HAMPTON BAYS FIRE DISTRICT SITE
69 WEST MONTAUK HIGHWAY
HAMPTON BAYS, NY
DEC SITE: #152249

SUB-SURFACE INVESTIGATION REPORT

Submitted To:

New York State Department of Environmental Conservation
Division of Environmental Remediation
625 Broadway, 12th Floor
Albany, NY 12233-7016

Prepared For:

Hampton Bays Fire District
69 West Montauk Highway
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TABLE OF CONTENTS

TABLES

FIGURES

APPENDICES

1.0 INTRODUCTION

1.1 Purpose and Scope

ZEB Environmental Solutions, Inc. (ZEB) has prepared the following Sub-Surface Investigation Report on behalf of the Hampton Bays Fire District to document the investigation activities performed at the Hampton Bays Fire Department property located at 69 W Montauk Highway, Hampton Bays, New York (**Figure 1**).

The purpose of this investigation was to determine if perfluorinated compounds (PFCs) are present in the subsurface at the site and to determine whether this site is a contributing source of PFCs detected in downgradient public supply wells. The scope of the investigation is detailed in the NYSDEC approved Subsurface Investigation Work Plan prepared by ZEB in December 2017. ZEB performed the remedial investigation in accordance with the Work Plan beginning in late January 2018, and the results are detailed in this Sub-Surface Investigation Report.

This Investigation has been undertaken pursuant to the New York State Department of Environmental Conservation (NYSDEC) Order on Consent, dated November 9, 2017. By the terms of this Order between the NYSDEC and the Hampton Bays Fire District, such consent is not "(i) to be an admission or finding of liability, fault, wrongdoing, or violation of any law, regulation, permit, order, requirement, or standard of care of any kind whatsoever: (ii) an acknowledgement that there has been a release or threatened release of hazardous waste at or from the site: and/or (iii) an acknowledgement that a release or threatened release of hazardous waste at or rom the site constitutes significant threat to the public health or the environment."

1.2 Site Location and Description

The Hampton Bays Fire District property is 2.29 acres in size and is located on the south side of Montauk Highway, east of Springville Road. A vicinity map showing the location of the Fire District property is contained as **Figure 1**. The property contains three main buildings, two of which are used by the Fire Department and a third that is leased by office tenants. A site plan is included as **Figure 2**.

1.3 Site History

The two-story firehouse building was constructed in 1930 and additions to the east and west sides were completed in 1967 and 1983. The first floor of this building is used to store fire trucks and fire equipment, and also contains a laundry room. The second floor is used as office and recreational space. No aqueous film forming foam (AFFF) is stored in this building. There is also one floor drain in this building, which appears to discharge to the subsurface. This building is connected to a sanitary system, comprised of septic tank(s) and multiple leaching cesspools located on the south side of the building.

The one-story steel framed building was constructed in 1993 and is utilized as a maintenance building. This building is used to store ancillary fire equipment and vehicles along with AFFF. Currently, 16 5-gallon containers of AFFF are stored on a pallet in the northwestern portion of the building. These containers are full and unopened.

Most containers have a date of 2008. This building contains a sanitary system consisting of a septic tank and a leaching cesspool located on the west side of the building.

Small wooden structures exist on the western property boundary. These structures do not have permanent foundations and are utilized as concession stands during community events. These structures contain sinks that are connected to the sanitary system associated with the main firehouse building.

Finally, a one-story office building exists on the northeast corner of the Fire District property. This building was acquired by the Fire District in 1997 and has been occupied by office tenants since this time. All buildings, on the Fire District property are supplied with potable water by the Hampton Bays Water District, including the real estate office, located at 65 West Montauk Highway.

2.0 SUBSURFACE INVESTIGATION

ZEB began the implementation of the Sub-Surface Investigation on January 29, 2018. As required, notification was provided to the NYSDEC before investigation activities began and a NYSDEC representative was onsite for the first two days of investigation activities. Soil and groundwater sampling activities were performed between January 29th and February 2nd 2018.

