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EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

February 19, 2019

Michigan Department of Environmental Quality
Remediation and Redevelopment Division
503 N. Euclid Ave., Suite 1
Bay City, Michigan 48706-2965

RE: Initial Investigation Results
Former McDonald's Country Store
7793 F-41
Oscoda, MI 48737

Dear Mr. Jury,

This presents to the Michigan Department of Environmental Quality-Remediation and Redevelopment Division the following results of the initial investigation performed at the Former McDonald's Country Store site in Oscoda, Iosco County, Michigan. Included is a summary of field activities conducted at the site, site location figures, soil boring logs, and a copy of the laboratory report.

We trust this report is responsive to your needs. Should you have questions, comments, or concerns regarding this project, please contact us.

Sincerely,

Dale Corsi | Senior Project Manager

517-393-6800 x922 (office) | 517-272-7390 (fax) | 517-667-4299 (cell)
dcorsi@dlz.com | www.dlz.com

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DEQ - RRD
SAGINAW BAY DISTRICT

FINAL

**INITIAL INVESTIGATION REPORT
FORMER McDONALD'S COUNTRY STORE
7793 F-41
OSCODA, MICHIGAN 48750**

PREPARED FOR:

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
REMEDIATION AND REDEVELOPMENT DIVISION
SAGINAW BAY DISTRICT OFFICE
401 KETCHUM STREET
BAY CITY, MICHIGAN 48708**

PREPARED BY

**DLZ MICHIGAN, INC.
1425 KEYSTONE AVENUE
LANSING, MICHIGAN 48911
DLZ PROJECT NO.: 1341-6550-48**



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FEBRUARY 2019



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Site Background

The site is the location of the former McDonald's Country Store on F-41 just south of Kings Corner Highway, which started on fire on December 25th, 1992. Local fire departments and the WAFB fire department responded to fight the fire. Water alone could not extinguish the fire, so the WAFB firefighting team discharged AFFF to finally extinguish it. Residents have stated that the foam "flowed across F-41." Preliminary samples collected from residential wells and the stream across F-41 have showed low levels of per- and poly-fluorinated alkyl substances (PFAS).

Geology

Well logs in the area were analyzed to determine the surrounding geology and possible contaminant pathways. Directly South of the Site, logs indicated a thick (160-166 feet) layer of clay from surface to bedrock. Directly West of the Site, a clay sand mixture is apparent from surface to approximately 6 feet bgs. This layer is underlain by a 25-foot-thick clay layer that bears water at 31 feet bgs. Northwest of the Site a layer of sand is present from surface to a depth of 12-15 feet bgs and is underlain by a 15-foot-thick clay layer and a 32-foot-thick layer of sand and gravel beneath that. Southwest of the Site hard clay underlies at approximately 5 feet of sand and is 45-164 feet thick. 435 feet Northeast of the Site an 8-foot-thick fine moist sand is underlain by approximately 15 feet of a clay-sand mix and beneath that clay. Water bearing sand is directly beneath the clay layer.

Work Description

Soil Borings

On July 3rd, 2018 DLZ and Alluvial Earth mobilized to the Site to advance, using direct push technology, 15 soil borings on the property of the former McDonald's Country Store as well as on the property directly south on Hank's Salvage property and directly across F-41 on a residential property. The soil boring locations are displayed on Appendix A. Every boring encountered stiff clay at approximately 6 feet below ground surface (bgs). After drilling SB-1 to 20 feet bgs and encountering 15 feet of stiff clay it was determined that each boring need only be advanced to a depth of approximately 6 feet bgs. At least one soil sample was taken during each boring and sampled directly above the stiff clay layer. Additional samples were taken at the geologist's discretion based on outlying soil characteristics. Latex gloves were changed after each sample to prevent cross-contamination in samples.

Soil samples were collected and properly preserved in bottles supplied by Vista Analytical Laboratory. The containerized samples were place on ice in a cooler and shipped to Vista Analytical Laboratory for analysis of PFAS. Completed chain-of-custody accompanied the samples.

SB-8 exhibited different characteristics than all other borings as it contained an ashy like substance and shards of glass. This ashy substance was sampled in addition to a sample directly above the clay layer. Only one sample was collected, which included material from both intervals.



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Soil sample results are featured in Appendix B.

Stream Bed and Surface Water

Water and sediment samples were taken from a nearby stream bed and culvert adjacent to the property and flowing under F-41. This stream drains a wetland from drainage structures that flow from the north and south. Four water samples and five sediment samples were taken from the stream. Ultimately this stream discharges into the Pine River, which was dammed to form Van Etten Lake.

Sediment samples were collected using a shovel. The shovel was decontaminated using Alconox and distilled water after each use to prevent cross-contamination. Water sample bottles were submerged near flowing water in the stream allowing the sample to be collected. Latex gloves were worn during all sampling and changed after each sampling to prevent cross contamination.

Analytical Results

Soil Borings

All detected levels of PFAS in soil and sediment were reported in ng/g (ppb). Only one of the fifteen soil samples collected resulted in no detection of PFAS. All other contained total PFOS levels above Residential and Nonresidential Groundwater Surface Water Interface Protection criteria and Residential and Nonresidential Drinking Water Criteria. Since levels were reported in parts per billion (ppb), some borings showed levels several orders of magnitude higher than residential and nonresidential criteria.

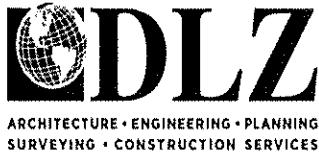
SB-15, advanced on the residential property east of F-41, did not show any levels of PFAS and was reported as non-detect. SB-14, also advanced on the property, had total PFAS levels 1.02 ppb (1020 ppt). SB-1 through SB-13, apart from SB-8, reported levels ranging from 5.19 ppb (5190 ppt) at SB-11 to 634.2 ppb (634,200 ppt) at SB-2 (5-6ft).

Concentrations in SB-8 initially were not able to be determined because they were too high for the instrument to measure, therefore an estimated concentration of 350,779 ppb (350,779,000 ppt) was given to provide the magnitude of contamination in and around this boring. SB-8 was also where an ashy substance was discovered.

All soil borings, apart from SB-15, were in exceedance of Residential and Nonresidential Groundwater Surface Water Interface Protection Criteria for PFOS. Residential and Nonresidential Drinking Water Protection Criteria are currently not available.

Stream Bed and Surface Water

A total of five sediment samples and four water samples were taken from a stream located directly south of the Site, crossing beneath F-41 and continuing in a northeast direction. The sediment sample nearest the property (SED-1), taken on the west side of F-41, displayed the highest concentrations of total PFAS at 40,047.6 ppb (4,004,700 ppt). SED-2 showed concentrations at 1,191.23 ppb (1,191,230



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ppt). SED-3, SED-4, and SED-5 all showed concentrations ranging from 2.23 ppb (2,230 ppt) to 7.53 ppb (7,530 ppt) and were downstream and further removed from the Site.

Concentrations in the stream samples decreased progressing downstream. Sample Water-1 displayed the highest concentrations of total PFAS at 10.1 ppb (10,100 ppt). Water-2 and Water-3 displayed concentrations of 9.84 ppb (9,840 ppt) and 8.61 ppb (8,610 ppt) respectively. Water-4 showed the lowest concentrations at 3.34 ppb (3,340 ppt) and was the furthest downstream.

All stream bed soil samples, were in exceedance of Residential and Nonresidential Groundwater Surface Water Interaction Protection Criteria for PFOS. Residential and Nonresidential Drinking Water Protection Criteria are currently not available. All water samples exceed the Residential and Nonresidential Drinking Water Criteria, as well as the Groundwater Surface Water Interface Criteria. However, these samples were taken from surface water and it is unclear if and where groundwater vents into this stream. Regardless, none of the surface water samples taken showed no detection of PFAS.

The human health protection criterion for combined PFOS and PFOA lifetime exposure is 0.07 ppb (70 ppt). All samples taken exceeded this criterion. Even though SB-15 was reported non-detect, the detection limits were set at 0.907 ppb (907 ppt), indicating that this boring might also exceed this lifetime exposure criteria.

Recommendations and Conclusions

Based on the initial soil and surface water data collected on July 3rd, 2018, the soil at the site contains high levels of PFOS contaminants which are acting as a source contaminant and appear to be impacting the stream. The highest levels of contamination occur at SB-8, which was approximated to be adjacent to the foundation of the previous structure. It is apparent from the comparison of SB-10, 11 and SB-14, 15 that contaminants are migrating south from the Site and following the stream bed rather than east toward residential properties.

DLZ recommends performing an excavation to remove source materials to prevent further dispersion of PFAS contaminants.

If you have any questions or would like to discuss, please contact me at dcorsi@dlz.com.



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TABLE 1
SOIL ANALYTICAL SUMMARY
MCDONALD COUNTRY STORE

	SB-1 (5'')	SB-2 (2'')	SB-2 (5'')	SB-3 (2.5'')	SB-3 (5'')	SB-4 (3.5'')	SB-5 (2.5'')	SB-5 (2.5'')	SB-6 (2.5'')	SB-7 (2.5'')	SB-7 (4.5'')	SB-8 (1.5-3'')	SB-9 (2.5'')	SB-10 (5'')	SB-11 (3'')	SB-12 (2-3'')	SB-13 (2-3'')	SB-14 (3.5-4'')	SB-15 (3-4'')	Groundwater Surface Water Interface
PFAS [Total]	282,610	98,160	634,200	210,280	132,040	158,270	106,000	20,300	112,720	102,920	350,779,000	46,500	22,000	5,190	90,380	58,650	1,020	0	N/A	
PFOS [Total]	276,000	93,000	620,000	208,000	130,000	157,000	106,000	20,300	107,000	100,000	339,000,000	45,500	22,000	5,190	85,300	51,700	1,020	<907	240	
PFDA [Total]	<922	1,720	1,400	<850	<892	<874	<950	<884	<809	<930	461,000	<879	<880	<975	<870	<826	<1,000	<907	10,000,000	
PFHxS [Total]	6,610	3,440	12,800	2,280	2,040	1,270	<950	<884	5,720	2,520	9,200,000	<879	<880	<975	5,580	6,930	<1,000	<907	N/A	
MeFOSAA [Total]	<922	<881	<930	<880	<892	<874	<950	<884	<809	<930	138,000	<879	<880	<975	<870	<826	<1,000	<907	N/A	
EfFOSAA [Total]	<922	<881	<930	<880	<892	<874	<950	<884	<809	<930	1,980,000	<879	<880	<975	<870	<826	<1,000	<907	N/A	

All concentrations listed in parts per trillion

Contaminant concentrations compared to Part 201 Generic Cleanup Criteria and Screening Level June 25, 2018

Yellow shading indicates concentrations exceed GSCP criteria

TABLE 2

SEDIMENT ANALYTICAL SUMMARY

MCDONALD COUNTRY STORE

	Sed-1	Sed-2	Sed-3	Sed-4	Sed-5	Groundwater Surface Water Interface Protection Criteria (GSIP)
PFAS (Total)	4,047,600	1,191,230	7,530	2,230	4,570	NA
PFOS (Total)	3,990,000	1,160,000	7,530	2,230	4,570	240
PFOA (Total)	11,200	2,930	<909	<1,360	<1,400	10,000,000
PFHxS (Total)	46,400	28,300	<909	<1,360	<1,400	NA
MeFOSAA (Total)	<1,000	<1,570	<909	<1,360	<1,400	NA
EtFOSAA (Total)	<1,000	<1,570	<909	<1,360	<1,400	NA

All concentrations listed in parts per trillion

Contaminant concentrations compared to Part 201 Generic Cleanup Criteria and Screening Level June 25, 2018

Yellow shading indicates concentrations exceed GSIP criteria

NA - Not Available

TABLE 3

SURFACE WATER ANALYTICAL SUMMARY

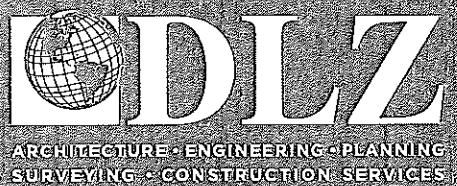
MCDONALD COUNTRY STORE

	Water-1	Water-2	Water-3	Water-4	Human Noncancer Value (Non-drinking Water)	Final Chronic Value	Aquatic Maximum Value	Final Acute Value
PFAS (Total)	10.1	9.84	8.61	3.34	NA	NA	NA	NA
PFOS (Total)	10.1	9.84	8.61	3.34	12	140,000	780,000	1,600,000
PFOA (Total)	<1.27	<1.26	<1.25	<1.24	12,000	880,000	7,700,000	15,000,000
PFHxS (Total)	<1.04	<1.03	<1.02	<1.01	NA	NA	NA	NA
MeFOSAA (Total)	<1.81	<1.79	<1.77	<1.77	NA	NA	NA	NA
EtFOSAA (Total)	<1.50	<1.48	<1.47	<1.47	NA	NA	NA	NA

All concentrations listed in parts per trillion

Contaminant concentrations compared to Rule 57 Water Quality Values March 15, 2018

Yellow shading indicates concentrations exceed Human Noncancer value



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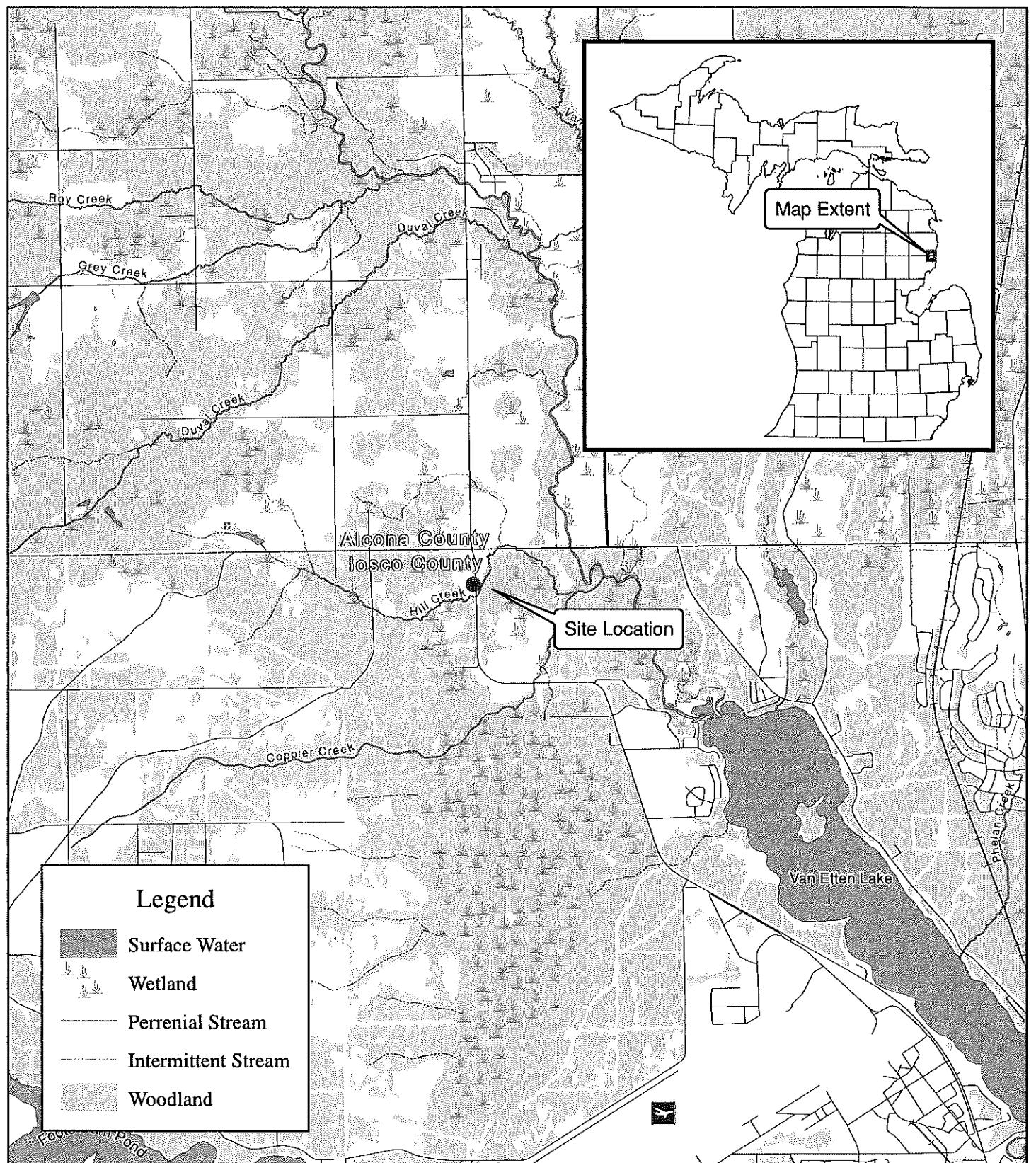
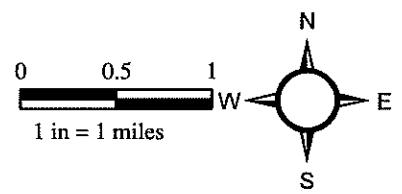


Figure: 1
Site Location
McDonald Country Store Fire Site
7793 F-41
Oscoda, MI 48737
Michigan Department of Environmental Quality



