Shipping Acct ? Y N

CTLaboratories
Eric Korthals
1230 Lange Court
Baraboo WI 53913

Ship by: Speedee UPS Grnd UPS 2nd UPS NDA

Date Due: standard **RUSH TURNAROUND NEEDED?** Y N (Circle One)

Project Name: TRUAX FIELD **Project State:** WI

Analytical/QC Criteria: NONE INDICATED STATE DOD QSM NELAP (Circle one) OTHER _____

Excel report to DL

Report results as EDD? N Y (Circle one and indicate type: _____) Data Deliverable Package LEVEL: 2 (no data pkg)

CTLabs ID#	Sample Date/Time	Matrix	Sample Description	Analyses / Method	Cost
528294	01/25/2021 1045	SOIL	E409-1,S1,2'	PFOS/PFOA	_____
528296	01/25/2021 1200	SOIL	E409-1,S2,5 1/2'	PFOS/PFOA	_____
528297	01/25/2021 1200	SOIL	E409-1,S2 DUP	PFOS/PFOA	_____
528298	01/25/2021 1310	GROUND WATER	E409-1	PFOS/PFOA	_____
528299	01/25/2021 1310	GROUND WATER	E409-1 DUP	PFOS/PFOA	_____
528300	01/25/2021 1355	SOIL	E409-2,S1,2'	PFOS/PFOA	_____
528301	01/25/2021 1405	SOIL	E409-2,S2,5 1/2'	PFOS/PFOA	_____
528302	01/25/2021 1500	GROUND WATER	E409 FIELD BLANK	PFOS/PFOA	_____
528303	01/25/2021 1520	GROUND WATER	E409-2	PFOS/PFOA	_____

Relinquished by: [Signature] Date/Time: 1-27-2021 / 1100h

Received by: Kas & Art Date/Time: 01/28/21 11:16 Receipt Temperature (C) _____

COMMENTS:

REPORT ALL SOLIDS ON A DRY WEIGHT BASIS UNLESS OTHERWISE INDICATED

2101208

Form #: FPM1-01
Effective Date: 02/15/14

Sample Log-In Checklist

Page # 1 of 1

Vista Work Order #: 2101208 TAT std

Samples Arrival:	Date/Time		Initials:		Location: <u>WR-2</u>		
	<u>01/28/21 11:16</u>		<u>KA</u>		Shelf/Rack: <u>N/A</u>		
Delivered By:	FedEx	<input checked="" type="checkbox"/> UPS	On Trac	GLS	DHL	Hand Delivered	Other
Preservation:	<input checked="" type="checkbox"/> Ice		Blue Ice	Techni Ice	Dry Ice	None	
Temp °C: <u>2.4</u> (uncorrected)	Probe used: <u>Y / (N)</u>			Thermometer ID: <u>IR-4</u>			
Temp °C: <u>2.4</u> (corrected)							

	YES	NO	NA			
Shipping Container(s) Intact?	<input checked="" type="checkbox"/>					
Shipping Custody Seals Intact?	<input checked="" type="checkbox"/>					
Airbill <input checked="" type="checkbox"/> Trk# <u>12 1A4 A85 01 4241 0</u>	<input checked="" type="checkbox"/>					
Shipping Documentation Present?	<input checked="" type="checkbox"/>					
Shipping Container	Vista	<input checked="" type="checkbox"/> Client	Retain	<input checked="" type="checkbox"/> Return	Dispose	
Chain of Custody / Sample Documentation Present?	<input checked="" type="checkbox"/>					
Chain of Custody / Sample Documentation Complete?	<input checked="" type="checkbox"/>					
Holding Time Acceptable?	<input checked="" type="checkbox"/>					
Logged In:	Date/Time		Initials:		Location: <u>R-13, WR-2</u>	
	<u>01/28/21 11:53</u>		<u>WWS</u>		Shelf/Rack: <u>8-2, B-4, 8-4</u>	
COC Anomaly/Sample Acceptance Form completed?					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Comments:

CoC/Label Reconciliation Report WO# 2101208

LabNumber	CoC Sample ID	SampleAlias	Sample Date/Time	Container	Sample BaseMatrix	Comments
2101208-01	A E409-1,S1,2'	528294	25-Jan-21 10:45	HDPE Jar, 6 oz	Solid	
2101208-02	A E409-1,S2,S 1/2'	528296	25-Jan-21 12:00	HDPE Jar, 6 oz	Solid	
WWS 01/28/21 2101208-03	A E409-1,S2 DUP	528297	25-Jan-21 12:00	HDPE Jar, 6 oz	Solid	
2101208-04	A E409-1	528298	25-Jan-21 13:10	HDPE Bottle, 250 mL	Aqueous	
2101208-04	B E409-1	528298	25-Jan-21 13:10	HDPE Bottle, 250 mL	Aqueous	
2101208-05	A E409-1 DUP	528299	25-Jan-21 13:10	HDPE Bottle, 250 mL	Aqueous	
2101208-05	B E409-1 DUP	528299	25-Jan-21 13:10	HDPE Bottle, 250 mL	Aqueous	
2101208-06	A E409-2,S1,2'	528300	25-Jan-21 13:55	HDPE Jar, 6 oz	Solid	
ⓑ 2101208-07	A E409-2,S2,S 1/2'	528301	25-Jan-21 14:05	HDPE Jar, 6 oz	Solid	
2101208-07	B E409-2,S2,S 1/2'	528301	25-Jan-21 14:05	HDPE Jar, 6 oz	Solid	
2101208-08	A E409 FIELD BLANK	528302	25-Jan-21 15:00	HDPE Bottle, 250 mL	Aqueous	
2101208-08	B E409 FIELD BLANK	528302	25-Jan-21 15:00	HDPE Bottle, 250 mL	Aqueous	
ⓐ 2101208-09	A E409-2	528303	25-Jan-21 15:20	HDPE Bottle, 250 mL	Aqueous	
2101208-09	B E409-2	528303	25-Jan-21 15:20	HDPE Bottle, 250 mL	Aqueous	
2101208-09	C E409-2	528303	25-Jan-21 15:20	HDPE Bottle, 250 mL	Aqueous	
2101208-09	D E409-2	528303	25-Jan-21 15:20	HDPE Bottle, 250 mL	Aqueous	

Checkmarks indicate that information on the COC reconciled with the sample label.
Any discrepancies are noted in the following columns.

	Yes	No	NA
Sample Container Intact?	✓		
Sample Custody Seals Intact?			✓
Adequate Sample Volume?	✓		
Container Type Appropriate for Analysis(es)	✓		
Preservation Documented: Na2S2O3 Trizma <u>None</u> Other		✓	✓
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			✓

Comments: all information reconciled using typed sample label

ⓐ Received 4 bottles

ⓑ Received 2 jars

Verified by/Date: WWS 01/28/21



CHAIN OF CUSTODY

159412

B409

For Laboratory Use Only
 Work Order #: _____ Temp: 26/3.1 °C
 Storage ID: _____ Storage Secured: Yes No

Project ID: XGFG 182003 PO#: SES# 50802 Sampler: GEOFF PRIOR
 (name)

TAT Standard: 21 days
 (check one): Rush (surcharge may apply)
 14 days 7 days Specify: _____

<u>GEOFF PRIOR</u> [Signature]	<u>1-27-21</u>	<u>0840</u>	<u>ERC</u>	<u>1/27/21</u>	<u>844</u>
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time
			<u>ERC</u>	<u>1/27/21</u>	<u>905</u>
Relinquished by (printed name and signature)	Date	Time	Received by (printed name and signature)	Date	Time

SHIP TO: Vista Analytical Laboratory
 1104 Windfield Way
 El Dorado Hills, CA 95762
 (916) 673-1520 * Fax (916) 673-0106
 ATTN: _____
 Method of Shipment: _____
 Tracking No.: _____

Add Analysis(es) Requested		PFAS by Isotope Dilution	EPA Method 537 (DW only)
Container(s)	Quantity	Type	Matrix
			PFOA/PFOS
			UCMR3 PFAS List 6
			537.1 List: 14 or 18 (Circle One)
			EPA Draft List of 24
			OTHER: Please attach analyte list
			PFOA/PFOS
			UCMR3 PFAS List 6
			537.1 List of 14
			537.1 List of 18