The Scope of Work, as identified in the approved Sub-Surface Investigation Work Plan, included the following tasks:

1. Storm Drain/Sanitary System Evaluation and Sampling
2. Vertical Profile Groundwater Sampling

These tasks are discussed in detail in the following sections.

2.1 Storm Drain/Sanitary System Evaluation and Sampling

On January 29th, ZEB completed a detailed inspection of each storm drain, sanitary structure and floor drain identified on the site. ZEB then collected samples from three (3) of the onsite sanitary structures and three (3) storm drains that had the greatest potential for impact. Storm drain and sanitary structure locations and observed piping are identified on **Figure 3** and sampling logs are provided in **Appendix E**.

2.1.1 Sampling Protocol

Soil samples were collected from the bases of the sanitary/storm structures using a properly decontaminated stainless steel hand auger. During sampling, sediment at the base of each structure were inspected. No visual or olfactory evidence of impact was observed. Soil samples were analyzed for PFCs by Modified EPA 537 – Full List. Additionally, quality control samples, including an equipment blank, a duplicate, and a matrix spike/matrix spike duplicate were collected.

Samples were packed in coolers with ice and delivered via courier to Test America Laboratories under chain-of-custody seal.

2.1.2 Analytical Results

As shown on **Table 1** and **Figure 3**, PFCs were not detected in the samples collected at concentrations indicative of a historic release or source of contamination. The low concentrations detected in each of the samples collected are likely the results of background contamination that is typical in commercial/industrial storm and sanitary system structures. No soil cleanup objectives (SCOs) or action levels exist for PFCs .

Complete laboratory analytical reports are included as **Appendix A**.

2.2 Groundwater Investigation

As part of the groundwater investigation, vertical profile wells were installed at six locations. Vertical profile well locations are identified on **Figures 2** and **4**.

2.2.1 *Vertical Profile Well Installation*

On January 30, 2018, ZEB and their subcontractor, EnviroDrilling and Contracting (EDC), mobilized to the site to install and sample six vertical profile wells. EDC utilized a Geoprobe drill rig to advance drill rods to the appropriate depths. Vertical profile wells were constructed of one-inch PVC with a 5-foot slotted PVC screen. Due to a significant elevation change at the site, VP-1 through VP-3 were set at 90-feet below grade, while VP-4 through VP-6 were set at 95-feet below grade.

2.2.2 *Vertical Profile Well Sampling*

Sampling of the vertical profile wells was performed between January 30 - February 2, 2018. At each vertical profile well location the deep interval was initially purged a minimum of three casing volumes using a Watera check valve. During purging, the groundwater parameters pH, temperature, turbidity, conductivity, and oxygen reduction potential (ORP) were monitored. Groundwater samples were placed in pre-cleaned laboratory-supplied glassware and packed in a cooler on ice. The vertical profile wells were then pulled up 20 feet and the purge process was repeated. Finally, each well was pulled up another 20 feet and purge, parameter, sampling process repeated. Copies of the groundwater sampling data sheets containing the field parameters recorded and purge volumes for each sampling point are attached in **Appendix B**.

Samples were packed in coolers with ice and shipped via courier service to Test America Laboratories under chain-of-custody seal. Groundwater samples were analyzed for the presence of PFCs by modified EPA Method 537. The vertical profile wells performed in unpaved areas were finished with flush mount covers. These wells represent shallow groundwater table wells and were used to obtain groundwater flow direction. This is discussed below in Section 2.2.4.

2.2.3 *Analytical Results*

As shown on **Table 2 and Figure 4**, PFCs were detected in all of the samples collected. Although, most of these detections appear to be the result of regional groundwater quality, samples collected from VP-5 and VP-6 contain elevated concentration of these contaminants. The shallow sample (50'-55') at VP-5 contains a maximum concentration of perfluorooctane sulfonic acid of 2,400ng/L, while the shallow sample (50-55') at VP-6 contains a maximum concentration of perfluorohexane sulfonic acid of 470ng/L.

Complete laboratory analytical reports are included as **Appendix C**.