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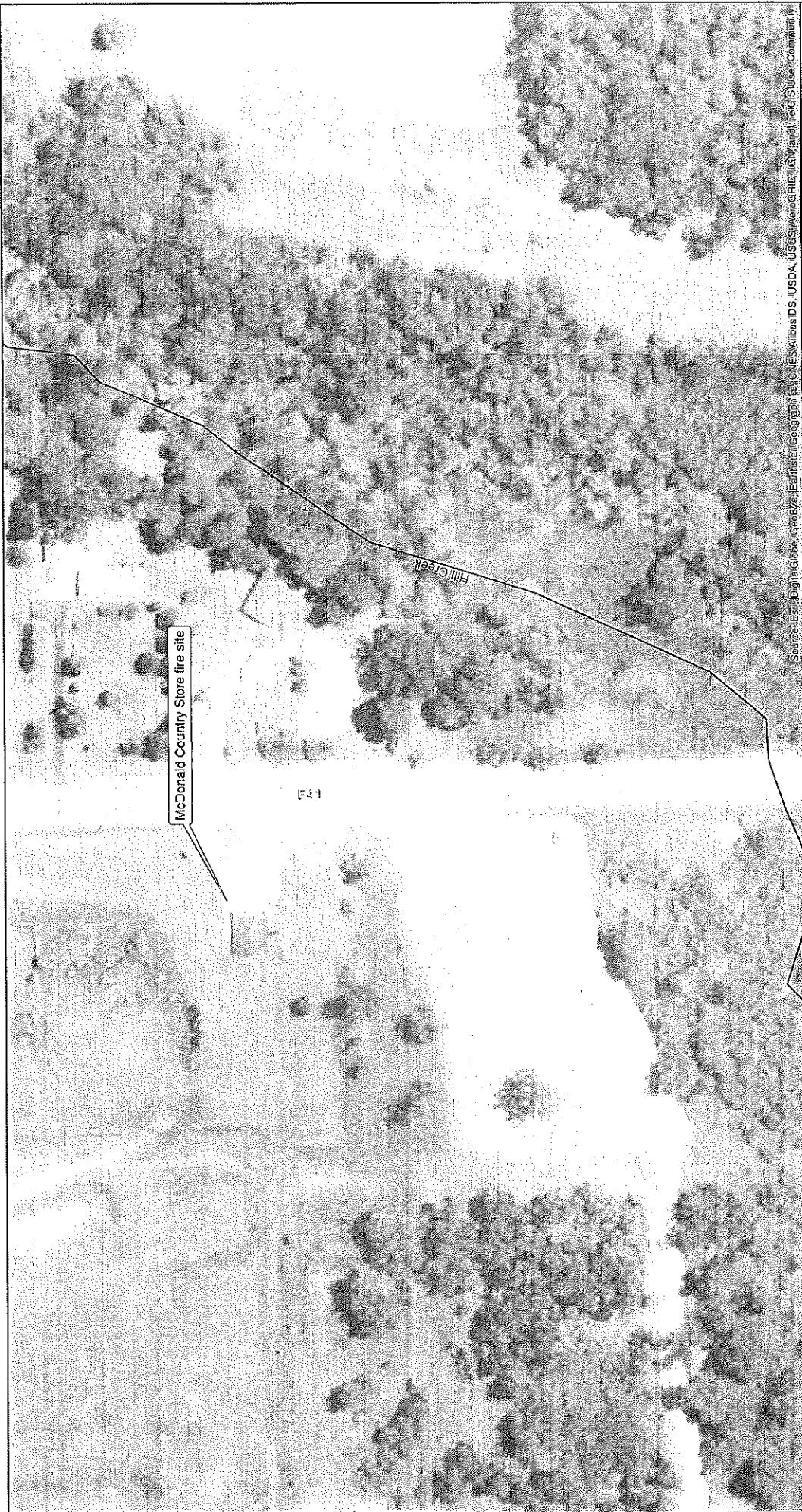


Fig. 2
N E W S

0 45 90
1 inch = 90 feet

Fig. 2

McDonald County Store Fire Site
7793 E-41
Oscoda, MI 48737
Michigan Department of Environmental Quality

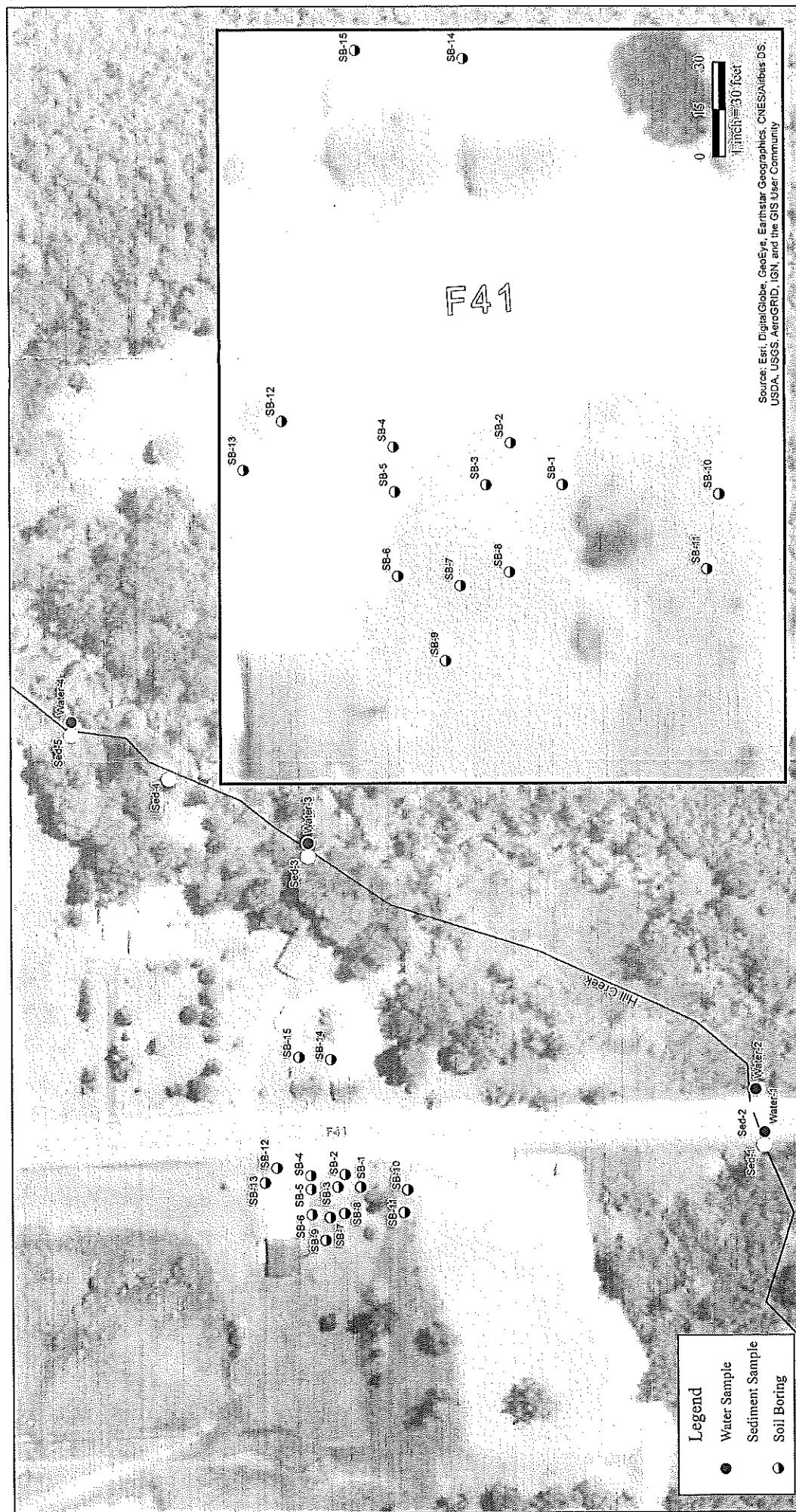
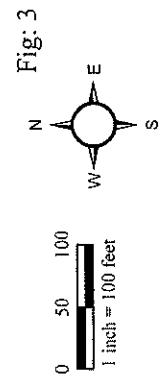


Figure: 3
Soil Borings and Stream Sample Locations July 2018
McDonald County Store Fire Site
7793 F-41
Oscoda, MI 48737
Michigan Department of Environmental Quality



Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

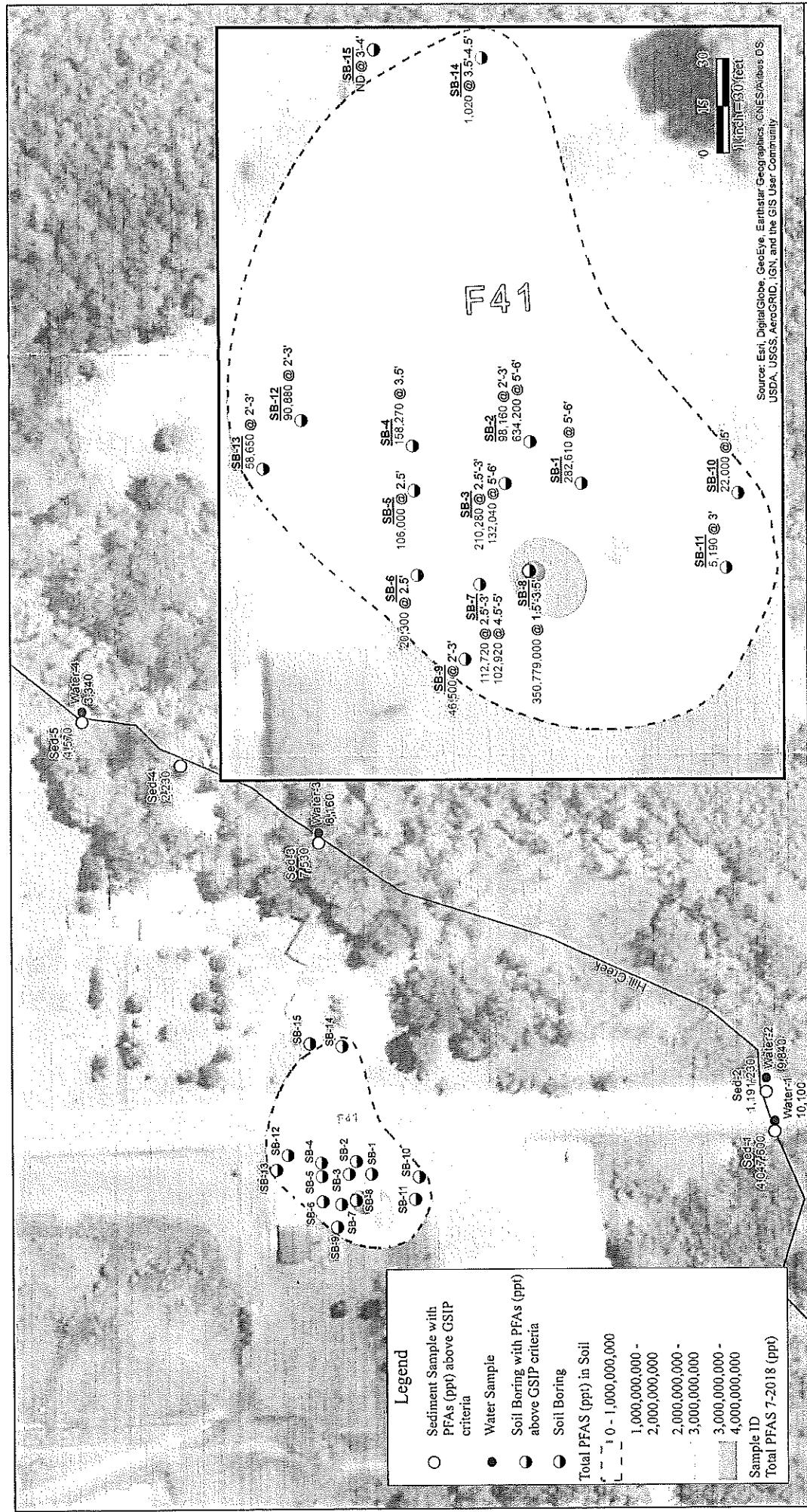
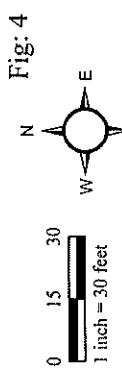
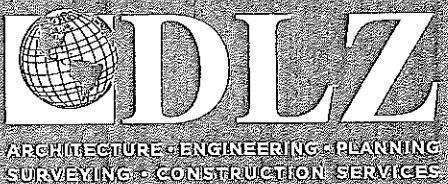


Figure 4
Total PFAS in Soil, Stream Sediment, and Stream Water July 2018
McDonald County Store Fire Site
7793 E. 41
Oscoda, MI 48737

Michigan Department of Environmental Quality





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BORING LOGS



BORING LOG:

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

PROJECT NAME: MCS				PROJECT NUMBER:				BORING # SB-3		
CLIENT: MDEQ	GEOLOGIST: HLW			RIG:	GROUND ELEVATION:					
DATE: 07/03/18	DRILLING CO: Alluvial Earth			METHOD: DP	TOC ELEVATION:					
LOCATION: Cecoda	DRILLER: Ryan Lebster			DATUM:	DEVELOP METHOD:					
SAMPLE DEPTH	SAMPLE TYPE/NO.	BLOW COUNTS	RECOVERY	OVM (PPM)	DESCRIPTION OF LITHOLOGY	GRAPHIC LOG	SOIL TYPE	DEPTH (feet)	WELL CONSTRUCTION DIAGRAM	REMARKS:
					top soil grey silty fine sand w/ pebbles					
					white/grey moist medium to fine sand					
					tight hard packed grey silty sand					SB-3 2.5 - 3 ft
					clay rust colored hard					
					saturated medium grayish brown			5		SB-3 5 - 6 ft
					Hard saturated clay					
								-0		
								-5		
								-10		
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								-1065		
								-10		

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

PROJECT NAME: MCS				PROJECT NUMBER:			BORING # SB-4e		
CLIENT: MDQ	GEOLOGIST: Hannah Weeks			RIG:		GROUND ELEVATION:			
DATE: 07/03/18	DRILLING CO: Alluvial Earth			METHOD: DD	TOC ELEVATION:				
LOCATION: Oscoda	DRILLER: Ryan LaBota			DATUM:	DEVELOP METHOD:				
SAMPLE DEPTH	SAMPLE TYPE/NO.	BLOW COUNTS	RECOVERY	DESCRIPTION OF LITHOLOGY	GRAPHIC LOG	SOIL TYPE	DEPTH (Feet)	WELL CONSTRUCTION DIAGRAM	REMARKS:
				topsoil grey medium sandy some black streaks hard/stiff red/brown clay			5		
							0		
							-5		
							0		

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:

BORING LOG:

PROJECT NAME: MCS		PROJECT NUMBER: B41- CSSD		BORING #SB-8							
CLIENT: MDDEQ	GEOLOGIST: Hannah Weeks	RIG:	GROUND ELEVATION:								
DATE: 6/7/03/18	DRILLING CO: Alluvial Earth	METHOD: DP	TOC ELEVATION:								
LOCATION: Oscoda	DRILLER: Ryan Saberton	DATUM:	DEVELOP METHOD:								
SAMPLE DEPTH	SAMPLE TYPE/NO.	BLOW COUNTS	RECOVERY	OVM (PPM)	DESCRIPTION OF LITHOLOGY		GRAPHIC LOG	SOIL TYPE	DEPTH (Feet)	WELL CONSTRUCTION DIAGRAM	REMARKS:
5					topsoil						
					concrete						
					black saturated ashy like soil/sand						
					concrete						
					clay, hard brown clay.						
									5		
									0		
									5		
									0		

*land glass sh
sampled in bl
lay*

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:

BORING LOG:

PROJECT NAME: MCS				PROJECT NUMBER: 1341-6550	BORING # SB 11			
CLIENT: MD EQ	GEOLOGIST: HLW		RIG:	GROUND ELEVATION:				
DATE: 07/03/18	DRILLING CO: Alluvial Earth		METHOD: DP	TOC ELEVATION:				
LOCATION: Oscoda	DRILLER: Ryan Larson		DATUM:	DEVELOP METHOD:				
SAMPLE DEPTH	SAMPLE TYPE/NO.	BLOW COUNTS	RECOVERY	GRAPHIC LOG	SOIL TYPE	DEPTH (Feet)	WELL CONSTRUCTION DIAGRAM	REMARKS:
				DESCRIPTION OF LITHOLOGY				
				top 30'				
				coarse grey sand				
				Saturated				
				coarse grey sand				
				saturated grey stiff clay				
				Saturated grey silty				
				Saturated brown stiff				
				clay				
				5				
				0				
				15				
				0				

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

PROJECT NAME: MCS				PROJECT NUMBER:			BORING #B-13			
CLIENT: MD EQ	GEOLOGIST: Hannah Weeks			RIG:	GROUND ELEVATION:					
DATE: 07/03/18	DRILLING CO: Mineral Earth			METHOD: DSDP	TOC ELEVATION:					
LOCATION: Oscoda	DRILLER:			DATUM:	DEVELOP METHOD:					
SAMPLE DEPTH	SAMPLE TYPE/NO.	BLOW COUNTS	RECOVERY	OVM (PPM)	DESCRIPTION OF LITHOLOGY	GRAPHIC LOG	SOIL TYPE	DEPTH (Feet)	WELL CONSTRUCTION DIAGRAM	REMARKS:
5					Topsoil Brown medium sand					
					HARD SATURATED Brown clay w/ Grey			5		
								10		
								15		
								0		

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

PROJECT NAME: MCS				PROJECT NUMBER:			BORING # SB-19			
CLIENT: NDEQ	GEOLOGIST: Hannah Weeks	RIG:	GROUND ELEVATION:							
DATE: 07/03/18	DRILLING CO: Alluvial Earth	METHOD: DD	TOC ELEVATION:							
LOCATION: Oscoda	DRILLER: Ryan Lambert	DATUM:	DEVELOP METHOD:							
SAMPLE DEPTH	SAMPLE TYPE/NO.	BLOW COUNTS	RECOVERY	OVM (PPM)	DESCRIPTION OF LITHOLOGY	GRAPHIC LOG	SOIL TYPE	DEPTH (Feet)	WELL CONSTRUCTION DIAGRAM	REMARKS:
					topsoil white grey fine sand moist			-		
					saturated medium brown/grey sand			-		
					stiff hard saturated grey clay			-5		
								-1		
								0		
								1		
								5		
								10		
								0		

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



BORING LOG:

DEPTH TO GROUNDWATER:	FILTER PACK INTERVAL:
SCREEN INTERVALS:	GROUT INTERVAL:



ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

LABORATORY DATA

ANALYTICAL RESULTS



August 20, 2018

Vista Work Order No. 1801620

Mr. Dale Corsi
DLZ
1425 Keystone Avenue
Lansing, MI 48911

Dear Mr. Corsi,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 06, 2018 under your Project Name '1341 655 048'.

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



NELAP 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. 1801620**Case Narrative****Sample Condition on Receipt:**

Four aqueous samples, three sediment samples and three soil samples were received in good condition and within the method temperature requirements. The samples were received and stored securely in accordance with Vista standard operating procedures and EPA methodology.