Sample ID	Date	Time	Location/ Sample Description	Quantity	Type	Matrix	PFOA/PFOS	UCMR3 PFAS List 6	537.1 List: 14 or 18 (Circle One)	EPA Draft List of 24	OTHER: Please attach analyte list	PFOA/PFOS	UCMR3 PFAS List 6	537.1 List of 14	537.1 List of 18	Comments
<u>B409 B E409-1, 51, 2'</u>	<u>1-25-21</u>	<u>1045</u>	<u>ADAL B409</u>	<u>1</u>	<u>P</u>	<u>SO</u>	<u>X</u>									<u>528241</u>
<u>E409-1, 52, 5 1/2'</u>		<u>1055</u>		<u>1</u>	<u>P</u>	<u>SO</u>	<u>X</u>									<u>528296</u>
<u>E409-1 52 DUP</u>		<u>1055</u>		<u>1</u>	<u>P</u>	<u>SO</u>	<u>X</u>									<u>528297</u>
<u>E409-1</u>		<u>1310</u>		<u>2</u>	<u>P</u>	<u>AQ</u>	<u>X</u>									<u>528299</u>
<u>E409-1 DUP</u>		<u>1310</u>		<u>2</u>	<u>P</u>	<u>AQ</u>	<u>X</u>									<u>528299</u>
<u>E409-2, 51, 2'</u>		<u>1405</u>	<u>1355</u>	<u>1</u>	<u>P</u>	<u>SO</u>	<u>X</u>									<u>528300</u>
<u>E409-2, 51, 2'</u>		<u>1405</u>		<u>1</u>	<u>P</u>	<u>SO</u>	<u>X</u>									<u>USE FOR MS 528301</u>
<u>E409-2, 52, 5 1/2'</u>		<u>1405</u>		<u>1</u>	<u>P</u>	<u>SO</u>	<u>X</u>									<u>USE FOR MS 528302</u>
<u>E409-2</u>		<u>1520</u>		<u>4</u>	<u>P</u>	<u>AQ</u>	<u>X</u>									<u>USE FOR MS 528303</u>
<u>FIELD BLANK E409</u>		<u>1500</u>		<u>2</u>	<u>P</u>	<u>AQ</u>	<u>X</u>									<u>528304</u>

Special Instructions/Comment

SEND DOCUMENTATION AND RESULTS TO:

Name: SOILS AND ENGINEERING SERVICES
 Company: DVANE REICHEL
 Address: 1102 STEWART ST
 City: MADISON State: WI Zip: 53713
 Phone: 608-274-7600
 Email: _____

Container Types: P = HDPE, PJ = HDPE Jar
 PY = Polypropylene, O = Other _____
 Bottle Preservation Type: TZ = Trizma: _____
 Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, O = Other _____

APPENDIX C

Appendix C Contents

- *Important Information about This Geoenvironmental Report advisory*



Important Information about This

Geoenvironmental Report

Geoenvironmental studies are commissioned to gain information about environmental conditions on and beneath the surface of a site. The more comprehensive the study, the more reliable the assessment is likely to be. But remember: Any such assessment is to a greater or lesser extent based on professional opinions about conditions that cannot be seen or tested. Accordingly, no matter how many data are developed, risks created by unanticipated conditions will always remain. *Have realistic expectations.* Work with your geoenvironmental consultant to manage known and unknown risks. Part of that process should already have been accomplished, through the risk allocation provisions you and your geoenvironmental professional discussed and included in your contract's general terms and conditions. This document is intended to explain some of the concepts that may be included in your agreement, and to pass along information and suggestions to help you manage your risk.

Beware of Change; Keep Your Geoenvironmental Professional Advised

The design of a geoenvironmental study considers a variety of factors that are subject to change. Changes can undermine the applicability of a report's findings, conclusions, and recommendations. *Advise your geoenvironmental professional about any changes you become aware of.* Geoenvironmental professionals cannot accept responsibility or liability for problems that occur because a report fails to consider conditions that did not exist when the study was designed. Ask your geoenvironmental professional about the types of changes you should be particularly alert to. Some of the most common include:

- modification of the proposed development or ownership group,
- sale or other property transfer,
- replacement of or additions to the financing entity,

- amendment of existing regulations or introduction of new ones, or
- changes in the use or condition of adjacent property.

Should you become aware of any change, *do not rely on a geoenvironmental report.* Advise your geoenvironmental professional immediately; follow the professional's advice.