2.2.4 *Monitoring Well Survey*

As mentioned in Section 2.2.2, the four vertical profile wells performed in unpaved areas were finished with flush mount covers. These wells represent shallow groundwater table wells and were used to obtain groundwater flow direction. On February 5, 2018 ZEB was onsite to survey these wells. The measuring points on each well casing were marked for future measurements. Well casing elevation data obtained as part of the survey was used to determine relative groundwater table elevations and general groundwater flow direction. As shown on **Figure 2**, groundwater beneath the site flows in a southerly direction.

2.3 Quality Assurance/Quality Control

As stated in the Subsurface Investigation Work Plan, the overall quality assurance/quality control (QA/QC) objective for the field investigation was to develop and implement procedures that provide data of known and documented quality. QA/QC characteristics for data include precision, accuracy, representativeness, completeness, and comparability. The purpose of the QA/QC activities developed for this site was to verify the integrity of the work performed at the site to assure that the data collected were the appropriate type and quality needed for the intended use.

The QA/QC program included the preparation and analysis of field QA/QC samples such as field blanks, field duplicates, and matrix spike duplicates. Third party data validation was performed on 100% of the laboratory results of soil and groundwater samples submitted for analysis.

2.4.1 QA/QC Samples

To assess the adequacy of sample collection and decontamination procedures performed in the field, QA/QC samples were collected and analyzed throughout the field-sampling program. In general, QA/QC samples confirmed that the procedures performed in the field were consistent and acceptable. Reported detections in the equipment blanks did not impact the interpretation of sample data. As specified in the RIWP, QA/QC samples collected for laboratory analysis included field blanks (FB), blind/field duplicates (FD), matrix spike (MS), matrix spike duplicates (MSD), and trip blanks (TB). The FB samples were collected daily for each sampling method that used non-disposable equipment such as the hand auger and peristaltic pump. FD and MS/MSD samples were submitted at a minimum of one each per twenty samples.

Type	Frequency
Equipment Blank	One per sample delivery group per matrix
Blind/Field Duplicate	One per 20 samples per matrix
Matrix Spike/Matrix Spike Duplicate	One per 20 samples per matrix

During the project, a total of two field blanks were collected. Field blanks were collected by pouring laboratory-supplied Ultra-Pure (certified PFC-Free) deionized water over sampling equipment and collecting the water in the appropriate sample container(s). In order to evaluate the precision of the field sampling and laboratory analyses, ZEB collected one soil field duplicate and one groundwater field duplicate.

2.4.2 Data Validation

ZEB retained the services of Premier Environmental, of Merrick, New York to perform validation of data obtained during the RI. Full data validation was performed on Nine (9) samples from the sample delivery group for PFCs in soil samples. In addition, full data validation was performed on twenty (20) samples from the sample delivery group for PFCs in groundwater samples. A copy of the Data Validation Usability Report (DUSR) is included as **Appendix D**.

2.4.3 Data Usability

Based on the review of the results reported by the laboratory, the overall Quality Control data provided in the

laboratory reports and the case narrative; the data is representative of adequate method accuracy and precision with regard to the project objectives. As noted in the full validation report, some of the data points were qualified as estimated (J/UJ) due to laboratory accuracy and precision outliers or potential interferences. The overall quality of the data is acceptable for use and results as qualified and estimated are considered usable.

3.0 HYDROGEOLOGIC ASSESSMENT AND PHYSICAL SETTING

The following section describes site topography, surrounding property use and regional and site geology/hydrogeology.

3.1 Site Topography

In January 2018, ZEB performed a preliminary site inspection. The site is located approximately 44 feet above mean sea level. Topography of the site reflects a gradual upward slope to the south with a total elevation increase of approximately 8.5'. Additionally, areas surrounding the site are generally flat.

No erosion of surface areas was noted. Precipitation drains into the stormwater structures located onsite.

3.2 Surrounding Land Use

The Site is bordered by Montauk Highway followed by an undeveloped parcel of land to the north, commercial retail storefronts to the east and west, Good Ground Road followed by Long Island Railroad property to the south.