Analytical Notes:**PFAS Isotope Dilution Method**

The water samples were extracted and analyzed for a selected list of PFAS using Vista's PFAS Isotope Dilution Method. This method is listed on Vista's NELAP certificate as Modified EPA Method 537. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA are reported separately as both linear and branched isomers. Results for all other analytes include the linear isomers only.

The samples contained particulate and were centrifuged prior to extraction.

Holding Times

The samples were extracted and analyzed within the method hold times.

Quality Control

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

A Method Blank and Laboratory Control Sample (LCS)/Laboratory Control Sample Duplicate (LCSD) were extracted and analyzed with the preparation batch. No analytes were detected in the Method Blank above 1/2 of the LOQ concentrations. The LCS/LCSD recoveries were within the acceptance criteria.

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

VAL-PFAS

The solid samples were extracted and analyzed for a selected list of PFAS using VAL Method PFAS. The results for PFHxS, PFOA, PFOS, MeFOSAA and EtFOSAA are reported separately as 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 1/2 the LOQ. The recovery of PFHxS was 135% in the OPR. The recoveries of all other analytes were within the method acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1801620-05	SED 2	VAL - PFAS	13C2-PFU _n A	H	52.6
1801620-08	SB 3 5-6 ft	VAL - PFAS	d3-MeFOSAA	H	48.8
1801620-08	SB 3 5-6 ft	VAL - PFAS	d5-EtFOSAA	H	46.6
1801620-08	SB 3 5-6 ft	VAL - PFAS	13C2-PFU _n A	H	50.4
1801620-09	SB 4	VAL - PFAS	13C2-PFDA	H	57.9
1801620-10	SB 6	VAL - PFAS	d5-EtFOSAA	H	48.9
1801620-10	SB 6	VAL - PFAS	13C2-PFU _n A	H	53.2

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1801620-01	WATER 1	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Bottle, 125 mL
1801620-02	WATER 2	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Bottle, 125 mL
1801620-03	WATER 3	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Bottle, 125 mL
1801620-04	WATER 4	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Bottle, 125 mL
1801620-05	SED 2	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801620-06	SED 3	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801620-07	SED 4	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801620-08	SB 3 5-6 ft	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801620-09	SB 4	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801620-10	SB 6	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz

ANALYTICAL RESULTS


Sample ID: Method Blank
PFAS Isotope Dilution Method

Client Data		Laboratory Data									
Name:	DLZ	Matrix:	Aqueous	Lab Sample:		B8G0102-BLK1		Column:	BEH C18		
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	ND	0.365	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-PFPeA	ND	0.640	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-PFBs	ND	0.895	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-2FTS	ND	1.37	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
PFHxA	ND	1.09	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
PPPeS	ND	1.37	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-PFHxA	ND	0.296	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-PFHxS	ND	0.474	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
PFHxS	ND	0.474	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
Total PFHxS	ND	0.474	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-6:2FTS	ND	1.00	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-PFOA	ND	0.580	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
Total PFOA	ND	0.580	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
PFHpA	ND	0.580	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
PFHpS	ND	0.469	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-PFNA	ND	0.405	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-PFOSA	ND	0.885	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
PFOS	ND	0.404	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
Total PFOS	ND	0.404	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-PFDA	ND	0.745	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
L-R2FTS	ND	1.03	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
FNS	ND	1.37	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
MeFOSAA	ND	0.825	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
Br-MeFOSAA	ND	0.825	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
Total MeFOSAA	ND	0.825	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
EFOAA	ND	0.685	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
EFOOSAA	ND	0.685	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
Total EFOOSAA	ND	0.685	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
PFUnA	ND	0.525	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
LPFDs	ND	0.615	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
PFDoA	ND	0.396	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
PTDA	ND	0.247	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
TrTeDA	ND	0.378	2.50	4.00		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13-PFBA	IS	105	60 - 130			B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13-PFPeA	IS	109	60 - 150			B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13-PFBs	IS	149	60 - 150			B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	

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Sample ID: Method Blank
PFAS Isotope Dilution Method

Client Data				Laboratory Data						
Sample:	DLZ	Matrix:	Aqueous	Lab Sample:	B8G0102-BLK1		Column:	BEH C18		
Project:	1341 655 048									
Added Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	136	40 - 150		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C2-PFHxA	IS	107	70 - 130		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C4-PFHpA	IS	89.9	60 - 150		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C2-PFHxS	IS	93.1	60 - 130		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
C2-6:2 FTS	IS	120	40 - 150		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
C2-PFOA	IS	87.4	60 - 130		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C5-PFNA	IS	89.2	50 - 130		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C8-PFOSA	IS	74.7	20 - 150		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C8-PFOS	IS	106	60 - 130		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C2-PFDA	IS	91.2	60 - 130		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C2-8:2 FTS	IS	119	40 - 150		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
d3-MeFOSAA	IS	95.7	50 - 150		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
d4-EtFOSAA	IS	85.7	50 - 150		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C2-PFUnA	IS	74.4	60 - 130		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C2-PFDoA	IS	85.6	30 - 130		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	
13C2-PFTeDA	IS	85.0	20 - 150		B8G0102	16-Jul-18	0.250 L	15-Aug-18 06:42	1	

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

Results reported to the DL.


Sample ID: LCSD
PFAS Isotope Dilution Method

Name:	DLZ	Lab Sample: B8G0102-BS1/B8G0102-BS1							Date Extracted:	16-Jul-18					
Project:	1341 655 048	QC Batch: B8G0102							Column:	BEH C18					
Matrix:	Aqueous	Samp Size: 0.250/0.250 L													
Analyte	LCS (ng/L)	LCS Spike Amt	LCS % Rec	LCS Quals	LCSD (ng/L)	LCSD Spike Amt	LCSD % Rec	RPD	LCSD Quals	%Rec Limits	RPD Limits	LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil
L-PFBA	41.2	40.0	103		37.5	40.0	93.7	9.38		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PFPeA	44.2	40.0	111		42.9	40.0	107	3.13		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PFBS	41.4	40.0	103		40.7	40.0	102	1.57		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
4:2 FTS	39.8	40.0	99.6		39.0	40.0	97.6	1.96		60-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
L-PFHxA	41.5	40.0	104		39.9	40.0	99.7	3.88		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PFPeS	38.3	40.0	95.8		43.1	40.0	108	11.9		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PFHpA	40.8	40.0	102		43.2	40.0	108	5.69		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
Total PFHxS	37.9	40.0	94.8		40.8	40.0	102	7.18		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
L-6:2 FTS	45.3	40.0	113		43.3	40.0	108	4.58		60-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
Total PFOA	42.2	40.0	106		40.0	40.0	100	5.32		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PFHps	39.4	40.0	98.4		39.6	40.0	98.9	0.475		60-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PFNA	39.1	40.0	97.7		40.8	40.0	102	4.30		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
L-PFOSA	39.1	40.0	97.8		38.3	40.0	95.8	2.07		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
Total PFOS	35.9	40.0	89.7		42.2	40.0	105	16.1		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PFDA	41.4	40.0	103		39.0	40.0	97.6	5.78		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
3:2FTS	45.7	40.0	114		47.3	40.0	118	3.39		60-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PFNS	43.7	40.0	109		45.6	40.0	114	4.22		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
Total MeFOSAA	42.9	40.0	107		37.6	40.0	93.9	13.2		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
Total EtFOSAA	37.7	40.0	94.3		45.8	40.0	114	19.3		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PFUnA	39.3	40.0	98.3		39.7	40.0	99.3	0.941		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PFDS	50.5	40.0	126		45.3	40.0	113	10.9		60-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
L-PFDoA	45.7	40.0	114		43.3	40.0	108	5.30		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
L-PFTrDA	48.6	40.0	121		43.9	40.0	110	10.0		60-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
PTcDA	45.6	40.0	114		47.2	40.0	118	3.52		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1
Labeled Standards	Type	LCS % Rec	LCS Quals		LCSD % Rec	LCSD Quals	LCS Limits		LCS Analyzed	LCS Dil	LCSD Analyzed	LCSD Dil			
13C3-PFBA	IS	99.2			94.0		60-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1			
13C3-PFPcA	IS	105			102		60-150		15-Aug-18 06:21	1	15-Aug-18 06:31	1			
13C3-PFBS	IS	124			110		60-150		15-Aug-18 06:21	1	15-Aug-18 06:31	1			
13C2-4:2 FTS	IS	122			102		40-150		15-Aug-18 06:21	1	15-Aug-18 06:31	1			
13C2-PFHxA	IS	96.5			98.1		70-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1			
13C4-PFHpA	IS	96.3			91.0		60-150		15-Aug-18 06:21	1	15-Aug-18 06:31	1			
13C2-PFHxS	IS	99.2			83.8		60-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1			
13C2-6:2 FTS	IS	105			101		40-150		15-Aug-18 06:21	1	15-Aug-18 06:31	1			
13C2-PFOA	IS	89.4			92.4		60-130		15-Aug-18 06:21	1	15-Aug-18 06:31	1			

Work Order 1801620

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Sample ID: LCSD
PFAS Isotope Dilution Method

Name:	DLZ	Lab Sample:	B8G0102-BS1/B8G0102-BSD1	Date Extracted:	16-Jul-18				
Project:	I341 655 048	QC Batch:	B8G0102	Column:	BEH C18				
Matrix:	Aqueous	Samp Size:	0.250/0.250 L						
<hr/>									
Labeled Standards	Type	LCS % Rec	LCS Quals	LCSD % Rec	LCSD Quals				
				Limits	Analyzed				
				LCS Dil	LCSD Analyzed				
				LCSD Dil	LCSD Analyzed				
13C5-PFNA	IS	101		96.4	50-130	15-Aug-18 06:21	1	15-Aug-18 06:31	1
C8-PFOSA	IS	50.8		71.6	20-150	15-Aug-18 06:21	1	15-Aug-18 06:31	1
C8-PFOS	IS	88.0		92.1	60-130	15-Aug-18 06:21	1	15-Aug-18 06:31	1
13C2-PFDA	IS	83.5		84.3	60-130	15-Aug-18 06:21	1	15-Aug-18 06:31	1
13C2-8:2 FTS	IS	90.9		85.1	40-150	15-Aug-18 06:21	1	15-Aug-18 06:31	1
-MeFOSAA	IS	69.1		68.8	50-150	15-Aug-18 06:21	1	15-Aug-18 06:31	1
-EtFOSAA	IS	66.0		64.8	50-150	15-Aug-18 06:21	1	15-Aug-18 06:31	1
C2-PFUuA	IS	79.2		77.6	60-130	15-Aug-18 06:21	1	15-Aug-18 06:31	1
13C2-PFDmA	IS	68.5		71.3	30-130	15-Aug-18 06:21	1	15-Aug-18 06:31	1
13C2-PFTeDA	IS	78.4		72.9	20-150	15-Aug-18 06:21	1	15-Aug-18 06:31	1


Sample ID: WATER 1
PFAS Isotope Dilution Method

Client Data		Laboratory Data										
Name:	DLZ	Matrix:	Aqueous	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801620-01	Column:	BEH C18			
Project:		Analyte										
Location:	WATER	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
L-PFBA	ND	0.798	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFPeA	ND	1.40	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFBs	ND	1.96	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-2FTS	ND	3.00	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-FHxA	ND	2.39	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PPeS	ND	3.00	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFHxA	ND	0.647	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFHxS	ND	1.04	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PPFHxS	ND	1.04	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
Total PFHxS	ND	1.04	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-6:2 FTS	ND	2.19	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFOA	ND	1.27	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
Total PFOA	ND	1.27	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-FHpS	ND	1.27	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFNA	ND	1.27	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFOSA	ND	1.27	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-FOS	10.1	0.883	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-FPOS	ND	0.883	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
Total PFOS	10.1	0.883	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFDA	ND	1.63	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-2FTS	ND	2.25	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-FNS	ND	3.00	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-eFOSAA	ND	1.81	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
Br-MeFOSAA	ND	1.81	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
Total MeFOSAA	ND	1.81	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-FOSAA	ND	1.50	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
B-FOSAA	ND	1.50	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
Total EIFOSAA	ND	1.50	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFUra	ND	1.50	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFDS	ND	1.15	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-DoA	ND	1.35	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-TrDA	ND	0.867	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PTeDA	ND	0.541	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
L-PFBA	ND	0.826	5.48	8.75	B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1			
Labeled Standards		Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
1-L-PFBA	IS	91.3	60 - 130			B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
1-L-PFPeA	IS	99.3	60 - 150			B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
1-L-PFBs	IS	106	60 - 150			B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		

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Sample ID: WATER 1
PFAS Isotope Dilution Method

Client Data				Laboratory Data							
Name:	DLZ	Matrix:	Aqueous	Lab Sample:	1801620-01	Column:	BEH C18				
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	Date Received:	06-Jul-18 10:44						
beled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
E2-4:2 FTS	IS	93.8	40 - 150		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C2-PFHxA	IS	91.3	70 - 130		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C4-PFHxP	IS	85.9	60 - 150		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C2-PFHxS	IS	84.7	60 - 130		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
C2-6:2 FTS	IS	94.1	40 - 150		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C2-PFOA	IS	89.1	60 - 130		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C5-PFNA	IS	80.3	50 - 130		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C8-PFOSA	IS	75.3	20 - 150		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C8-PFOS	IS	102	60 - 130		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C2-PFDA	IS	77.8	60 - 130		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C2-8:2 FTS	IS	91.4	40 - 150		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
d3-MeFOSAA	IS	60.9	50 - 150		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
d4-EtFOSAA	IS	72.7	50 - 150		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C2-PFUnA	IS	81.7	60 - 130		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C2-PFDoA	IS	76.1	30 - 130		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		
13C2-PFTeDA	IS	62.9	20 - 150		B8G0102	16-Jul-18	0.114 L	15-Aug-18 09:45	1		

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

Results reported to the DL.


Sample ID: WATER 2
PFAS Isotope Dilution Method

Ident Data		Laboratory Data									
Name:	DLZ	Matrix:	Aqueous	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801620-02	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Analyste	Cone. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	2.33	0.790	5.43	8.67	J	B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFPcA	ND	1.39	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFBs	ND	1.94	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-6:2 FTS	ND	2.97	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-FHxA	ND	2.36	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-rPFPeS	ND	2.97	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFHpA	ND	0.640	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFHxS	ND	1.03	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFHxS	ND	1.03	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
Total PFHxS	ND	1.03	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-6:2 FTS	ND	2.17	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFOA	ND	1.26	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
Total PFOA	ND	1.26	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
Br-MePFOA	ND	1.26	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-FHpS	ND	1.02	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFNA	ND	0.878	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFOSA	ND	1.92	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
Total PFOS	7.93	0.875	5.43	8.67	J	B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
EFOS	1.90	0.875	5.43	8.67	J	B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
Total PFOS	9.84	0.875	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFDA	ND	1.61	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-2FTS	ND	2.23	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-FNS	ND	2.97	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
LeFOSAA	ND	1.79	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
Br-MeFOSAA	ND	1.79	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
Total MeFOSAA	ND	1.79	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
LeFOSAA	ND	1.48	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
Br-MeFOSAA	ND	1.48	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
Total EFOSAA	ND	1.48	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFUuA	ND	1.48	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFDs	ND	1.14	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-DoA	ND	1.33	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-TrDA	ND	0.858	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
L-PFTeDA	ND	0.535	5.43	8.67		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
ND	0.818	5.43	8.67			B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
o-PFBA	IS	90.1	60 - 130		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
o-PFPcA	IS	97.6	60 - 150		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
o-PFBs	IS	117	60 - 150		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		

Work Order 1801620

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Sample ID: WATER 2
PFAS Isotope Dilution Method

Client Data				Laboratory Data							
Name:	DLZ	Matrix:	Aqueous	Lab Sample:	1801620-02	Column:	BEH C18				
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	Date Received:	06-Jul-18 10:44						
Sampled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
C2-4:2 FTS	IS	104	40 - 150		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
13C2-PFHxA	IS	88.8	70 - 130		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
13C4-PFHpA	IS	89.0	60 - 150		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
13C2-PFHxS	IS	100	60 - 130		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
C2-6:2 FTS	IS	95.1	40 - 150		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
13C2-PFOA	IS	79.2	60 - 130		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
13C5-PFNA	IS	78.3	50 - 130		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
¹³ C8-PFOSA	IS	63.1	20 - 150		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
¹³ PFOS	IS	103	60 - 130		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
¹³ PFDA	IS	72.4	60 - 130		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
13C2-8:2 FTS	IS	99.0	40 - 150		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
d3-MeFOSAA	IS	67.9	50 - 150		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
¹³ EtFOSAA	IS	68.2	50 - 150		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
¹³ PFUnA	IS	70.5	60 - 130		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
¹³ PFDoA	IS	75.1	30 - 130		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		
13C2-PFTeDA	IS	79.1	20 - 150		B8G0102	16-Jul-18	0.115 L	15-Aug-18 09:55	1		

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

Results reported to the DL.