Recognize the Impact of Time

A geoenvironmental professional's findings, recommendations, and conclusions cannot remain valid indefinitely. The more time that passes, the more likely it is that important latent changes will occur. *Do not rely on a geoenvironmental report if too much time has elapsed since it was completed.* Ask your environmental professional to define "too much time." In the case of Phase I Environmental Site Assessments (ESAs), for example, more than 180 days after submission is generally considered "too much."

Prepare To Deal with Unanticipated Conditions

The findings, recommendations, and conclusions of a Phase I ESA report typically are based on a review of historical information, interviews, a site "walkover," and other forms of noninvasive research. When site subsurface conditions are not sampled in any way, the risk of unanticipated conditions is higher than it would otherwise be.

While borings, installation of monitoring wells, and similar invasive test methods can help reduce the risk of unanticipated conditions, *do not overvalue the effectiveness of testing.* Testing provides information about actual conditions only at the precise locations where samples are taken, and only when they are taken. Your geoenvironmental

professional has applied that specific information to develop a general opinion about environmental conditions. *Actual conditions in areas not sampled may differ (sometimes sharply) from those predicted in a report.* For example, a site may contain an unregistered underground storage tank that shows no surface trace of its existence. *Even conditions in areas that were tested can change, sometimes suddenly, due to any number of events, not the least of which include occurrences at adjacent sites.* Recognize, too, that *even some conditions in tested areas may go undiscovered,* because the tests or analytical methods used were designed to detect only those conditions assumed to exist.

Manage your risks by retaining your geoenvironmental professional to work with you as the project proceeds. Establish a contingency fund or other means to enable your geoenvironmental professional to respond rapidly, in order to limit the impact of unforeseen conditions. And to help prevent any misunderstanding, identify those empowered to authorize changes and the administrative procedures that should be followed.

Do Not Permit Any Other Party To Rely on the Report

Geoenvironmental professionals design their studies and prepare their reports to meet the specific needs of the clients who retain them, in light of the risk management methods that the client and geoenvironmental professional agree to, and the statutory, regulatory, or other requirements that apply. The study designed for a developer may differ sharply from one designed for a lender, insurer, public agency...or even another developer. *Unless the report specifically states otherwise, it was developed for you and only you.* Do not unilaterally permit any other party to rely on it. The report and the study underlying it may not be adequate for another party's needs, and you could be held liable for shortcomings your geoenvironmental professional was powerless to prevent or anticipate. Inform your geoenvironmental professional when you know or expect that someone else—a third-party—will want to use or rely on the report. *Do not permit third-party use or reliance until you first confer with the geoenvironmental professional who prepared the report.* Additional testing, analysis, or study may be required and, in any event, appropriate terms and conditions should be agreed to so both you and your geoenvironmental professional are protected from third-party risks. *Any party who relies on a geoenvironmental report without the express written permission of the professional who prepared it and the client for whom it was prepared may be solely liable for any problems that arise.*

Avoid Misinterpretation of the Report

Design professionals and other parties may want to rely on the report in developing plans and specifications. They need to be advised, in writing, that their needs may not have been considered when the study's scope was developed, and, even if their needs were considered, they might misinterpret geoenvironmental findings, conclusions, and recommendations. *Commission your geoenvironmental professional to explain pertinent elements of the report to others who are permitted to rely on it, and to review any plans, specifications or other instruments of professional service that incorporate any of the report's findings, conclusions, or recommendations.* Your geoenvironmental professional has the best understanding of the issues involved, including the fundamental assumptions that underpinned the study's scope.

Give Contractors Access to the Report

Reduce the risk of delays, claims, and disputes by giving contractors access to the full report, *providing that it is accompanied by a letter of transmittal that can protect you* by making it unquestionably clear that: 1) the study was not conducted and the report was not prepared for purposes of bid development, and 2) the findings, conclusions, and recommendations included in the report are based on a variety of opinions, inferences, and assumptions and are subject to interpretation. Use the letter to also advise contractors to consult with your geoenvironmental professional to obtain clarifications, interpretations, and guidance (a fee may be required for this service), and that—in any event—they should conduct additional studies to obtain the specific type and extent of information each prefers for preparing a bid or cost estimate. Providing access to the full report, with the appropriate caveats, helps prevent formation of adversarial attitudes and claims of concealed or differing conditions. If a contractor elects to ignore the warnings and advice in the letter of transmittal, it would do so at its own risk. Your geoenvironmental professional should be able to help you prepare an effective letter.