3.3 Regional and Site Geology / Hydrogeology

The geologic setting of Long Island is well documented and consists of crystalline bedrock composed of schist and gneiss overlain by layers of unconsolidated deposits. Immediately overlying the bedrock is the Raritan Formation, consisting of the Lloyd sand confined by the Raritan Clay Member. The Lloyd sand is an aquifer and consists of discontinuous layers of gravel, sand, sandy and silty clay, and solid clay. The Raritan Clay is solid and silty clay with: few lenses of sand and gravel; abundant lignite and pyrite; and gray, red or white in color.

Above the Raritan Clay lies the Magothy Formation. The Magothy Aquifer consists of layers of fine to coarse sand of moderate to high permeability, with inter-bedded lenses of silt and clay of low permeability resulting in areas of preferential horizontal flow. Therefore, this aquifer generally becomes more confined with depth. The Upper Glacial Aquifer overlies the Magothy Aquifer. The Upper Glacial Aquifer is the water table aquifer at this location and is comprised of medium to coarse sand and gravel with occasional thin lenses of fine sand and brown clay. This aquifer extends from the land surface to the top of the Magothy and, therefore, is hydraulically connected to the Magothy Aquifer.

Based on information gained as part of this RI, the depth to groundwater is approximately 38 feet below the surface in northern portions of the site and 46 feet below the surface in the southern areas. Groundwater flow beneath the site is generally to the south-southwest.

4.0 CONCLUSIONS AND RECOMMENDATIONS

The following sections discuss the conclusions and recommendations based upon the results obtained during the Sub-Surface Investigation.

4.1 Conclusions

ZEB performed a Subsurface Investigation at the Hampton Bays Fire District site, 69 West Montauk Highway, Hampton Bays, New York. The investigation consisted of a sanitary system/storm drain evaluation and sampling and along with vertical profile groundwater sampling. The purpose of this investigation was to determine if perfluorinated compounds (PFCs) are present in the subsurface at the site and to determine whether this site is a contributing source of PFCs detected in downgradient public supply wells.

Results of the investigation did not identify elevated concentrations of PFCs in the storm drain/sanitary system samples collected. However, elevated concentrations were detected in the shallow vertical profile wells (VP-5 and VP-6) located at the southeast property boundary. Although these concentrations are elevated, they do not appear to be the result of a significant onsite source.

While PFCs are a major component of aqueous film forming foam (AFFF) used to extinguish flammable liquid fires, historical research thus far has not confirmed the use of AFFF on the site for any fire or firematic purpose. PFCs can be introduced to the subsurface from a myriad of possible sources, however the primary source of PFOS contamination in the environment is from AFFF material/use. The Hampton Bays Fire District and the Hampton Bays Fire Department continue to comply with the NYSDEC Order on Consent, while relying upon the provisions of the Order. See Section 1.1 above.

4.2 Recommendations

Based upon the findings of this investigation, ZEB recommends that additional investigation be performed. This investigation should include delineation of PFC impacts in the vicinity of VP-5 and VP-6. The investigation should also include investigation of additional storm/sanitary structures in this area. Finally, this investigation should include soil sampling in the landscaped area to the north of VP-5 and VP-6. These investigation activities will be detailed in a Remedial Investigation Work Plan.

5.0 REFERENCES

- *New York State Department of Environmental Conservation (NYSDEC), 6 NYCRR Part 375 Subparts 375-1 to 375- 4 & 375-6; Restricted Use Soil Cleanup Objectives (RUSCOs) for the Protection of Public Health—Residential, December 2006.*

- *NYSDEC, Division of Water Technical and Operational Guidance Series (TOGS) 1.1.1, Ambient Water Quality Standards and Guidance Values; June 1998.*

- *NYSDEC, Draft DER-10 Technical Guidance For Site Investigation and Remediation; December 2002.*

- *ZEB Environmental Solutions, Inc. (ZEB), Subsurface Investigation Work Plan; December 2017.*