Sample ID: WATER 3
PFAS Isotope Dilution Method

Client Data		Laboratory Data									
Name:	DLZ	Matrix:	Aqueous	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801620-03	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Analyte	Conc. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	ND	0.783	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-PFPeA	ND	1.37	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-PFBs	ND	1.92	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
4:2 FTS	ND	2.94	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
PFHxA	ND	2.34	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
PFPeS	ND	2.94	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-PFHxA	ND	0.635	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-PFHxS	ND	1.02	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
PFHxS	ND	1.02	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
Total PFHxS	ND	1.02	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-6:2 FTS	ND	2.15	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-PFOA	ND	1.25	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
Total PFOA	ND	1.25	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
PFHpS	ND	1.01	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-PFNA	ND	0.870	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-PFOSA	ND	1.90	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
PFOS	8.61	0.867	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
Total PFOS	8.61	0.867	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-PFDA	ND	1.60	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
4:2FTS	ND	2.21	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
FNS	ND	2.94	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
MeFOSAA	ND	1.77	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
Br-MeFOSAA	ND	1.77	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
Total MeFOSAA	ND	1.77	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
EtFOSAA	ND	1.47	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
EEtFOSAA	ND	1.47	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
Total EtFOSAA	ND	1.47	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-PFUnA	ND	1.47	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-PFDS	ND	1.13	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-FDoA	ND	1.32	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-FTrDA	ND	0.851	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
L-rFTeDA	ND	0.530	5.39	8.59		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
ND	0.811	5.39	8.59			B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
3-PFBA	IS	93.9	60 - 130		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1		
3-PFPeA	IS	98.3	60 - 150		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1		
3-PFBs	IS	109	60 - 150		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1		

Work Order 1801620

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Sample ID: WATER 3
PFAS Isotope Dilution Method

Ident Data				Laboratory Data						
Name:	DLZ	Matrix:	Aqueous	Lab Sample:	1801620-03	Column:	BEH C18			
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	Date Received:	06-Jul-18 10:44					
Belied Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
D2-4:2 FTS	IS	101	40 - 150		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
13C2-PFHxA	IS	92.4	70 - 130		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
13C4-PFHpA	IS	92.3	60 - 150		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
13C2-PFHxS	IS	82.1	60 - 130		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
D2-6:2 FTS	IS	95.2	40 - 150		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
13C2-PFOA	IS	80.3	60 - 130		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
13C5-PFNA	IS	79.6	50 - 130		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
¹⁷ C8-PFOSA	IS	73.4	20 - 150		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
¹⁷ C8-PFOS	IS	95.0	60 - 130		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
¹⁷ C2-PFDA	IS	86.6	60 - 130		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
13C2-8:2 FTS	IS	70.2	40 - 150		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
d3-MeFOSAA	IS	73.8	50 - 150		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
¹⁷ C8-MeFOSAA	IS	78.6	50 - 150		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
¹⁷ C2-PFUmA	IS	80.5	60 - 130		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
¹⁷ C2-PFDmA	IS	82.7	30 - 130		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	
13C2-PFTeDA	IS	88.9	20 - 150		B8G0102	16-Jul-18	0.116 L	15-Aug-18 10:06	1	

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantification

Results reported to the DL.


Sample ID: WATER 4
PFAS Isotope Dilution Method

Client Data				Laboratory Data								
Name:	DLZ	Matrix:	Aqueous	Lab Sample:	1801620-04	Column:	BEH C18	Date Collected:		Date Received:		
Location:	1341 655 048		WATER		03-Jul-18 00:00		06-Jul-18 10:44					
Analyte	Cone. (ng/L)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
L-PFBA	ND	0.780	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFPeA	ND	1.37	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFBS	ND	1.92	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-2FTS	ND	2.93	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFHxA	ND	2.33	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFPeS	ND	2.93	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFHpA	ND	0.632	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFHxS	ND	1.01	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFHxS	ND	1.01	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-10PFHxS	ND	1.01	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-6:2FTS	ND	2.14	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFOA	ND	1.24	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFOA	ND	1.24	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-10PFOA	ND	1.24	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFHpS	ND	1.00	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFNA	1.04	0.867	5.34	8.56	J	B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFOSA	ND	1.89	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFOS	3.34	0.864	5.34	8.56	J	B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFOS	ND	0.864	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
Total PFOS	3.34	0.864	5.34	8.56	J	B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFDA	ND	1.59	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-2FTS	ND	2.20	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PNS	ND	2.93	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-eFOSAA	ND	1.77	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
Br-MeFOSAA	ND	1.77	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
Total MeFOSAA	ND	1.77	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-FOSAA	ND	1.47	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
B-FOSAA	ND	1.47	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
Total EtFOSAA	ND	1.47	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFUnA	ND	1.47	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFDs	ND	1.12	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-DoA	ND	1.32	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-TrDA	ND	0.847	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
L-PFTeDA	ND	0.529	5.34	8.56		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
ND	0.808	5.34	8.56			B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution			
1-L-PFBA	IS	91.1	60 - 130			B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
1-L-PFPeA	IS	88.8	60 - 150			B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13-L-PFBS	IS	107	60 - 150			B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		

Work Order 1801620

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Sample ID: WATER 4
PFAS Isotope Dilution Method

Client Data				Laboratory Data							
Name:	DLZ	Matrix:	Aqueous	Lab Sample:	1801620-04	Column:	BEH C18				
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	Date Received:	06-Jul-18 10:44						
Sampled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
C2-4:2 FTS	IS	85.3	40 - 150		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C2-PFHxA	IS	81.3	70 - 130		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C4-PFHpA	IS	87.0	60 - 150		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C2-PFHxS	IS	81.8	60 - 130		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
C2-6:2 FTS	IS	97.1	40 - 150		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C2-PFOA	IS	82.8	60 - 130		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C5-PFNA	IS	89.7	50 - 130		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C8-PFOSA	IS	45.2	20 - 150		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C8-PFOS	IS	93.9	60 - 130		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C2-PFDA	IS	77.3	60 - 130		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C2-8:2 FTS	IS	94.6	40 - 150		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
d3-MeFOSAA	IS	66.7	50 - 150		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
EFOSAA	IS	71.4	50 - 150		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C2-PFUnA	IS	67.0	60 - 130		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C2-PFDaA	IS	87.8	30 - 130		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		
13C2-PFTeDA	IS	84.7	20 - 150		B8G0102	16-Jul-18	0.117 L	15-Aug-18 10:38	1		

DL - Detection Limit

LOD - Limit of Detection

Results reported to the DL.

LOQ - Limit of quantitation


Sample ID: Method Blank
VAL - PFAS

Client Data		Laboratory Data								
Name:	DLZ	Matrix:	Solid	Lab Sample:	B8G0045-BLK1	Column:	BEH C18			
Sample ID:	1341 655 048									
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-PFBA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFPeA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFBS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-2FTS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFHxA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFPeS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFHpA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFHxS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFHxS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-1PFHxS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-6:2FTS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFOA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
Total PFOA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFOA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFHxS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFNA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFOSA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-FOS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
E-FOS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
Total PFOS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFDA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-2FTS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-NS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-eFOSAA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
Br-MeFOSAA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
Total MeFOSAA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-FOSAA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
B-FOSAA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
Total EtFOSAA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFUuA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-DFDS	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-DoA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-TrDA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
L-PFTeDA	ND	0.845	1.00	2.00		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13-PFBA	IS	79.6	60 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1	
13-PFPeA	IS	78.3	60 - 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1	
13-PFBS	IS	94.4	60 - 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1	

Work Order 1801620

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Sample ID: Method Blank
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Solid	Lab Sample:	B8G0045-BLK1		Column:	BEH C18		
Project:	1341 655 048									
C2-4:2 FTS	IS	101	40 - 150	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
13C2-PFHxA	IS	75.5	70 - 130	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
13C4-PFHxA	IS	82.3	60 - 150	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
O2-PFHxA	IS	89.9	60 - 130	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
C2-6:2 FTS	IS	84.3	40 - 150	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
C2-PFOA	IS	72.9	60 - 130	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
13C5-PFNA	IS	69.4	50 - 130	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
13C8-PFOSA	IS	21.4	20 - 150	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
C8-PFOS	IS	63.1	60 - 130	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
C2-PFDA	IS	65.0	60 - 130	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
13C2-8:2 FTS	IS	102	40 - 150	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
d3-MeFOSAA	IS	57.1	50 - 150	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
EtFOSAA	IS	62.6	50 - 150	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
C2-PFUuA	IS	64.4	60 - 130	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
C2-PFDuA	IS	56.0	30 - 130	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
13C2-PFTeDA	IS	60.7	20 - 150	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		
13C2-PFHxDa	IS	81.5	20 - 150	B8G0045	12-Jul-18	1.00 g	26-Jul-18 01:06	1		

L - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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



Sample ID: OPR

VAL - PFAS

Client Data		Laboratory Data									
Name:	DLZ	Matrix:	Solid	Lab Sample:		B8G0045-BS1	Column:		BEH C18		
Analyte		Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-PFBA		11.5	10.0	115	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
L-PFPcA		11.0	10.0	110	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
PFBS		9.95	10.0	99.5	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
t:2 FTS		9.53	10.0	95.3	60 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
L-PFHxA		11.0	10.0	110	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
L-PFPeS		9.94	10.0	99.4	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
PFHpA		10.4	10.0	104	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
Total PFHxA		13.5	10.0	135	70 - 130	H	B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
L-2 FTS		10.9	10.0	109	60 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
Total PFOA		10.3	10.0	103	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
PFHpS		10.9	10.0	109	60 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
PFNA		10.6	10.0	106	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
PFOSA		9.94	10.0	99.4	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
Total PFOS		10.5	10.0	105	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
PFDA		11.2	10.0	112	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
t:2FTS		9.58	10.0	95.8	60 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
L-FNS		9.86	10.0	98.6	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
Total MeFOSAA		11.6	10.0	116	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
Total EtFOSAA		10.2	10.0	102	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
FUnA		10.4	10.0	104	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
FDS		11.5	10.0	115	60 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
L-PFDa		10.8	10.0	108	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
L-PFTrDA		10.7	10.0	107	60 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
L-FTeDA		9.64	10.0	96.4	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
Selected Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C3-PFBA	IS	80.9	60 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1		
13C3-PFPcA	IS	83.4	60 - 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1		
13-PFBS	IS	109	60 - 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1		
13-2:4:2 FTS	IS	111	40 - 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1		
13C2-PFHxA	IS	79.8	70 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1		
13C4-PFHpA	IS	88.6	60 - 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1		
13-2:PFHxS	IS	75.6	60 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1		
13-2:6:2 FTS	IS	84.8	40 - 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1		
13C2-PFOA	IS	78.2	60 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1		
13C5-PFNA	IS	73.1	50 - 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1		

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Sample ID: OPR

VAL - PFAS

Ident Data		Laboratory Data							
Name:	DLZ	Matrix:	Solid	Lab Sample:	B8G0045-BS1	Column:	BEH C18		
Project:	1341 655 048								
Labeled Standards									
	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C8-PFOSA	IS	42.7	20- 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
13C8-PFOS	IS	96.2	60- 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
13C2-PFDA	IS	70.5	60- 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
12-8:2 FTS	IS	99.6	40- 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
MeFOSAA	IS	63.7	50- 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
d5-EtFOSAA	IS	53.4	50- 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
13C2-PFUuA	IS	63.6	60- 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
12-PFDoA	IS	63.1	30- 130		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
12-PFTeDA	IS	65.5	20- 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1
13C2-PFHxDa	IS	50.7	20- 150		B8G0045	12-Jul-18	1.00 g	26-Jul-18 00:55	1


Sample ID: SED 2
VAL - PFAS

Client Data		Laboratory Data											
Name:	DLZ	Matrix:	Sediment	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801620-05	Date Received:	06-Jul-18 10:44	Column:	BEH C18		
Location:	SEDIMENT	% Solids:	48.0										
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution			
PFBA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFPeA	2.21	1.57	1.86	3.72	J	B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFBS	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-2FTS	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-FHxA	4.45	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFPeS	1.72	1.57	1.86	3.72	J	B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFHpA	1.94	1.57	1.86	3.72	J	B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFHxS	25.4	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFHxS	2.95	1.57	1.86	3.72	J	B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
Total PFHxS	28.3	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-6:2 FTS	6.81	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFOA	2.93	1.57	1.86	3.72	J	B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
Total PFOA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-FHpS	2.93	1.57	1.86	3.72	J	B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFNA	6.50	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFOSA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-FOS	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
Total PFOS	870	15.7	18.6	37.2	D	B8G0045	12-Jul-18	1.12 g	27-Jul-18 13:46	10			
F-PFOS	288	15.7	18.6	37.2	D	B8G0045	12-Jul-18	1.12 g	27-Jul-18 13:46	10			
Total PFDA	1160	15.7	18.6	37.2		B8G0045	12-Jul-18	1.12 g	27-Jul-18 13:46	10			
L-2FTS	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-FNS	3.78	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
MeFOSAA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
Br-MeFOSAA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
Total MeFOSAA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
FOSAA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
E-FOSAA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
Total EtFOSAA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFUra	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFDS	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-FDoA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-FTrDA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
L-PFTeDA	ND	1.57	1.86	3.72		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1			
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution				
3-PFBA	IS	86.6	60 - 130		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1				
3-PFPeA	IS	75.0	60 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1				
3-PFBS	IS	88.9	60 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1				

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Sample ID: SED 2
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Sediment	Lab Sample:	1801620-05	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	48.0					
Sampled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PF2-4:2 FTS	IS	80.2	40 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
13C2-PFHpA	IS	86.5	70 - 130		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
13C4-PFHpA	IS	82.0	60 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
PF2-PFHpS	IS	77.6	60 - 130		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
PF2-6:2 FTS	IS	84.9	40 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
13C2-PFOA	IS	76.6	60 - 130		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
13C5-PFNA	IS	70.1	50 - 130		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
13C8-PFOSA	IS	33.1	20 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
PF8-PFOS	IS	79.9	60 - 130		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
PF2-PFDA	IS	61.0	60 - 130		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
13C2-8:2 FTS	IS	76.4	40 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
d3-MeFOSAA	IS	53.2	50 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
d4-EtFOSAA	IS	55.2	50 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
PF2-PFUuA	IS	52.6	60 - 130	H	B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
PF2-PFDoA	IS	59.2	30 - 130		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
13C2-PFTeDA	IS	82.1	20 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	
13C2-PFHxDa	IS	73.2	20 - 150		B8G0045	12-Jul-18	1.12 g	26-Jul-18 02:09	1	

- Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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: SED 3**VAL - PFAS**

Client Data		Laboratory Data								
Name:	DLZ	Matrix:	Sediment	Lab Sample:	1801620-06	Column:	BEH C18			
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	Date Received:	06-Jul-18 10:44					
Location:	SEDIMENT	% Solids:								
Analyte	Cone. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-PFBA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFPeA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFBS	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-2FTS	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFHxA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFPeS	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFHpA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFHxS	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFHxS	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
Total PFHxS	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-6:2 FTS	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFOA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
Total PFOA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PHPs	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFNA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFOSA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
Total PFOS	6.26	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
FOS	1.28	0.909	1.08	2.15	J	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
Total PFOS	7.53	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFDA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-2FTS	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-FNS	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
LeFOSAA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
Br-MeFOSAA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
Total MeFOSAA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
LeFOSAA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
EtFOSAA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
Total EtFOSAA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFUuA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFDs	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-FDoA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-TrDA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
L-PFTeDA	ND	0.909	1.08	2.15		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13-PFBA	IS	89.9	60 - 130		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
13-PFPeA	IS	93.0	60 - 150		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
13-PFBS	IS	108	60 - 150		B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	

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Sample ID: SED 3
VAL - PFAS

Client Data				Laboratory Data					
Name:	DLZ	Matrix:	Sediment	Lab Sample:	1801620-06	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	84.5				
12-4:2 FTS	IS	94.1	40 - 150	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
13C2-PFHpA	IS	89.8	70 - 130	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
13C4-PFHpA	IS	92.6	60 - 150	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
12-PFHpS	IS	88.8	60 - 130	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
12-6:2 FTS	IS	73.3	40 - 150	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
13C2-PFOA	IS	81.2	60 - 130	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
13C5-PFNA	IS	72.3	50 - 130	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
12-8-PFOSA	IS	49.5	20 - 150	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
12-8-PFOS	IS	76.4	60 - 130	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
12-2-PFDA	IS	72.2	60 - 130	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
13C2-8:2 FTS	IS	82.2	40 - 150	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
d3-MePOSAA	IS	70.0	50 - 150	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
EFOSAA	IS	72.1	50 - 150	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
2-PFUuA	IS	72.2	60 - 130	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
2-PFDuA	IS	76.9	30 - 130	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
13C2-PFTeDA	IS	91.2	20 - 150	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	
13C2-PFHpDA	IS	96.5	20 - 150	B8G0045	12-Jul-18	1.10 g	01-Aug-18 03:12	1	

- Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

When reported, PFHpS, PFOA, PFOS, MePOSAA and EFOSAA include both linear and branched isomers. Only the linear isomer is reported for all other analytes.