Do Not Separate Documentation from the Report

Geoenvironmental reports often include supplemental documentation, such as maps and copies of regulatory files, permits, registrations, citations, and correspondence with regulatory agencies. If subsurface explorations were performed, the report may contain final boring logs and copies of laboratory data. If remediation activities occurred on site, the report may include: copies of daily field reports; waste manifests; and information about the disturbance of subsurface materials, the type and thickness of any fill placed on site, and fill placement practices, among other types of documentation. *Do not separate supplemental documentation from the report. Do not, and do not permit any other party to redraw or modify any of the supplemental documentation for incorporation into other professionals' instruments of service.*

Understand the Role of Standards

Unless they are incorporated into statutes or regulations, standard practices and standard guides developed by the American Society for Testing and Materials (ASTM) and other recognized standards-developing organizations (SDOs) are little more than aspirational methods agreed to by a consensus of a committee. The committees that develop standards may not comprise those best-qualified to establish methods and, no matter what, no standard method can possibly consider the infinite client- and project-specific variables that fly in the face of the theoretical "standard conditions" to which standard practices and standard guides apply. In fact, these variables can be so pronounced that geoenvironmental professionals who comply with every directive of an ASTM or other standard procedure could run afoul of local custom and practice, thus violating the standard of care. Accordingly, when geoenvironmental professionals indicate in their reports that they have performed a service "in general compliance" with one standard or another, it means they have applied professional judgement in creating and implementing a scope of service designed for the specific client and project involved, and which follows some of the general precepts laid out in the referenced standard. To the extent that a report indicates "general compliance" with a standard, you may wish to speak with your geoenvironmental professional to learn more about what was and was not done. *Do not assume a given standard was followed to the letter.* Research indicates that that seldom is the case.

Realize That Recommendations May Not Be Final

The technical recommendations included in a geoenvironmental report are based on assumptions about actual conditions, and so are preliminary or tentative. Final recommendations can be prepared only by observing actual conditions as they are exposed. For that reason, you should retain the geoenvironmental professional of record to observe construction and/or remediation activities on site, to permit rapid response to unanticipated conditions. *The geoenvironmental professional who prepared the report cannot assume responsibility or liability for the report's recommendations if that professional is not retained to observe relevant site operations.*

Understand That Geotechnical Issues Have Not Been Addressed

Unless geotechnical engineering was specifically included in the scope of professional service, a report is not likely to relate any findings, conclusions, or recommendations about the suitability of subsurface materials for construction purposes, especially when site remediation has been accomplished through the removal, replacement, encapsulation, or chemical treatment of on-site soils. The equipment, techniques, and testing used by geotechnical engineers differ markedly from those used by geoenvironmental professionals; their education, training, and experience are also significantly different. If you plan to build on the subject site, but have not yet had a geotechnical engineering study conducted, your geoenvironmental professional should be able to provide guidance about the next steps you should take. The same firm may provide the services you need.

Read Responsibility Provisions Closely

Geoenvironmental studies cannot be exact; they are based on professional judgement and opinion. Nonetheless, some clients, contractors, and others assume geoenvironmental reports are or certainly should be unerringly precise. Such assumptions have created unrealistic expectations that have led to wholly unwarranted claims and disputes. To help prevent such problems, geoenvironmental professionals have developed a number of report provisions and contract terms that explain who is responsible for what, and how risks are to be allocated. Some people mistake these for “exculpatory clauses,” that is, provisions whose purpose is to transfer one party’s rightful responsibilities and liabilities to someone else. Read the responsibility provisions included in a report and in the contract you and your geoenvironmental professional agreed to. *Responsibility provisions are not “boilerplate.”* They are important.

Rely on Your Geoenvironmental Professional for Additional Assistance

Membership in the Geoprofessional Business Association exposes geoenvironmental professionals to a wide array of risk management techniques that can be of genuine benefit for everyone involved with a geoenvironmental project. Confer with your GBA-member geoenvironmental professional for more information.



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