TABLES

TABLE 1

SOIL PFC RESULTS BY MODIFIED EPA-537

69 W MONTAUK HWY, HAMPTON BAYS, NY 11946

	CP-1 1/29/18	DUP-01 (CP-2) 1/29/18	CP-2 1/29/18	CP-3 1/29/18	SD-3 1/29/18	SD-4 1/29/18	SD-5 1/29/18	SD-6 1/29/18
PFCs by EPA Method 537 - ug/Kg								
2-(N-methyl perfluorooctanesulfonamido) acetic acid	U	U	U	U	U	U	U	U
N-Ethyl-N-((heptadecafluorooctyl)sulphonyl) glycine	U	U	U	U	U	U	U	U
PERFLUOROBUTANESULFONIC ACID	U	U	0.047 J	U	U	U	U	U
PERFLUOROBUTYRIC ACID (PFBA)	0.072 J	0.25 J	0.25 J	0.33	0.17 J	0.54	1.4	2.8
PERFLUORODECANE SULFONIC ACID	U	U	U	0.093 J	U	U	U	0.16 J
PERFLUORODECANOIC ACID (PFDA)	0.041 J	0.12 J	0.11 J	0.084 J	U	U	U	U
PERFLUORODODECANOIC ACID (PFDoA)	U	0.12 J	0.1 J	0.27	0.17 J	U	U	U
PERFLUOROHEPTANE SULFONATE (PFHpS)	U	U	U	U	U	U	U	U
Perfluoroheptanoic Acid (PFHpA)	U	U	U	U	U	U	U	U
PERFLUOROHEXANESULFONIC ACID	0.11 U	0.19 J	0.18 U	0.24 J	U	U	0.038 U	0.093 U
PERFLUOROHEXANOIC ACID (PFHxA)	U	U	U	U	U	U	2.1	U
PERFLUORONONANOIC ACID	U	0.075 J	0.075 J	0.086 J	0.15 J	U	0.25	0.4
Perfluorooctane Sulfonamide (FOSA)	U	U	U	U	U	U	U	U
PERFLUOROOCTANE SULFONIC ACID	1.6	1.5	1.3	1.7	U	U	U	U
Perfluorooctanoic acid (PFOA)	U	0.12 J	U	UJ	U	U	U	0.48
PERFLUOROPENTANOIC ACID (PFPeA)	U	0.12 J	0.13 J	U	0.12 J	1.4	2.6	**12**
PERFLUOROTETRADECANOIC ACID (PFTeA)	U	0.17 J	0.12 J	0.14 J	0.22 J	U	0.077 J	U
PERFLUOROTRIDECANOIC ACID (PFTriA)	F1	0.75	0.68	1.5	**20**	0.2 J	0.57	1.9
PERFLUOROUNDECANOIC ACID (PFUnA)	0.043 J	0.15 J	0.12 J	0.19 J	0.22 J	0.14 J	0.29	0.57
SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE (8:2)	U	U	U	U	U	U	U	U
SODIUM 1H,1H,2H,2H-PERFLUOROOCTANE SULFONATE (6:2)	U	U	U	U	U	U	U	U

LEGEND

< 1 ug/Kg	:	No Highlighting
1 ug/Kg - 2 ug/Kg	:	Yellow
2 ug/Kg- 5 ug/Kg	:	Orange
> 5 ug/Kg	:	Light Red

Qualifier Descriptions

J: Result is less than the the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate value.

F1: The MS and/or MSD Recovery is outside aceptance limits

U: The compound was analyzed for, but not detected above the reported quantitation