Sample ID: SED 4
VAL - PFAS

Client Data							Laboratory Data					
Name:	DLZ	Matrix:	Sediment	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801620-07	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Location:	SEDIMENT	% Solids:	60.3									
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
PFBA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-PFPeA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-PFBs	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-2FTS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
PFHxA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-PFPeS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-PFHpA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
PFHxS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
PFHxS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
Total PFHxS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-6:2 FTS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-PFOA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
PFoA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
Total PFOA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
FHpS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-PFNA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-PFOSA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
PFOS	2.23	1.36	1.61	3.22	J	B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
PFOS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
Total PFOS	2.23	1.36	1.61	3.22	J	B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-PFDA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-2FTS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
FNS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
MeFOSAA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
Total MeFOSAA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
MeFOSAA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
Total EtFOSAA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-PFuA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
L-PFDS	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
FDoA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
FTrDA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
LPFTeDA	ND	1.36	1.61	3.22		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1		
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution			
3-PFBA	IS	88.1	60 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1			
3-PFPeA	IS	81.6	60 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1			
3-PFBs	IS	95.8	60 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1			

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Sample ID: SED 4
VAL - PFAS

Client Data				Laboratory Data					
Name:	DLZ	Matrix:	Sediment	Lab Sample:	1801620-07	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	60.3				
Believed Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-4:2 FTS	IS	95.2	40 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C2-PFHpA	IS	81.0	70 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C4-PFHpA	IS	80.9	60 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C2-PFHpS	IS	83.1	60 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C2-6:2 FTS	IS	64.3	40 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C2-PFOA	IS	75.8	60 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C5-PFNA	IS	82.3	50 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C8-PFOSA	IS	59.6	20 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C8-PFOS	IS	75.7	60 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C2-PFDA	IS	67.6	60 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C2-8:2 FTS	IS	62.9	40 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
d3-MeFOSAA	IS	59.7	50 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
EtFOSAA	IS	62.6	50 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C2-PFUhA	IS	64.1	60 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C2-PFDaA	IS	63.2	30 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C2-PFTeDA	IS	73.2	20 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1
13C2-PFHxDa	IS	72.0	20 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 02:50	1

- Detection Limit

 LOD - Limit of Detection
 LOQ - Limit of quantitation

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

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: SB 3 5-6 ft

VAL - PFAS

Ident Data		Matrix: Soil		Laboratory Data									
Name:	DLZ	Project:	1341 655 048	Date Collected:	03-Jul-18 00:00 <th>Lab Sample:</th> <td>1801620-08</td> <th>Date Received:</th> <td>06-Jul-18 10:44</td> <th>Column:</th> <td>BEH C18</td>	Lab Sample:	1801620-08	Date Received:	06-Jul-18 10:44	Column:	BEH C18		
Location:	SOIL			% Solids:	87.7								
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution			
L-PFBA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFPeA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFBS	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-2 FTS	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-FFhxA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFPeS	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFHpA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-FFhS	2.04	0.892	1.06	2.11	J	B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFHxS	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-MPFHxS	2.04	0.892	1.06	2.11	J	B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-6:2 FTS	10.7	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFOA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
E-PFOA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
Total PFOA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-FHpS	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFNA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFOSA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-FOS	116	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
E-FOS	14.7	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
Total PFOS	130	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFDA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-2FTS	43.5	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-FNS	1.46	0.892	1.06	2.11	J	B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-MeFOSAA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
Br-MeFOSAA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
Total MeFOSAA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-FOSAA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
E-FOSAA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
Total EtFOSAA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFUuA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFDs	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PDoA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PTDA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
L-PFTeDA	ND	0.892	1.06	2.11		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1			
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution				
1-L-PFBA	IS	87.9	60 - 130		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1				
1-L-PFPeA	IS	84.7	60 - 150		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1				
13-C-PFBS	IS	101	60 - 150		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1				

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Sample ID: SB 3 5-6 ft
VAL - PFAS

Client Data				Laboratory Data					
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801620-08	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	87.7				
Sampled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
12:4:2 FTS	IS	95.3	40 - 150		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C2-PFHxA	IS	79.8	70 - 130		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C4-PFHpA	IS	79.3	60 - 150		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C2-PFHxS	IS	70.5	60 - 130		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
12:6:2 FTS	IS	89.1	40 - 150		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C2-PFOA	IS	68.8	60 - 130		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C5-PFNA	IS	68.5	50 - 130		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C8-PFOSA	IS	49.2	20 - 150		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C8-PFOS	IS	64.4	60 - 130		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C2-PFDA	IS	66.3	60 - 130		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C2-8:2 FTS	IS	51.7	40 - 150		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
d3-MeFOSAA	IS	48.8	50 - 150	H	B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
e1-EtFOSAA	IS	46.6	50 - 150	H	B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C2-PFUuA	IS	50.4	60 - 130	H	B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C2-PFDoA	IS	64.1	30 - 130		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C2-PFTeDA	IS	82.3	20 - 150		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1
13C2-PFHxDa	IS	78.2	20 - 150		B8G0045	12-Jul-18	1.08 g	26-Jul-18 03:01	1

- Detection Limit

 LOD - Limit of Detection
 LOQ - Limit of quantitation

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

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: SB 4
VAL - PFAS

Client Data								Laboratory Data			
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00 <th>Lab Sample:</th> <td>1801620-09</td> <th>Date Received:</th> <td>06-Jul-18 10:44</td> <th>Column:</th> <td>BEH C18</td>	Lab Sample:	1801620-09	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Location:	SOIL	% Solids:	93.8								
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
L-PFBA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFPeA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFBS	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-2FTS	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFHxA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFPeS	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFHxA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFHxS	1.27	0.874	1.03	2.07	J	B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFHxS	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
Total PFHxS	1.27	0.874	1.03	2.07	J	B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-6:2 FTS	8.31	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFOA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
Total PFOA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFOA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFHpS	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFNNA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFOSA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-FOS	129	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
F-PFOS	27.7	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
Total PFOS	157	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFDA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-2FTS	16.9	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-FNS	1.49	0.874	1.03	2.07	J	B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-MeFOSAA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
Br-MeFOSAA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
Total MeFOSAA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-MeFOSAA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
E-MeFOSAA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
Total EtFOSAA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFUuA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFDS	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-DoA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-TrDA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
L-PFTeDA	ND	0.874	1.03	2.07		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
1-L-PFBA	IS	91.0	60 - 130			B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
1-L-PFPeA	IS	93.0	60 - 150			B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
1-L-PFBS	IS	103	60 - 150			B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	

Work Order 1801620

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Sample ID: SB 4
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801620-09	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	93.8					
Control Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
12-C2-4:2 FTS	IS	90.2	40 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
13C2-PFHxS	IS	89.1	70 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
13C4-PFHxP	IS	86.3	60 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
13C2-PFHxS	IS	85.8	60 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
12-C2-6:2 FTS	IS	93.3	40 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
13C2-PFOA	IS	78.9	60 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
13C5-PFNA	IS	68.4	50 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
13C8-PFOSA	IS	52.5	20 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
13C8-PFOS	IS	68.0	60 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
12-PFDA	IS	57.9	60 - 130	H	B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
13C2-8:2 FTS	IS	68.3	40 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
d3-MeFOSAA	IS	60.2	50 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
d4-EtFOSAA	IS	53.6	50 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
12-PFUuA	IS	69.0	60 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
12-PFDoA	IS	63.0	30 - 130		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
13C2-PFTeDA	IS	82.0	20 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	
13C2-PFHxD	IS	82.9	20 - 150		B8G0045	12-Jul-18	1.03 g	26-Jul-18 03:11	1	

-

 LOD - Limit of Detection
 LOQ - Limit of quantitation

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

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: SB 6
VAL - PFAS

Client Data							Laboratory Data				
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801620-10	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Location:	SOIL	% Solids:	90.2								
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-PFPeA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-PFBs	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-2 FTS	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
PFHxA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-PFPcS	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-PFHpA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
PFHxS	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
PFHxS	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
Total PFHxS	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-6:2 FTS	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-PFOA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
Total PFOA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
PFHpS	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-PFNA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-PFOSA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
FOS	15.3	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
PFOS	4.97	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
Total PFOS	20.3	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-PFDA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-2FTS	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
FNS	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
MeFOSAA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
Br-MeFOSAA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
Total MeFOSAA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
eFOSAA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
EFOSAA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
Total EFOSAA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
PFUra	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-PFDS	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
PDGA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
FTDA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
L-PFTeDA	ND	0.884	1.05	2.09		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
3-PFBA	IS	96.0	60 - 130		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1		
3-PFPeA	IS	97.4	60 - 150		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1		
3-PFBs	IS	102	60 - 150		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1		

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Sample ID: SB 6
VAL - PFAS

Ident Data				Laboratory Data					
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801620-10	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	90.2				
Label Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
U2-4:2 FTS	IS	112	40 - 150		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
13C2-PFHpA	IS	98.7	70 - 130		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
13C4-PFHpA	IS	92.3	60 - 150		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
U2-PFHpS	IS	76.1	60 - 130		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
U2-6:2 FTS	IS	84.7	40 - 150		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
13C2-PFOA	IS	71.1	60 - 130		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
13C5-PFNA	IS	66.8	50 - 130		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
13C8-PFOSA	IS	52.4	20 - 150		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
13C8-PFOS	IS	61.6	60 - 130		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
13C2-PFDA	IS	61.5	60 - 130		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
13C2-8:2 FTS	IS	68.8	40 - 150		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
d3-MeFOSAA	IS	53.1	50 - 150		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
d4-EtFOSAA	IS	48.9	50 - 150	H	B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
U2-PFUhA	IS	53.2	60 - 130	H	B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
U2-PFDa	IS	64.1	30 - 130		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
13C2-PFTeDA	IS	75.3	20 - 150		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1
13C2-PFHxDa	IS	79.0	20 - 150		B8G0045	12-Jul-18	1.06 g	26-Jul-18 03:22	1

- Detection Limit

 LOD - Limit of Detection
 LOQ - Limit of quantitation

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

When reported, PFHpS, 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
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
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limits of Detection
LOQ	Limits of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
Q	Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)
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.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
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.



CHAIN OF CUSTODY

For Laboratory Use Only	
Work Order #:	1801620
Storage ID:	WR-2
Temp:	608 °C
Storage Secured:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project ID: 1341 655 048

PO#:

Sampler: DALE CORSI/HANNAH WEEKS
(name)

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

Invoice to: Name Company Address City State Ph# Fax#
DALE CORSI DLZ 1425 KEYSTONE AVENUE LANSING MI 48911

Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time
DALE J CORSI Dale J Corsi 7/5/18 Bettina Benedict Bethel Amut 07/06/18 1056

Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time

Sample ID	Date	Time	Location/Sample Description	Add Analysis(es) Requested		Mod. EPA Method 537	EPA Method 537(DW only)	Comments						
				Container(s)	Quantity	Type	Matrix	PtOn/PtGS	UCMR2 PAC List	S37 Use: 14	Full Umar 76	Open-Pieces List Below	PtOn/PtGS	UCMR2 PtGS List
WATER 1	7/3/18		WATER	Z	AQ			X						
WATER 2	7/3/18		WATER	Z	AQ			X						
WATER 3	7/3/18		WATER	Z	AQ			X						
WATER 4	7/5/18		WATER	Z	AQ			X						
SED 2	7/3/18		SEDIMENT	I	DW	AQ	SD	X						
SED 3	7/3/18		SEDIMENT	I	DW	AQ	SD	X						
SED 4	7/3/18		SEDIMENT	I	DW	AQ	SD	X						
SB 3 5-6 FT	7/3/18		SOIL	I		SD		X						
SB 4	7/3/18		SOIL	I		SD		X						
SB 6	7/3/18		SOIL	I		SD		X						

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:
Name _____
Company _____
Address _____
City _____ State: _____ Zip: _____
Phone: _____ Email: _____

Container Types: P = HDPE, PJ = HDPE Jar
O = Other: _____

Bottle Preservation Type: T = Thiosulfate
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: _____

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Sample Log-in Checklist

Vista Work Order #: 180162B TAT Std

Samples Arrival:	Date/Time <u>07/06/18 1044</u>		Initials: <u>BB</u>	Location: WR-2 Shelf/Rack: NA		
Logged In:	Date/Time <u>07/07/18 1125</u>		Initials: <u>WWS</u>	Location: WR-2 Shelf/Rack: 2-5, 66		
Delivered By:	FedEx	UPS	On Trac	GSO	DHL	Hand Delivered
Preservation:	Ice	Blue Ice		Dry Ice		None
Temp °C: 6.9 (uncorrected)	Time: 1050			Thermometer ID: IR-4 HAB		
Temp °C: 6.8 (corrected)	Probe used: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>			DT-3		

	YES	NO	NA
Adequate Sample Volume Received?	<u>WWS</u>		
Holding Time Acceptable?	<u>WWS</u>		
Shipping Container(s) Intact?	<u>BBB</u>		
Shipping Custody Seals Intact?	<u>BBB</u>		
Shipping Documentation Present?	<u>BBB</u>		
Airbill Trk # <u>1Z F4W 496015698 8/71</u>	<u>BBB</u>		
Sample Container Intact?	<u>WWS</u>		
Sample Custody Seals Intact?	<u>WWS</u>		
Chain of Custody / Sample Documentation Present?	<u>BBB</u>		
COC Anomaly/Sample Acceptance Form completed?	<u>WWS</u>	<u>WWS</u>	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<u>WWS</u>
Preservation Documented:	Na ₂ S ₂ O ₃	Trizma	None
Shipping Container	<u>Vista</u>	Client	Retain
			Yes
			No
			NA
Comments:	<u>sample label</u>	<u>COC ID</u>	
	<u>SB-3 5-6 ft (collection time: 0953)</u>	<u>SB 3 5-6 ft</u>	
	<u>SB-4</u>	<u>SB 4</u>	
	<u>SB-6</u>	<u>SB 6</u>	



August 23, 2018

Vista Work Order No. 1801621

Mr. Dale Corsi
DLZ
1425 Keystone Avenue
Lansing, MI 48911

Dear Mr. Corsi,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 06, 2018 under your Project Name '1341-6550-48'.

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. 1801621**Case Narrative****Sample Condition on Receipt:**

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

Analytical Notes:**VAL-PFAS**

The samples were extracted and analyzed for a selected list of PFAS using VAL Method PFAS. 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 1/2 the LOQ. The OPR recoveries were within the method acceptance criteria.

The concentrations of several analytes in sample "SB-8" were too high for quantification. Due to the extremely high levels, it was not possible to sufficiently dilute the extracts for accurate quantification. These analytes are flagged with an "E" qualifier to indicate that the concentrations are above the highest point in the calibration curve. The concentrations should be considered estimates.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
1801621-05	SB-8	VAL - PFAS	13C8-PFOSA	H	10.4
B8G0097-BLK1	B8G0097-BLK1	VAL - PFAS	13C8-PFOSA	H	15.2
B8G0097-BS1	B8G0097-BS1	VAL - PFAS	13C3-PFBS	H	155
B8G0097-BS1	B8G0097-BS1	VAL - PFAS	13C8-PFOSA	H	15.5
B8G0097-BS1	B8G0097-BS1	VAL - PFAS	13C2-PFUuA	H	49.8

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1801621-01	SB-1 5-6 ft	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801621-02	SB-15	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801621-03	SB-3 2.5-3 ft	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801621-04	SB-2 2-3 ft	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801621-05	SB-8	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801621-06	SB-13	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801621-07	SB-2 5-6 ft	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801621-08	SB-7 4.5-5 ft	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801621-09	SB-14	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801621-10	SB-5	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz

ANALYTICAL RESULTS


Sample ID: Method Blank
VAL - PFAS

Ident Data		Laboratory Data								
Name:	DLZ	Matrix:	Solid	Lab Sample:	B8G0097-BLK1		Column:	BEH C18		
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-rFBA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-PFPeA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-PFBs	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-2 FTS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-FHxA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-PFPeS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-PFHpA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-FHxS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-PFHxS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
Total PFHxs	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-6:2 FTS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-PFOA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
Total PFOA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-rFHpS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-PFNA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-rFSOSA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-FOS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
E-FOS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
Total PFOS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-PFDA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-2FTS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-FNS	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
U-rEOFOSAA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
Br-MeFOSAA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
Total MeFOSAA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-FOSAA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
E-rEOFOSAA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
Total EOFOSAA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-PFUnA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-TFDs	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-TrDA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
L-PFTeDA	ND	0.845	1.00	2.00		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	94.1	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C3-PFPeA	IS	96.1	60 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C3-PFBs	IS	108	60 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	

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Sample ID: Method Blank
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Solid	Lab Sample:	B8G0097-BLK1	Column:	BEH C18			
Project:	1341-6550-48									
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	95.8	40 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFHxA	IS	89.4	70 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C4-PFHpA	IS	85.8	60 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFHxS	IS	97.9	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
C2-6:2 FTS	IS	105	40 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFOA	IS	88.9	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C5-PFNA	IS	77.1	50 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C8-PFOSA	IS	15.2	20 - 150	H	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
C8-PFOS	IS	90.9	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
C2-PFDA	IS	77.0	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
d3-MeFOSAA	IS	72.3	50 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
d5-EtFOSAA	IS	80.1	50 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
C2-PFUnA	IS	67.4	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
C2-PFDaA	IS	74.5	30 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
C2-PFTeDA	IS	71.0	20 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

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

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



Sample ID: OPR

VAL - PFAS

Client Data		Laboratory Data									
Name:	DLZ	Matrix:	Solid	Lab Sample:	B8G0097-BS1	Column:	BEH C18				
Analyste		Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-PFBA		10.3	10.0	103	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFPcA		10.7	10.0	107	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFBs		10.3	10.0	103	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-2:2 FTS		11.3	10.0	113	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFHxA		10.7	10.0	107	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFPcS		8.74	10.0	87.4	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFHxA		10.0	10.0	100	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
Total PFHxA		10.5	10.0	105	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFPeS		12.0	10.0	120	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
Total PFOA		11.1	10.0	111	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
PFHpS		10.8	10.0	108	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
PFNA		10.8	10.0	108	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFOSA		12.0	10.0	120	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
Total PFOS		10.9	10.0	109	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFDA		10.8	10.0	108	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-2:2FTS		10.9	10.0	109	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFNS		10.5	10.0	105	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
Total MeFOSAA		11.0	10.0	110	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
Total EfFOSAA		10.7	10.0	107	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
PFUnA		10.7	10.0	107	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
PFDS		9.39	10.0	93.9	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFDmA		11.2	10.0	112	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-PFTrDA		12.9	10.0	129	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
L-FTeDA		10.4	10.0	104	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
Refined Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C3-PFBA	IS	96.1	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C3-PFPcA	IS	123	60 - 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C3-PFBs	IS	155	60 - 150	H	B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C2-2:4:2 FTS	IS	107	40 - 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C2-PFHxA	IS	93.5	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C4-PFHpA	IS	87.1	60 - 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C2-PFHxS	IS	98.3	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C2-2:6:2 FTS	IS	105	40 - 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C2-PFOA	IS	85.7	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C5-PFNA	IS	73.5	50 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		

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Sample ID: OPR

VAL - PFAS

Client Data				Laboratory Data								
Name:	DLZ	Matrix:	Solid	Lab Sample:	B8G0097-BS1		Column:	BEH C18				
Calibrated Standards				Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1C8-PFOSA		IS			15.5	20- 150	H	B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
13C8-PFOS		IS			96.4	60- 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
13C2-PFDA		IS			61.9	60- 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
MeFOSAA		IS			61.0	50- 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
EtFOSAA		IS			62.9	50- 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
13C2-PFUnA		IS			49.8	60- 130	H	B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
13C2-PFD _n A		IS			57.6	30- 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
12-PFTeDA		IS			70.1	20- 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1



Sample ID: SB-1 5-6 ft

VAL - PFAS

Client Data								Laboratory Data			
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801621-01	Column:	BEH C18		
Project:	1341-6550-48	% Solids:	88.9	Date Received:	06-Jul-18 10:44						
Location:	Soil										
Analyte	Cone. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFPcA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFBs	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-2FTS	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-FHxA	1.83	0.922	1.09	2.18	J	B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFPcS	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFHxA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFHxS	5.87	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFHxS	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
Total PFHxS	6.61	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-6:2FTS	8.04	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFOA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
Total PFOA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-FHpS	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFNA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFOSA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
Total PFOS	245	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFOS	30.9	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
Total PFOS	276	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFDA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-2FTS	20.3	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PNS	1.01	0.922	1.09	2.18	J	B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
Total eFOSAA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
Br-MeFOSAA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
Total MeFOSAA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
eFOSAA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
Total eFOSAA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFuNA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFDs	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFDa	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-FTrDA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
L-PFTeDA	ND	0.922	1.09	2.18		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
3-PFBA	IS	98.4	60 ~ 130		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
3-PFPcA	IS	100	60 ~ 150		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
3-PFBs	IS	129	60 ~ 150		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		