TABLE 2

GROUNDWATER PFC RESULTS BY MODIFIED EPA-537
69 W MONTAUK HWY, HAMPTON BAYS, NY 11946
07.05.18

	VP-1			VP-2			DUP-01 VP-3	VP-3			VP-4			VP-5			VP-6		
	(45-50) 1/31/18	(65-70) 1/31/18	(85-90) 1/31/18	(45-50) 1/30/18	(70-75) 1/30/18	(90-95) 1/30/18	(45-50) 2/2/18	(45-50) 2/2/18	(65-70) 2/2/18	(85-90) 2/2/18	(50-55) 2/2/18	(70-75) 2/2/18	(90-95) 2/2/18	(50-55) 2/1/18	(70-75) 2/1/18	(90-95) 2/1/18	(50-55) 2/2/18	(70-75) 2/2/18	(90-95) 2/2/18
PFCs by Modified Method 537 - ng/L																			
PERFLUOROBUTANESULFONIC ACID	2.9	0.94 J	2.2	1.5 J	U	U	18	19	17	2.8	4.9	1.1 J	1.6 J	8.5	9.7	0.89 J	4.3	2.2	1.6 J
PERFLUOROBUTYRIC ACID (PFBA)	6.3	4.4	10	8.6	0.89 J	14	14	14	4.9	0.34 J	6.2	0.97 J	1.8 J	7.1	15	1.8 J	37	19	4
PERFLUORODECANE SULFONIC ACID	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PERFLUORODECANOIC ACID (PFDA)	1 J	3.5	3.5	2.4	U	0.53 J	3.4	3.3	0.89 J	U	U	U	U	U	2.6	U	U	0.89 J	2.2
PERFLUORODODECANOIC ACID (PFDoA)	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PERFLUOROHEPTANE SULFONATE (PFHpS)	0.84 J	U	0.6 J	0.3 J	U	U	2.1	2	0.64 J	U	U	U	U	8.3	8.2	0.49 J	0.37 J	2.3	1.8 J
Perfluoroheptanoic Acid (PFHpA)	6	3.4	11	15	0.97 J	0.97 J	11	12	3.4	0.33 J	3.8	0.86 J	1.7 J	46	54	4.7	120	8.1	6.7
PERFLUOROHEXANESULFONIC ACID	19 B	6.8 B	22 B	8.5 B	0.54 U	0.65 U	15 B	17 B	8 B	3.5 U	8.5 B	1.6 U	2 U	61 B	250 B	13 B	470 B	37 B	31 B
PERFLUOROHEXANOIC ACID (PFHxA)	9.7	5.1	19	18	U	2.1	38	37	5.4	U	6.8	U	2.4	17	56	5.1	96	12	5.2
PERFLUORONONANOIC ACID	16	9.3	40	13	0.79 J	1.3 J	20	21	11	0.43 J	1 J	0.6 J	0.61 J	21	40	7	1.2 J	9.3	17
Perfluorooctane Sulfonamide (FOSA)	U	U	U	U	U	U	150	150	2.9	5.8	0.54 J	U	U	2.3	87	9.9	0.53 J	0.67 J	U
PERFLUOROOCTANE SULFONIC ACID	230	30	58	65	3.6	5.6	210	200	35	3.8	4.8	3.5	2.2	2400	580	69	5.7	78	76
Perfluorooctanoic acid (PFOA)	11	6.5	15	15	2.7	2.1	53	56	9.5	U	4.6	8	3.8	230	250	78	25	96	52
PERFLUOROPENTANOIC ACID (PFPeA)	6.1	3.8	16	20	1.6 J	U	47	45	6.2	0.5 J	4.2	1.4 J	2.6	11	44	3.2	110	48	5.9
PERFLUOROTETRADECANOIC ACID (PFTeA)	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PERFLUOROTRIDECANOIC ACID (PFTriA)	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
PERFLUOROUNDECANOIC ACID (PFUnA)	U	U	U	1.4 J	U	U	U	U	U	U	U	U	U	U	U	U	U	U	U
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	120	140	120	120	110	120	110	110	100	110	120	110	110	110	120	120	110	100	110
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	130	140	130	130	120	140 T	130	130	110	110	130	120	120	120	130	120	130	120	110
SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE (8:2)	U	U	U	U	U	U	200	210	U	2.8 J	U	U	U	3.1 J	130	11 J	U	6.6 J	U
SODIUM 1H,1H,2H,2H-PERFLUOROOCTANE SULFONATE (6:2)	U	U	U	5.3 J	U	U	6.3 J	5.9 J	U	U	U	U	U	45	17 J	U	U	6.5 J	U

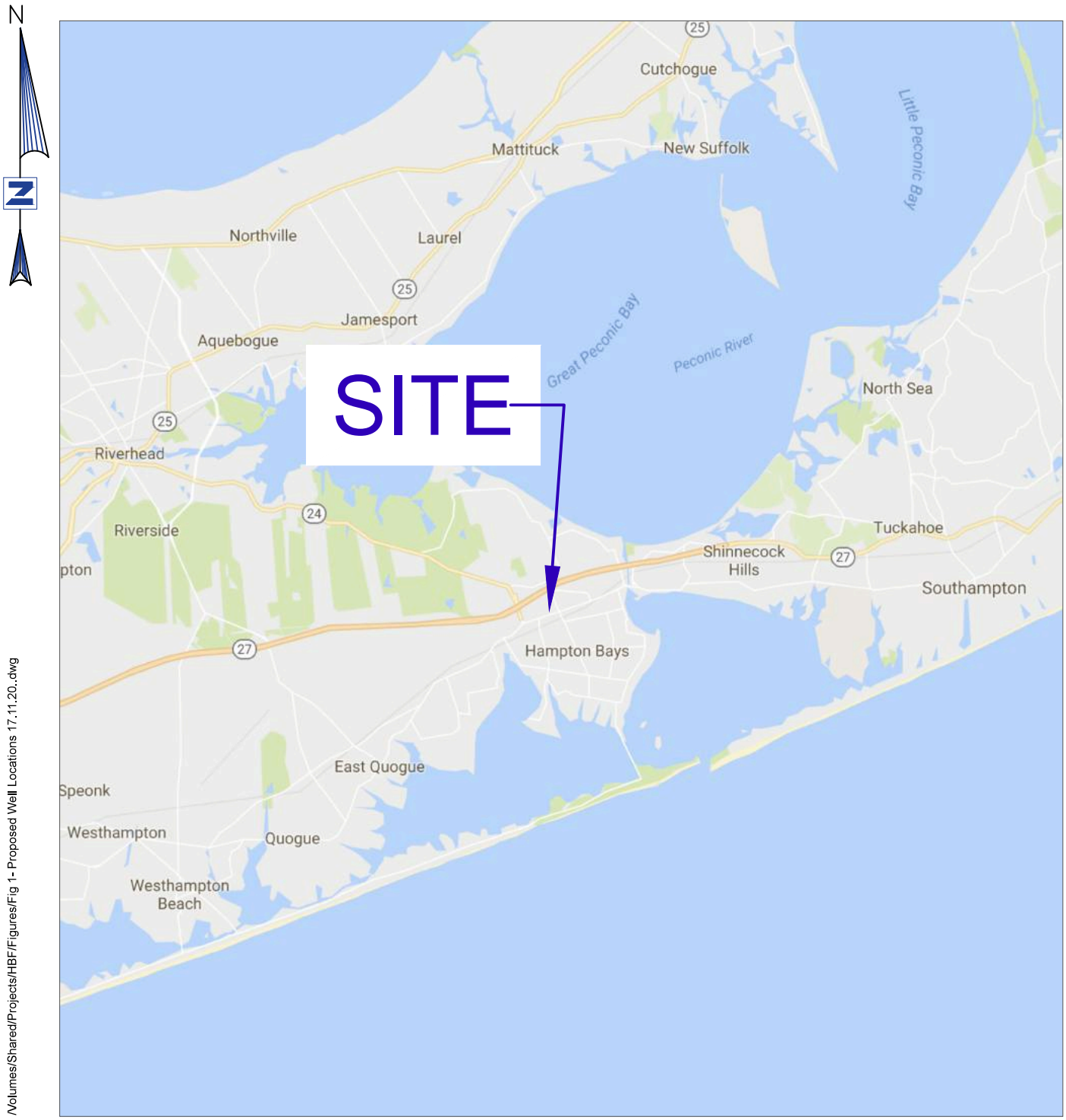
LEGEND

< 25 ng/L	No Highlighting
25 ng/L - 50 ng/L	Yellow
50 ng/L- 150 ng/L	Orange
150 ng/L - 1,000 ng/L	Light Red
> 1000 ng/L	**Bright Red**

Qualifier Descriptions

J: Result is less than the the reporting limit but greater than or equal to the method detection limit and the concentration is an approximate
B: Compound was found in the blank and sample
U: The compound was analyzed for, but not detected above the reported quantitation limit

FIGURES



/Volumes/Shared/Projects/HBF/Figures/Fig 1- Proposed Well Locations 17.11.20..dwg