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Sample ID: SB-1 5-6 ft
VAL - PFAS

Client Data				Laboratory Data							
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-01 <th>Column:</th> <td>BEH C18</td> <th data-cs="4" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>	Column:	BEH C18				
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00 <th>Date Received:</th> <td>06-Jul-18 10:44<th data-cs="4" data-kind="parent"></th><th data-kind="ghost"></th><th data-kind="ghost"></th><th data-kind="ghost"></th><th data-cs="2" data-kind="parent"></th><th data-kind="ghost"></th></td>	Date Received:	06-Jul-18 10:44 <th data-cs="4" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-cs="2" data-kind="parent"></th> <th data-kind="ghost"></th>						
Location:	Soil <th>% Solids:</th> <td>88.9</td> <th data-cs="4" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-cs="4" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>	% Solids:	88.9								
Calibrated Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
C2-4:2 FTS	IS	123	40 - 150		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
13C2-PFHxA	IS	92.8	70 - 130		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
13C4-PFHpA	IS	99.0	60 - 150		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
13C2-PFHxS	IS	106	60 - 130		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
C2-6:2 FTS	IS	115	40 - 150		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
C2-PFOA	IS	85.5	60 - 130		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
13C5-PFNA	IS	75.1	50 - 130		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
13C8-PFOSA	IS	31.9	20 - 150		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
C8-PFOS	IS	94.7	60 - 130		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
C2-PFDA	IS	77.3	60 - 130		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
d3-MeFOSAA	IS	79.5	50 - 150		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
d5-EtFOSAA	IS	71.0	50 - 150		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
C2-PFuHxA	IS	79.4	60 - 130		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
C2-PFDaO	IS	87.8	30 - 130		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		
C2-PFTeDA	IS	88.5	20 - 150		B8G0097	16-Jul-18	1.03 g	31-Jul-18 23:33	1		

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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: SB-15

VAL - PFAS

Ident Data							Laboratory Data				
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801621-02	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Location:	Soil	% Solids:	85.5								
Analyte	Cone. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
L-rFBA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-PFPeA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-PFBs	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-2 FTS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
I-FHxA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-PFPcS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-PFHpA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
I-FHxS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
E-PFHxS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
T-1 PFHxS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-6:2 FTS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-PFOA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
F-PFOA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
T-1PFPA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-rFHpS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-PFNA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-rFOSA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-FOS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
E-FOS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
Total PFOS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-PFDA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-2FTS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-FNS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-MeFOSAA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
Br-MeFOSAA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
Total MeFOSAA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-FOSAA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
B-MeFOSAA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
Total BrFOSAA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-PFUnA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-rFDS	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-TrDA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-TrDA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
L-PFTeDA	ND	0.907	1.07	2.15		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C3-PFBA	IS	96.2	60 - 130			B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
13C3-PFPeA	IS	92.0	60 - 150			B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
13C3-PFBs	IS	111	60 - 150			B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	

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Sample ID: SB-15

VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-02	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	% Solids:	85.5					
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	85.7	40 - 150		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
13C2-PFHxA	IS	91.1	70 - 130		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
13C4-PFHxA	IS	94.6	60 - 150		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
13C2-PFHxS	IS	85.7	60 - 130		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
C2-6:2 FTS	IS	99.1	40 - 150		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
C2-PFOA	IS	78.6	60 - 130		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
13C5-PFNA	IS	75.4	50 - 130		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
13C8-PFOSA	IS	42.8	20 - 150		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
C8-PFOS	IS	85.2	60 - 130		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
C2-PFDA	IS	76.6	60 - 130		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
d3-MeFOSAA	IS	87.6	50 - 150		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
d5-EtFOSAA	IS	94.5	50 - 150		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
C2-PFuNA	IS	93.5	60 - 130		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
C2-PFdOA	IS	91.6	30 - 130		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	
C2-PFTeDA	IS	97.8	20 - 150		B8G0097	16-Jul-18	1.09 g	31-Jul-18 23:43	1	

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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


Sample ID: SB-3 2.5-3 ft
VAL - PFAS

Client Data		Laboratory Data								
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801621-03	Column:	BEH C18	
Project:	1341-6550-48					Date Received:	06-Jul-18 10:44			
Location:	Soil					% Solids:	88.9			
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-PFBA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-PFPeA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-PFBS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
4:2 FTS	0.992	0.880	1.04	2.08	J	B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
PFHxA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-PFPeS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-PFHpA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
PFHxS	2.28	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
-PFHxS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
Total PFHxS	2.28	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-6:2 FTS	21.3	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-PFOA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
PFOA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
Total PFOA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-PFHpS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-PFNA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
PFOSA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
PFOS	193	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
PFOS	14.7	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
Total PFOS	208	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-PFDA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
2:2FTS	108	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
FNS	2.96	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
MeFOSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
Br-MeFOSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
Total MeFOSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
EtFOSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
EtFOSSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
Total EtFOSSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-PFUnA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
PFDS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
FDoA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
FTyDA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
L-PFTeDA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C3-PFBA	IS	96.2	60 - 130		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1	
C3-PFPeA	IS	96.9	60 - 150		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1	
I3C3-PFBS	IS	129	60 - 150		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1	

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Sample ID: SB-3 2.5-3 ft

VAL - PFAS

Client Data				Laboratory Data					
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-03	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	% Solids:	88.9				
Believed Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-4:2 FTS	IS	104	40 - 150		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13C2-PFHxA	IS	99.3	70 - 130		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13C4-PFHpA	IS	102	60 - 150		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13D2-PFHxS	IS	104	60 - 130		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13D2-6:2 FTS	IS	107	40 - 150		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13C2-PFOA	IS	91.3	60 - 130		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13C5-PFNA	IS	75.3	50 - 130		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13C8-PFOSA	IS	25.4	20 - 150		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13C8-PFOS	IS	90.5	60 - 130		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13D2-PFDA	IS	74.6	60 - 130		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
d3-MeFOSAA	IS	79.3	50 - 150		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
d5-EtFOSAA	IS	79.9	50 - 150		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13C2-PFUmA	IS	78.6	60 - 130		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13C2-PFDa	IS	80.5	30 - 130		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1
13C2-PFTeDA	IS	89.5	20 - 150		B8G0097	16-Jul-18	1.08 g	31-Jul-18 23:54	1

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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: SB-2 2-3 ft

VAL - PFAS

Client Data		Laboratory Data								
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-04	Column:	BEH C18			
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	Date Received:	06-Jul-18 10:44					
Location:	Soil	% Solids:	90.5							
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-PFBA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFPeA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFBs	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-2 FTS	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFHxA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFPeS	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFHpA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFHxS	3.29	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
Total PFHxS	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-6:2 FTS	3.44	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-6:2 FTS	40.7	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
I-PFOA	1.44	0.881	1.04	2.08	J	B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
PFOA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
Total PFOA	1.72	0.881	1.04	2.08	J	B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFHpS	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFNA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
PFOSA	3.53	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
FOS	87.1	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
PFOS	5.91	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
Total PFOS	93.0	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFDA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
3:2FTS	34.6	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
DFNS	9.25	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-MeFOSAA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
Br-MeFOSAA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
Total MeFOSAA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
EtFOSAA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
EtFOSAA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
Total EtFOSAA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFUuA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
PFDS	2.94	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
PFDoA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
PFTrDA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
L-PFTeDA	ND	0.881	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
Labeled Standards	Type	% Recovery		Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
C3-PFBA	IS	95.5		60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
C3-PFPeA	IS	92.7		60 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
13C3-PFBs	IS	125		60 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1

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Sample ID: SB-2 2-3 ft

VAL - PFAS

Client Data				Laboratory Data					
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-04	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	% Solids:	90.5				
Sampled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13C2-4:2 FTS	IS	99.8	40 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
13C2-PFHpA	IS	94.4	70 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
13C4-PFHpA	IS	90.8	60 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
13D2-PFHpS	IS	92.9	60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
13C2-6:2 FTS	IS	107	40 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
13C2-PFOA	IS	80.2	60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
13C5-PFNA	IS	75.4	50 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
C8-PFOSA	IS	31.6	20 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
C8-PFOS	IS	94.9	60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
C2-PFDA	IS	66.9	60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
d3-MeFOSAA	IS	65.7	50 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
d5-EtFOSAA	IS	60.7	50 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
C2-PFUhA	IS	73.9	60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
C2-PFDaA	IS	88.5	30 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1
13C2-PFTeDA	IS	91.0	20 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 00:04	1

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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: SB-8

VAL - PFAS

Client Data		Laboratory Data									
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801621-05	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Location:	Soil	% Solids: 32.4									
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
L-PFBA	57.4	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFPeA	205	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFBs	261	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-4:2 FTS	39.4	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFHxA	1120	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFPoS	580	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFHpA	404	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFHxS	7550	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFHxS	1650	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
Total PFHxS	9200	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-6:2 FTS	4310	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFOA	461	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
total PFOA	ND	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFHpS	461	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFNA	6810	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFOSA	133	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
PFOS	ND	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
PFOS	229000	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
Total PFOS	110000	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFDA	339000	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
3:2FTS	2.60	2.35	2.78	5.56	J	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
PFNS	3180	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-McFOSAA	5690	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
Br-McFOSAA	73.4	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
Total McFOSAA	64.6	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
EtFOSAA	138	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
EtFOSAA	994	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
Total EtFOSAA	985	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFUuA	1980	2.35	2.78	5.56	E	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
PFDS	5.15	2.35	2.78	5.56	J	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
PFDoA	742	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
PFTrDA	ND	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
L-PFTeDA	73.1	2.35	2.78	5.56		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
ND	2.35	2.78	5.56			B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
C3-PFBA	IS	91.2	60 - 130			B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
C3-PFPeA	IS	106	60 - 150			B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
13C3-PFBs	IS	113	60 - 150			B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	

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Sample ID: SB-8

VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-05	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	% Solids:	32.4					
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13C2-4:2 FTS	IS	109	40 - 150		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
13C2-PFHxA	IS	95.8	70 - 130		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
13C4-PFHxA	IS	105	60 - 150		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
13C4-PFHxP	IS	97.2	60 - 130		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
13C4-PFHxS	IS	83.7	40 - 150		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
C2-6:2 FTS	IS	86.1	60 - 130		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
13C2-PFOA	IS	81.0	50 - 130		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
13C5-PFNA	IS	10.4	20 - 150	H	B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
13C8-PFOSA	IS	107	60 - 130		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
C8-PFOS	IS	74.5	60 - 130		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
C2-PFDA	IS	50.2	50 - 150		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
d3-MeFOSAA	IS	84.4	50 - 150		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
d5-EtFOSAA	IS	79.6	60 - 130		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
C2-PFuNA	IS	92.3	30 - 130		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
C2-PFDaA	IS	113	20 - 150		B8G0097	16-Jul-18	1.11 g	01-Aug-18 00:15	1	
C2-PFTeDA	IS									

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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: SB-13

VAL - PFAS

Client Data		Laboratory Data								
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-06	Column:	BEH C18			
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	Date Received:	06-Jul-18 10:44	% Solids:	93.1			
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-PFBA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFPcA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFBs	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-2FTS	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFHxA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFPcS	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFHpA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFHxS	6.95	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFHxS	0.934	0.826	0.977	1.95	J	B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
Total PFHxS	6.95	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-6:2FTS	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFOA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
Total PFOA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFOA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFHpS	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFNA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
Total PFOSA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
PFOS	20.7	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
PFOS	31.0	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
Total PFOS	51.7	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFDA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-2FTS	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
FNS	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
MeFOSAA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
Br-MeFOSAA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
Total MeFOSAA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
tFOSAA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
EtFOSAA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
Total EtFOSAA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFUuA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFDs	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PDoA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-FTDA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
L-PFTeDA	ND	0.826	0.977	1.95		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
3-PFBA	IS	94.4	60 - 130		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
3-PFPcA	IS	97.7	60 - 150		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
3-PFBs	IS	103	60 - 150		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	

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Sample ID: SB-13

VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-06	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	% Solids:	93.1					
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1C2-4:2 FTS	IS	109	40 - 150		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
13C2-PFHxA	IS	93.4	70 - 130		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
13C4-PFHxP	IS	91.5	60 - 150		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
13C2-PFHxS	IS	78.0	60 - 130		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
C2-6:2 FTS	IS	83.0	40 - 150		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
13C2-PFOA	IS	85.2	60 - 130		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
13C5-PFNA	IS	76.7	50 - 130		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
13C8-PFOSA	IS	36.3	20 - 150		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
C8-PFOS	IS	94.6	60 - 130		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
C2-PFDA	IS	81.5	60 - 130		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
d3-MeFOSAA	IS	65.9	50 - 150		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
d5-EtFOSAA	IS	60.4	50 - 150		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
C2-PFUnA	IS	75.6	60 - 130		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
C2-PFDaA	IS	85.9	30 - 130		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	
C2-PFTeDA	IS	89.7	20 - 150		B8G0097	16-Jul-18	1.10 g	15-Aug-18 20:13	1	

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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: SB-2 5-6 ft

VAL - PFAS

Client Data		Laboratory Data								
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-07	Column:	BEH C18			
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00 <th>Date Received:</th> <td>06-Jul-18 10:44</td> <th>% Solids:</th> <td>88.2</td> <th data-cs="2" data-kind="parent"></th> <th data-kind="ghost"></th>	Date Received:	06-Jul-18 10:44	% Solids:	88.2			
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-PFBA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFPeA	0.952	0.930	1.10	2.20	J	B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFBS	1.13	0.930	1.10	2.20	J	B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-2FTS	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFHxA	3.08	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFPeS	1.15	0.930	1.10	2.20	J	B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFHpA	0.982	0.930	1.10	2.20	J	B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFFhS	11.1	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFHxS	1.74	0.930	1.10	2.20	J	B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
Total PFHxS	12.8	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-6:2FTS	9.83	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFOA	1.40	0.930	1.10	2.20	J	B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
Total PFOA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFOA	1.40	0.930	1.10	2.20	J	B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-FHpS	1.45	0.930	1.10	2.20	J	B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFNA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFOSA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-FOS	543	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFOS	76.5	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
Total PFOS	620	0.930	1.10	2.20	E	B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFDA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-2FTS	27.3	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PNS	1.07	0.930	1.10	2.20	J	B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
MeFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
Br-MeFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
Total MeFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
EFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
EtFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
Total EtFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFUnA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFDs	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFdA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-FTrDA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
L-PFTcDA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
13-PFBA	IS	96.3	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
13-PFPeA	IS	90.5	60 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
13-PFBS	IS	100	60 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	

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Sample ID: SB-2 5-6 ft
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-07	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	% Solids:	88.2					
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	85.7	40 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
13C2-PFHpA	IS	89.0	70 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
13C4-PFHpA	IS	81.3	60 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
13C2-PFHpS	IS	102	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
C2-6:2 FTS	IS	88.5	40 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
C2-PFOA	IS	75.3	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
13C5-PFNA	IS	80.9	50 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
13C8-PFOSA	IS	42.5	20 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
C8-PFOS	IS	80.6	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
C2-PFDA	IS	75.4	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
d3-MeFOSAA	IS	70.8	50 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
d5-EtFOSAA	IS	82.5	50 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
C2-PFUnA	IS	81.6	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
C2-PFDaA	IS	87.6	30 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	
C2-PFTeDA	IS	82.9	20 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 00:56	1	

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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: SB-7 4.5-5 ft

VAL - PFAS

Client Data		Laboratory Data								
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-08	Column:	BEH C18			
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	Date Received:	06-Jul-18 10:44					
Location:	Soil	% Solids:	87.4							
Analyte	Cone. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-PFBA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFPcA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFBs	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-2 FTS	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFHxA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFPcS	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFHpA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFHxS	2.71	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFHxS	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
Total PFHxS	2.92	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-6:2 FTS	6.42	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFOA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
Total PFOA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-TPFOA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-TPHxS	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFNA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFOSA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFOS	84.1	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PPFOS	15.9	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
Total PFOS	100	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFDA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-2FTS	1.47	0.930	1.10	2.20	J	B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-FNS	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
Br-MeFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
Total MeFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
MeFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
EtFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
Total EtFOSAA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFUuA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFDs	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PDoA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PTDA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
L-PFTeDA	ND	0.930	1.10	2.20		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1-B-PFBA	IS	97.3	60 - 130			B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
1-B-PFPcA	IS	91.4	60 - 150			B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1
1-B-PFBs	IS	103	60 - 150			B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1

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Sample ID: SB-7 4.5-5 ft

VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-08	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	% Solids:	87.4					
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	84.2	40 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
13C2-PFHpA	IS	91.0	70 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
13C4-PFHpA	IS	87.7	60 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
D2-PFHpS	IS	82.6	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
C2-6:2 FTS	IS	93.1	40 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
C2-PFOA	IS	77.0	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
13CS-PFNA	IS	70.0	50 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
13C8-PFOSA	IS	42.0	20 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
C8-PFOS	IS	89.3	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
C2-PFDA	IS	77.2	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
d3-MeFOSAA	IS	71.1	50 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
d5-EtFOSAA	IS	67.2	50 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
C2-PFuNA	IS	84.3	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
C2-PFDaA	IS	86.4	30 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	
C2-PFTeDA	IS	95.3	20 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 01:07	1	

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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: SB-14

VAL - PFAS

Client Data		Matrix: Soil		Laboratory Data								
Name:	DLZ	Date Collected:	03-Jul-18 00:00 <th>Lab Sample:</th> <td>1801621-09</td> <th>Date Received:</th> <td>06-Jul-18 10:44</td> <th>Column:</th> <td>BEH C18</td> <th>% Solids:</th> <td>83.4</td>	Lab Sample:	1801621-09	Date Received:	06-Jul-18 10:44	Column:	BEH C18	% Solids:	83.4	
Analyte		Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFPcA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFBs		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-2FTS		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
PFHxA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFPeS		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFHpA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFHxS		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
PFHxS		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
Total PFHxS		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-6:2FTS		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFOA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
Total PFOA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
PFHpS		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFNA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFOSA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
PFOS		1.02	1.00	1.19	2.38	J	B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
PFOS		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
Total PFOS		1.02	1.00	1.19	2.38	J	B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFDA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-2FTS		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
FNS		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
MeFOSAA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
Total MeFOSAA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
EtFOSAA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
BiFOSAA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
Total EtFOSAA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
PFUnA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFDs		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
PFDoA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
PTDA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
L-PFTeDA		ND	1.00	1.19	2.38		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
1-3-PFBA	IS	98.6	60 - 130			B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1		
1-3-PFPcA	IS	95.4	60 - 150			B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1		
1-3-PFBs	IS	107	60 - 150			B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1		

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Sample ID: SB-14

VAL - PFAS

Ident Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-09	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	% Solids:	83.4					
Belied Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	96.6	40 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
13C2-PFHpA	IS	86.8	70 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
13C4-PFHpA	IS	94.8	60 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
13D2-PFHpS	IS	92.5	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
C2-6:2 FTS	IS	99.4	40 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
13C2-PFOA	IS	79.5	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
13C5-PFNA	IS	83.9	50 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
13C8-PFOSA	IS	53.7	20 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
8-PFOS	IS	89.3	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
12-PFDA	IS	78.9	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
d3-MeFOSAA	IS	81.5	50 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
d5-EtFOSAA	IS	90.8	50 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
12-PFUraA	IS	87.3	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
12-PFDaA	IS	84.8	30 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	
12-PFTeDA	IS	94.8	20 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:17	1	

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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: SB-5
VAL - PFAS

Client Data		Laboratory Data									
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801621-10	Column:	BEH C18		
Project:	1341-6550-48	% Solids:	88.1	Date Received:	06-Jul-18 10:44						
Location:	Soil	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFPeA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFBs		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-2FTS		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-FHxA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFPeS		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFHpA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFHxS		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFHxS		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
Total PFHxS		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-6:2FTS		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFOA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
Total PFOA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFOA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-AFHpS		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFNA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFOSA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
Total PFOS		72.0	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
PFOS		33.8	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
Total PFOS		106	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFDA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-2:2FTS		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-FNS		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
MeFOSAA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
Br-MeFOSAA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
Total MeFOSAA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
tFOSAA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
EtFOSAA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
Total EtFOSAA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFUuA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFDs		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-FDoA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-FTrDA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
L-PFTeDA		ND	0.950	1.12	2.25		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
3-PFBA	IS	101	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28			
3-PFPeA	IS	101	60 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28			
3-PFBs	IS	106	60 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28			



Sample ID: SB-5

VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801621-10 <th>Date Received:</th> <td>06-Jul-18 10:44</td> <th>Column:</th> <td>BEH C18</td> <td></td>	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341-6550-48	Date Collected:	03-Jul-18 00:00	% Solids:	88.1					
Sampled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	112	40 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
13C2-PFHxA	IS	98.2	70 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
13C4-PFHpA	IS	100	60 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
D2-PFHxS	IS	103	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
C2-6:2 FTS	IS	91.6	40 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
C2-PFOA	IS	92.4	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
13C5-PFNA	IS	85.5	50 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
13C8-PFOSA	IS	52.0	20 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
PFOS	IS	88.3	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
PFDA	IS	92.7	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
d3-MeFOSAA	IS	55.1	50 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
d5-EtFOSAA	IS	63.2	50 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
C2-PFUnA	IS	88.5	60 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
C2-PFDaA	IS	85.3	30 - 130		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	
C2-PFTeDA	IS	94.2	20 - 150		B8G0097	16-Jul-18	1.01 g	01-Aug-18 01:28	1	

DL - Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

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

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
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
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limits of Detection
LOQ	Limits of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
Q	Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)
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.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
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.



CHAIN OF CUSTODY

For Laboratory Use Only	
Work Order #:	1801621
Storage ID:	WR-2
Temp:	608 °C
Storage Secured:	Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

Project ID: 1341-0550-48

PO#

Sampler: Dale Corsi/Hannah Wexel
(name)

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

Invoice to: Company: DALE CORSI DLZ Address: 1425 KEYSTONE AVENUE, LANSING City: MI 48911 State: MI Ph#: 517 667 4293 Fax#:

Relinquished by (printed name and signature) DALE J CORSI Dale J Corsi Date: 7/5/18 Time: Received by (printed name and signature) Bettina Benedict Bettina Benedict Date: 07/06/18 Time:

Relinquished by (printed name and signature) Date: Time: Received by (printed name and signature) Date: Time:

Sample ID	Date	Time	Location/Sample Description	Add Analysis(es) Requested		Mod. EPA Method 533	EPA Method 533(DW Only)	Comments				
				Quantity	Unit	Name	PCB/PCOS	UIC/IR3/PAS 145	337-Lab 14	Fuel List or 26	Other Please List	
SB-1 5-6 ft	07/03/18		Soil	1	50		X					
SB-15	07/03/18		Soil	1	50		X					
SB-3 2.5-3 ft	07/03/18		Soil	1	50		X					
SB-2 2-3 ft	07/03/18		Soil	1	50		X					
SB-8	07/03/18		Soil	1	50		X					
SB-13	07/03/18		Soil	1	50		X					
SB-2 5-6 ft	07/03/18		Soil	1	50		X					
SB-7 4.5-5 ft	07/03/18		Soil	1	50		X					
SB-14	07/03/18		Soil	1	50		X					
SB-15	07/03/18		Soil	1	50		X					

Special Instructions/Comments:

SEND DOCUMENTATION AND RESULTS TO:

Name: DALE CORSI

Company: DLZ

Address: 1425 KEYSTONE AVENUE

City: LANSING State: MI Zip: 48911

Phone: 517-667-4293 Fax: 517-272-7390

Email: dcorsi@dlz.com

Container Types: P=HDPE, PJ=HDPE Jar

O = Other

Bottle Preservation Type: T = Thiosulfate,
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.

Work Order 1801621

Page: 2 of 3

Page 32 of 33

Sample Log-in Checklist

Vista Work Order #:

1801621

TAT

std

Samples Arrival:	Date/Time 07/06/18 1044		Initials: BB		Location: WR-2 Shelf/Rack: NA		
Logged In:	Date/Time 07/07/18 1158		Initials: MWS		Location: WR-2 Shelf/Rack: 3-5, G6		
Delivered By:	FedEx	UPS	On Trac	GSO	DHL	Hand Delivered	Other
Preservation:	Ice		Blue Ice		Dry Ice		None
Temp °C:	6.9 (uncorrected)	Time:	1050	Thermometer ID: IR-4 MWS			
Temp °C:	6.8 (corrected)	Probe used:	Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	DT-3			

	YES	NO	NA			
Adequate Sample Volume Received?	* low volume	MWS				
Holding Time Acceptable?		MWS				
Shipping Container(s) Intact?		BBB				
Shipping Custody Seals Intact?		BBB				
Shipping Documentation Present?		BW3				
Airbill	Trk # 1Z F4W 496015698 8/71	BBB				
Sample Container Intact?		MWS				
Sample Custody Seals Intact?		MWS				
Chain of Custody / Sample Documentation Present?		BBB				
COC Anomaly/Sample Acceptance Form completed?		MWS MWS				
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			WWS			
Preservation Documented:	Na ₂ S ₂ O ₃	Trizma	None	Yes	No	NA
Shipping Container	Vista	Client	Retain	Return	Dispose	

Comments: sample label

(COC ID)

SB-1 5'-6' ft (collection time: 0922)

SB-1 5-6 ft

SB-3 2.5-3 ft (collection time: 0955)

→ collection time not noted on COC

SB-2 2-3 ft

SB-8

*

SB-2 5-6 ft (collection time: 0941)

→ collection time not noted on COC

SB-7 4.5-5 ft

SB-7 4.5-5 ft



August 22, 2018

Vista Work Order No. 1801622

Mr. Dale Corsi
DLZ
1425 Keystone Avenue
Lansing, MI 48911

Dear Mr. Corsi,

Enclosed are the results for the sample set received at Vista Analytical Laboratory on July 06, 2018 under your Project Name '1341 655 048'.

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. 1801622**Case Narrative****Sample Condition on Receipt:**

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

Analytical Notes:**VAL-PFAS**

The samples were extracted and analyzed for a selected list of PFAS using VAL Method PFAS. 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 1/2 the LOQ. The OPR recoveries were within the method acceptance criteria.

The labeled standard recoveries outside the acceptance criteria are listed in the table below.

QC Anomalies

LabNumber	SampleName	Analysis	Analyte	Flag	%Rec
B8G0097-BLK1	B8G0097-BLK1	VAL - PFAS	13C8-PFOSA	H	15.2
B8G0097-BS1	B8G0097-BS1	VAL - PFAS	13C3-PFBS	H	155
B8G0097-BS1	B8G0097-BS1	VAL - PFAS	13C8-PFOSA	H	15.5
B8G0097-BS1	B8G0097-BS1	VAL - PFAS	13C2-PFU _n A	H	49.8

H = Recovery was outside laboratory acceptance criteria.

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Sample Inventory Report

Vista Sample ID	Client Sample ID	Sampled	Received	Components/Containers
1801622-01	SB-7 2.5-3 ft	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801622-02	SB-9	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801622-03	SB-10	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801622-04	SB-11	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801622-05	SB-12	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801622-06	SED 1	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz
1801622-07	SED 5	03-Jul-18 00:00	06-Jul-18 10:44	HDPE Jar, 6 oz

ANALYTICAL RESULTS


Sample ID: Method Blank
VAL - PFAS

Ident Data		Laboratory Data								
Name:	DLZ	Matrix:	Solid	Lab Sample:	B8G0097-BLK1	Column:	BEH C18			
Sample ID:	1341 655 048									
PFBA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-PFPeA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-PFBS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-2 FTS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-FHxA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-rPPeS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-PFHxA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-2FFHxS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-6:2 FTS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-PFOA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
E-PFOA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
E-10 PFOA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
E-FHpS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-PFNA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-PFOSA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
E-PFOS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
E-PFOS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
Total PFOS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-PFDA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
E-2FTS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
E-FNS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
E-MeFOSAA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
Br-MeFOSAA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
Total MeFOSAA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
E-FOSAA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
E-EtFOSAA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
Total EtFOSAA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-PFUnA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-PFDS	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-EDoA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-ETrDA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
L-PFTeDA	ND	0.845	1.00	2.00	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
Labeled Standards		Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
1-3-PFBA	IS	94.1		60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
1-3-PFPeA	IS	96.1		60 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1
1-3-PFBS	IS	108		60 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1


Sample ID: Method Blank
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Solid	Lab Sample:	B8G0097-BLK1		Column:	BEH C18		
Project:	1341 655 048									
Calibrated Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
12:4:2 FTS	IS	95.8	40 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFHpA	IS	89.4	70 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C4-PFHpA	IS	85.8	60 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFHpS	IS	97.9	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
12:6:2 FTS	IS	105	40 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFOA	IS	88.9	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C5-PFNA	IS	77.1	50 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C8-PFOSA	IS	15.2	20 - 150	H	B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C8-PFOS	IS	90.9	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFDA	IS	77.0	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-8:2 FTS	IS	101	40 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
d3-MeFOSAA	IS	72.3	50 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
c1-EtFOSAA	IS	80.1	50 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFUnA	IS	67.4	60 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFDoA	IS	74.5	30 - 130		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFTeDA	IS	71.0	20 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	
13C2-PFHpDA	IS	92.6	20 - 150		B8G0097	16-Jul-18	1.00 g	31-Jul-18 23:22	1	

- Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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

VAL - PFAS

Client Data		Laboratory Data									
Name:	DLZ	Matrix:	Solid	Lab Sample:		B8G0097-BS1		Column:	BEH C18		
Analyte	Amt Found (ng/g)	Spike Amt	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
L-PFBA	10.3	10.0	103	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
L-PFPcA	10.7	10.0	107	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
L-PFBs	10.3	10.0	103	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
L-2:2 FTS	11.3	10.0	113	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
L-PFHxA	10.7	10.0	107	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
L-PFPeS	8.74	10.0	87.4	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
L-PFHxA	10.0	10.0	100	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFHxA	10.5	10.0	105	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
L-2:2 FTS	12.0	10.0	120	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFOA	11.1	10.0	111	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFHpS	10.8	10.0	108	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFNA	10.8	10.0	108	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFOSA	12.0	10.0	120	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFOS	10.9	10.0	109	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFOA	10.8	10.0	108	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFHxA	10.9	10.0	109	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFNA	10.5	10.0	105	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total MeFOSAA	11.0	10.0	110	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total EtFOSAA	10.7	10.0	107	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFUnA	10.7	10.0	107	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFDS	9.39	10.0	93.9	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total PFDoA	11.2	10.0	112	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total FTTrDA	12.9	10.0	129	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Total FTcDA	10.4	10.0	104	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1	
Control Standards	Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13C3-PFBA	IS	96.1	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C3-PFPcA	IS	123	60 - 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C3-PFBs	IS	155	60 - 150	H	B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C2-2:4:2 FTS	IS	107	40 - 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C2-PFHxA	IS	93.5	70 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C4-PFHpA	IS	87.1	60 - 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C2-2:PFHxS	IS	98.3	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C2-2:6:2 FTS	IS	105	40 - 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C2-PFOA	IS	85.7	60 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		
13C5-PFNA	IS	73.5	50 - 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1		

Work Order 1801622

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Sample ID: OPR

VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Solid	Lab Sample:	B8G0097-BS1		Column:	BEH C18		
Labeled Standards		Type	% Rec	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
¹³ C8-PFOSA		IS	15.5	20- 150	H	B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
¹³ C8-PFOS		IS	96.4	60- 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
¹³ C2-PFDA		IS	61.9	60- 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
¹³ C2-8:2 FTS		IS	109	40- 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
MeFOSAA		IS	61.0	50- 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
d5-EtFOSAA		IS	62.9	50- 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
¹³ C2-PFUnA		IS	49.8	60- 130	H	B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
¹³ C2-PFDaA		IS	57.6	30- 130		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
¹³ C2-PFTeDA		IS	70.1	20- 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1
¹³ C2-PFHxDa		IS	66.8	20- 150		B8G0097	16-Jul-18	1.00 g	18-Aug-18 17:55	1



Sample ID: SB-7 2.5-3 ft

VAL - PFAS

Client Data		Laboratory Data									
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801622-01	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Project:	1341 655 048	Location:	SOIL	% Solids:	91.6						
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFPeA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFBs	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-4:2 FTS	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
PFHxA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFPeS	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFHxP	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFHxS	5.30	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFHxS	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
Total PFHxS	5.72	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-6:2 FTS	13.9	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFOA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
Total PFOA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
PFHpS	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFNA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFOSA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
PFOS	84.6	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
Total PFOS	22.6	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFDA	107	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
Total 6:2FTS	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
FNS	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
MeFOSAA	3.21	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
Br-MeFOSAA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
Total MeFOSAA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
EtFOSAA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
Total EtFOSAA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFUnA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFDs	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFdA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-FTtDA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
L-PFTeDA	ND	0.809	0.957	1.91		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
3-PFBA	IS	96.3	60 - 130		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1		
3-PFPeA	IS	93.0	60 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1		
3-PFBs	IS	103	60 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1		

Work Order 1801622

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Sample ID: SB-7 2.5-3 ft

VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801622-01	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	91.6					
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	104	40 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
13C2-PFHxA	IS	86.9	70 - 130		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
13C4-PFHxA	IS	87.7	60 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
d2-PFHxA	IS	85.6	60 - 130		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
C2-6:2 FTS	IS	98.5	40 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
13C2-PFOA	IS	81.6	60 - 130		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
13C5-PFNA	IS	78.3	50 - 130		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
13C8-PFOSA	IS	70.9	20 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
C8-PFOS	IS	81.5	60 - 130		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
C2-PFDA	IS	78.1	60 - 130		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
13C2-8:2 FTS	IS	99.2	40 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
d3-MeFOSAA	IS	80.6	50 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
EFOOSAA	IS	84.0	50 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
C2-PFUnA	IS	84.1	60 - 130		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
C2-PFDaA	IS	77.1	30 - 130		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
13C2-PFTeDA	IS	94.9	20 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	
13C2-PFHxDA	IS	88.7	20 - 150		B8G0097	16-Jul-18	1.14 g	01-Aug-18 01:38	1	

- Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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


Sample ID: SB-9
VAL - PFAS

Client Data		Matrix: Soil		Laboratory Data							
Name:	DLZ	Date Collected:	03-Jul-18 00:00 <th>Lab Sample:</th> <td>1801622-02</td> <th>Column:</th> <td>BEH C18</td> <th data-cs="4" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>	Lab Sample:	1801622-02	Column:	BEH C18				
Project:	1341 655 048	Date Received:	06-Jul-18 10:44	% Solids:	93.3						
Location:	SOIL										
Analyst	Cone. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
L-PFBA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-PFPeA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-PFBs	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-2 FTS	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-FHxA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-PFPcS	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-PFHpA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-FHxS	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
E-FHxS	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
T-1 PFHxS	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-6:2 FTS	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-PFOA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
B-PFOA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
T-1 PFOA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-1 HpS	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-PFNA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-PFOSA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-FOS	42.8	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
B-FOS	3.72	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
Total PFOS	46.5	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-PFDA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-2FTS	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-NS	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-MeFOSAA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
Total MeFOSAA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-FOSAA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
B-MeFOSAA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
Total EfFOSAA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-PFUuA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-DFDS	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-DoA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-TrDA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
L-PFTEDA	ND	0.879	1.04	2.08		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
13-PFBA	IS	105	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1		
13-PFPeA	IS	98.1	60 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1		
13-PFBs	IS	112	60 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1		

Work Order 1801622

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Sample ID: SB-9
VAL - PFAS

Ident Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801622-02	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	93.3					
Believed Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
12-4:2 FTS	IS	99.4	40 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
13C2-PFHxA	IS	100	70 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
13C4-PFHpA	IS	103	60 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
13C2-PFHxS	IS	91.9	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
12-6:2 FTS	IS	128	40 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
13C2-PFOA	IS	94.2	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
13C5-PFNA	IS	78.4	50 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
17C8-PFOSA	IS	87.3	20 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
18-PFOS	IS	98.6	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
12-PFDA	IS	84.7	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
13C2-8:2 FTS	IS	109	40 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
d3-MeFOSAA	IS	79.8	50 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
13C2-EFOSAA	IS	95.9	50 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
12-PFUnA	IS	98.5	60 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
12-PFDaA	IS	92.4	30 - 130		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
13C2-PFTeDA	IS	102	20 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	
13C2-PFHxDa	IS	115	20 - 150		B8G0097	16-Jul-18	1.03 g	01-Aug-18 01:49	1	

- Detection Limit

 LOD - Limit of Detection
 LOQ - Limit of quantitation

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

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


Sample ID: SB-10
VAL - PFAS

Client Data							Laboratory Data			
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00 <th>Lab Sample:</th> <td>1801622-03</td> <th>Column:</th> <td>BEH C18</td> <th></th>	Lab Sample:	1801622-03	Column:	BEH C18	
Project:	1341 655 048	Location:	SOIL			Date Received:	06-Jul-18 10:44	% Solids:	90.6	
Analyte	Cone. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
L-PFBA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFPeA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFBS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-2FTS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFHxA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFPcS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFHpA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFHxS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFHxS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
Total PFHxS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-6:2 FTS	1.70	0.880	1.04	2.08	J	B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFOA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
Total PFOA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFOA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFHpS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFNA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFOSA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFOS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
Total PFOS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
Total PFOS	19.4	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFOS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
Total PFOS	22.0	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFDA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-2FTS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-FNS	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
Total MeFOSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
Total MeFOSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-MeFOSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
Total EtFOSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
Total EtFOSAA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFUnA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFDs	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PfDoA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-FTrDA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
L-PFTrDA	ND	0.880	1.04	2.08		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
Labeled Standards	Type	% Recovery	Limits		Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
13-PFBA	IS	101	60 - 130			B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
13-PFPeA	IS	97.4	60 - 150			B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1
13C3-PFBS	IS	112	60 - 150			B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1

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Sample ID: SB-10
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801622-03	Column:	BEH C18			
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	Date Received:	06-Jul-18 10:44					
Location:	SOIL	% Solids:	90.6							
Believed Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	94.9	40 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C2-PFHxA	IS	95.7	70 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C4-PFHxA	IS	101	60 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
PFHxA	IS	118	60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
C2-6:2 FTS	IS	79.5	40 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C2-PFOA	IS	97.1	60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C5-PFNA	IS	88.8	50 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C8-PFOSA	IS	65.6	20 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C8-PFOS	IS	86.8	60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C2-PFDA	IS	78.5	60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C2-8:2 FTS	IS	93.8	40 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
d3-MeFOSAA	IS	87.0	50 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
EFOSAA	IS	83.5	50 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
EFUhA	IS	82.7	60 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C2-PFDnDA	IS	78.8	30 - 130		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C2-PFTeDA	IS	93.0	20 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	
13C2-PFHxDA	IS	111	20 - 150		B8G0097	16-Jul-18	1.06 g	01-Aug-18 01:59	1	

- Detection Limit

LOD - Limit of Detection
LOQ - Limit of quantitation

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

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



Sample ID: SB-11

VAL - PFAS

Client Data		Laboratory Data									
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801622-04	Date Received:	06-Jul-18 10:44	Column:	BEH.C18
Location:	SOIL	% Solids:	82.5								
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFPcA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFBS	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
4:2 FTS	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
PFHxA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFPcS	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFHpA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
PFHxS	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
-PFHxS	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
Total PFHxS	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-6:2 FTS	3.18	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFOA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
T-PFOA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
PFHpS	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFNA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFOSA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
PFOS	5.19	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
-PFOS	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
Total PFOS	5.19	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFDA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
8:2FTS	1.16	0.975	1.15	2.31	J	B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
PFNS	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
MeFOSAA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
Br-MeFOSAA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
Total MeFOSAA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
EtFOSAA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
EtFOSAA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
Total EtFOSAA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFUnA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFDs	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFdA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
FTrDA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
L-PFTeDA	ND	0.975	1.15	2.31		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
C3-PFBA	IS	100	60 - 130		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1		
C3-PFPcA	IS	96.0	60 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1		
C3-PFBS	IS	99.5	60 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1		

Work Order 1801622

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Sample ID: SB-11
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801622-04 <th>Date Received:</th> <td>06-Jul-18 10:44</td> <th>Column:</th> <td>BEH C18</td> <td></td>	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	82.5					
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	89.3	40 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
13C2-PFHxA	IS	93.4	70 - 130		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
13C4-PFHpA	IS	97.5	60 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
13C2-PFHxS	IS	97.8	60 - 130		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
C2-6:2 FTS	IS	89.9	40 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
13C2-PFOA	IS	91.5	60 - 130		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
13C5-PFNA	IS	86.7	50 - 130		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
¹³ C8-PFOSA	IS	54.1	20 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
C8-PFOS	IS	85.9	60 - 130		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
C2-PFDA	IS	73.4	60 - 130		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
13C2-8:2 FTS	IS	93.6	40 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
d3-MeFOSAA	IS	74.1	50 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
EFOOSAA	IS	84.9	50 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
C2-PFUuA	IS	86.2	60 - 130		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
C2-PFDooA	IS	87.6	30 - 130		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
13C2-PFTeDA	IS	90.5	20 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	
13C2-PFHxDa	IS	109	20 - 150		B8G0097	16-Jul-18	1.05 g	01-Aug-18 02:10	1	

 LOD - Limit of Detection
 LOQ - Limit of quantitation

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

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


Sample ID: SB-12
VAL - PFAS

Client Data							Laboratory Data			
Name:	DLZ	Matrix:	Soil	Date Collected:	03-Jul-18 00:00	Lab Sample:	1801622-05	Column:	BEH C18	
Location:	SOIL					% Solids:	88.3			
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution
PFBA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFPeA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFBs	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-2FTS	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
PFHxA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFPeS	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFFhP	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
PFHxS	4.96	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
PFHxS	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
Total PFHxS	5.58	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-6:2FTS	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFOA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
Total PFOA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFOA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-FHpS	0.955	0.870	1.03	2.06	J	B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFNA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFOSA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
FOS	51.9	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
PPPOS	33.4	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
Total PFOS	85.3	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFDA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-2FTS	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
FNS	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
MeFOSAA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
Br-MeFOSAA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
Total MeFOSAA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
iFOSAA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
EiFOSAA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
Total EiFOSAA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFUuA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFDS	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-FDoA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-FTrDA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
L-PFTeDA	ND	0.870	1.03	2.06		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
3-PFBA	IS	96.8	60 - 130		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
3-PFPeA	IS	98.2	60 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
3-PFBs	IS	109	60 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	

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Sample ID: SB-12
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Soil	Lab Sample:	1801622-05	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	88.3					
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	90.2	40 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
13C2-PFHxA	IS	95.6	70 - 130		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
13C4-PFHxA	IS	101	60 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
O2-PFHxA	IS	92.7	60 - 130		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
C2-6:2 FTS	IS	81.6	40 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
C2-PFOA	IS	92.7	60 - 130		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
13C5-PFNA	IS	87.6	50 - 130		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
13C8-PFOSA	IS	44.4	20 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
C8-PFOS	IS	79.8	60 - 130		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
C2-PFDA	IS	71.7	60 - 130		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
13C2-8:2 FTS	IS	94.7	40 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
d3-MeFOSAA	IS	65.2	50 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
EFOOSAA	IS	63.0	50 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
C2-PFUnA	IS	82.5	60 - 130		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
C2-PFDaA	IS	69.9	30 - 130		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
13C2-PFTeDA	IS	95.6	20 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	
13C2-PFHxDa	IS	103	20 - 150		B8G0097	16-Jul-18	1.10 g	01-Aug-18 02:20	1	

- Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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


Sample ID: SED 1
VAL - PFAS

Client Data		Laboratory Data									
Name:	DLZ	Matrix:	Sediment	Lab Sample:	1801622-06	Date Received:	06-Jul-18 10:44	Column:	BEH C18		
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00 <th>% Solids:</th> <td>81.1</td> <th data-cs="6" data-kind="parent"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th> <th data-kind="ghost"></th>	% Solids:	81.1						
Analyte	Cone. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	2.07	1.00	1.19	2.37	J	B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFPeA	11.0	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFBs	1.46	1.00	1.19	2.37	J	B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-2 FTS	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
PFHxA	8.89	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFPeS	2.73	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFHpA	8.54	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
PFHxS	40.4	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
PFHxS	6.03	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
Total PFHxS	46.4	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-6:2 FTS	26.7	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFOA	10.9	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
Total PFOA	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
PFHpS	11.2	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFNA	24.1	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFOSA	9.37	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-FOS	3.29	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFOS	3220	30.0	35.6	71.1	D	B8G0097	16-Jul-18	1.04 g	22-Aug-18 12:06	30	
Total PFOS	765	30.0	35.6	71.1	D	B8G0097	16-Jul-18	1.04 g	22-Aug-18 12:06	30	
L-PFDA	3990	30.0	35.6	71.1		B8G0097	16-Jul-18	1.04 g	22-Aug-18 12:06	30	
L-2FTS	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
FNS	42.9	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
MeFOSAA	24.3	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
Br-MeFOSAA	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
Total MeFOSAA	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
tFOSAA	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
BtFOSAA	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
Total EtFOSAA	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFuA	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFDs	ND	1.00	1.19	2.37	J	B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-FDoA	1.56	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-FTrDA	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
L-PFTcDA	ND	1.00	1.19	2.37		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
Labeled Standards		Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
1	3-PFBA	IS	107	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
1	3-PFPeA	IS	92.9	60 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
1	3-PFBs	IS	101	60 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	

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Sample ID: SED 1
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Sediment	Lab Sample:	1801622-06	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	81.1					
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
C2-4:2 FTS	IS	98.2	40 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
13C2-PFHpA	IS	103	70 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
13C4-PFHpA	IS	103	60 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
D2-PFHpS	IS	101	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
C2-6:2 FTS	IS	101	40 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
13C2-PFOA	IS	107	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
13C5-PFNA	IS	93.4	50 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
13C8-PFOSA	IS	55.1	20 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
C8-PFOS	IS	89.2	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
C2-PFDA	IS	98.4	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
13C2-8:2 FTS	IS	101	40 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
d3-MeFOSAA	IS	86.1	50 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
EFOOSAA	IS	85.3	50 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
C2-PFUnA	IS	89.9	60 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
C2-PFDaA	IS	109	30 - 130		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
13C2-PFTeDA	IS	116	20 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	
13C2-PFHpDA	IS	103	20 - 150		B8G0097	16-Jul-18	1.04 g	01-Aug-18 02:31	1	

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

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


Sample ID: SED 5
VAL - PFAS

Client Data		Matrix: Sediment		Laboratory Data							
Name:	DLZ	Project:	1341 655 048	Date Collected:	03-Jul-18 00:00 <th>Lab Sample:</th> <td>1801622-07</td> <th>Date Received:</th> <td>06-Jul-18 10:44</td> <th>Column:</th> <td>BEH C18</td>	Lab Sample:	1801622-07	Date Received:	06-Jul-18 10:44	Column:	BEH C18
Sample ID:	SEDIMENT	% Solids:	57.6								
Analyte	Conc. (ng/g)	DL	LOD	LOQ	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
PFBA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFPeA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFBS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-2FTS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
PFHxA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PPPeS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFHpA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFHxS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
PFHxS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Total PFHxS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-6:2FTS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFOA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Total PFOA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
PFHpS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFNA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFOSA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
FOS	4.11	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
PFOS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Total PFOS	4.57	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFDA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Total 2FTS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
FNS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Total FOSAA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Br-MeFOSAA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Total MeFOSAA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Total FOSAA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Total EIFOSAA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Total MeEIFOSAA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFUnA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFDS	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-PFDa	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-FTDA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
L-tFTeDA	ND	1.40	1.65	3.31		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
Labeled Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution		
3-PFBA	IS	93.7	60 - 130		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1		
3-PFPeA	IS	90.4	60 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1		
3-PFBS	IS	106	60 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1		

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Sample ID: SED 5
VAL - PFAS

Client Data				Laboratory Data						
Name:	DLZ	Matrix:	Sediment	Lab Sample:	1801622-07	Date Received:	06-Jul-18 10:44	Column:	BEH C18	
Project:	1341 655 048	Date Collected:	03-Jul-18 00:00	% Solids:	57.6					
Believed Standards	Type	% Recovery	Limits	Qualifiers	Batch	Extracted	Samp Size	Analyzed	Dilution	
12-C2-4:2 FTS	IS	104	40 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
13C2-PFHpA	IS	92.3	70 - 130		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
13C4-PFHpA	IS	94.2	60 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
13C2-PFHpS	IS	86.5	60 - 130		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
12-C2-6:2 FTS	IS	91.2	40 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
12-C2-PFOA	IS	78.8	60 - 130		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
13C5-PFNA	IS	71.8	50 - 130		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
13C8-PFOSA	IS	42.9	20 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
12-C8-PFOS	IS	84.8	60 - 130		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
12-C2-PFDA	IS	71.0	60 - 130		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
13C2-8:2 FTS	IS	83.9	40 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
d3-MeFOSAA	IS	67.9	50 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
d4-EtFOSAA	IS	72.6	50 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
12-C2-PFUnA	IS	69.1	60 - 130		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
12-C2-PFDoA	IS	68.1	30 - 130		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
13C2-PFTeDA	IS	70.6	20 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	
13C2-PFHpDA	IS	76.1	20 - 150		B8G0097	16-Jul-18	1.05 g	22-Aug-18 12:28	1	

DL - Detection Limit

LOD - Limit of Detection

LOQ - Limit of quantitation

The results are reported in dry weight.

The sample size is reported in wet weight.

Results reported to the DL.

When reported, PFHpS, 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
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
J	The amount detected is below the Reporting Limit/LOQ
LOD	Limits of Detection
LOQ	Limits of Quantitation
M	Estimated Maximum Possible Concentration (CA Region 2 projects only)
NA	Not applicable
ND	Not Detected
Q	Ion ratio outside of 70-130% of Standard Ratio. (DOD PFAS projects only)
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.

CERTIFICATIONS

Accrediting Authority	Certificate Number
Alaska Department of Environmental Conservation	17-013
Arkansas Department of Environmental Quality	17-015-0
California Department of Health – ELAP	2892
DoD ELAP - A2LA Accredited - ISO/IEC 17025:2005	3091.01
Florida Department of Health	E87777-18
Hawaii Department of Health	N/A
Louisiana Department of Environmental Quality	01977
Maine Department of Health	2016026
Minnesota Department of Health	1322288
New Hampshire Environmental Accreditation Program	207717
New Jersey Department of Environmental Protection	CA003
New York Department of Health	11411
Oregon Laboratory Accreditation Program	4042-008
Pennsylvania Department of Environmental Protection	014
Texas Commission on Environmental Quality	T104704189-17-8
Virginia Department of General Services	9077
Washington Department of Ecology	C584
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.



CHAIN OF CUSTODY

For Laboratory Use Only	
Work Order #	180622
Storage ID:	UK-2
Temp: 6.8	
Storage Secured. Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	

Project ID: 1341 655 048 PO# Sampler: DALE CORSI

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

Invoice to: Name Company Address City State Ph# Fax#
DALE CORNELL DLT 1425 KEYSTONE AVENUE LANSING MI 517-667-9299

Relinquished by (printed name and signature) Date Time Received by (printed name and signature) Date Time
DALE J CORSI Dale J. 7/18/18 345 Bettina Benedict 7/18/18 Beneatt 07/06/18 1057

Relinquished by (printed name and signature) _____ **Date** _____ **Time** _____ **Received by (printed name and signature)** _____ **Date** _____ **Time** _____

Special Instructions/Comments: _____

SEND DOCUMENTATION AND RESULTS TO:	Name: _____ Company: _____ Address: _____ City: _____ State: _____ Zip: _____ Phone: _____ Fax: _____ Email: _____
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Container Types: P= HDPE, PJ= HDPE Jar
O= Other

Bottle Preservation Type: T = Thiosulfate
T2 = Trizma

Matrix Types: AQ = Aqueous, DW = Drinking Water, EF = Effluent, PP = Pulp/Paper, SD = Sediment, SL = Sludge, SO = Soil, WW = Wastewater, B = Blood/Serum, C = Other

Work Order 1801622

Sample Log-in Checklist

Vista Work Order #:

1801622

TAT Std

Samples Arrival:	Date/Time <u>07/06/18 1044</u>		Initials: <u>BB</u>		Location: WR-2 Shelf/Rack: NA		
Logged In:	Date/Time <u>07/07/18 1207</u>		Initials: <u>WWS</u>		Location: WR-2 Shelf/Rack: <u>A-5, E6</u>		
Delivered By:	FedEx	UPS	On Trac	GSO	DHL	Hand Delivered	Other
Preservation:	<u>Ice</u>		Blue Ice		Dry Ice		None
Temp °C:	<u>6.9</u>	(uncorrected)	Time: <u>1050</u>				Thermometer ID: <u>IR-4 WWS</u>
Temp °C:	<u>6.8</u>	(corrected)	Probe used: Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>				

	YES	NO	NA
Adequate Sample Volume Received?	<u>* low volume WWS</u>	<u>WWS</u>	
Holding Time Acceptable?	<u>WWS</u>		
Shipping Container(s) Intact?	<u>BBB</u>		
Shipping Custody Seals Intact?		<u>BBB</u>	
Shipping Documentation Present?	<u>BBB</u>		
Airbill	Trk # <u>1Z F4W 496015698 871</u>	<u>BBB</u>	
Sample Container Intact?	<u>WWS</u>		
Sample Custody Seals Intact?		<u>WWS</u>	
Chain of Custody / Sample Documentation Present?	<u>BBB</u>		
COC Anomaly/Sample Acceptance Form completed?		<u>WWS</u> <u>WWS</u>	
If Chlorinated or Drinking Water Samples, Acceptable Preservation?			<u>WWS</u>
Preservation Documented:	<u>Na₂S₂O₃</u>	<u>Trizma</u>	<u>None</u> <u>Yes</u>
Shipping Container	<u>Vista</u>	<u>Client</u>	<u>Retain</u> <u>Return</u> <u>Dispose</u>

Comments: * Sample label COC IDSB-7-2.5-3ff SB-7 2.5-3ff

* Analysis not selected on COC