SITE VICINITY MAP

0.0 3.0 6.0

SCALE MILES

BASEMAP PROVIDED BY: GOOGLE EARTH

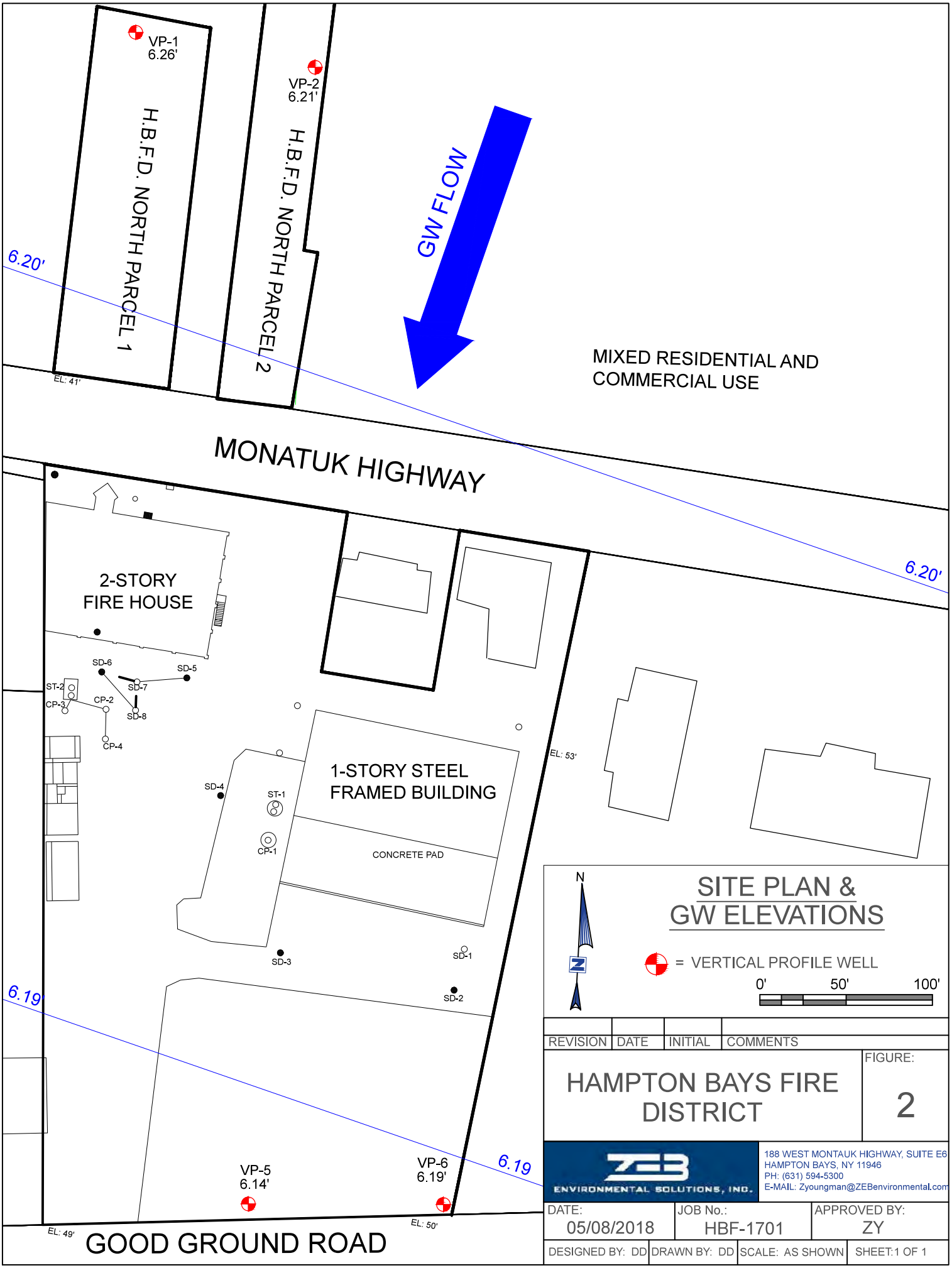
REVISION	DATE	INITIALS	COMMENTS

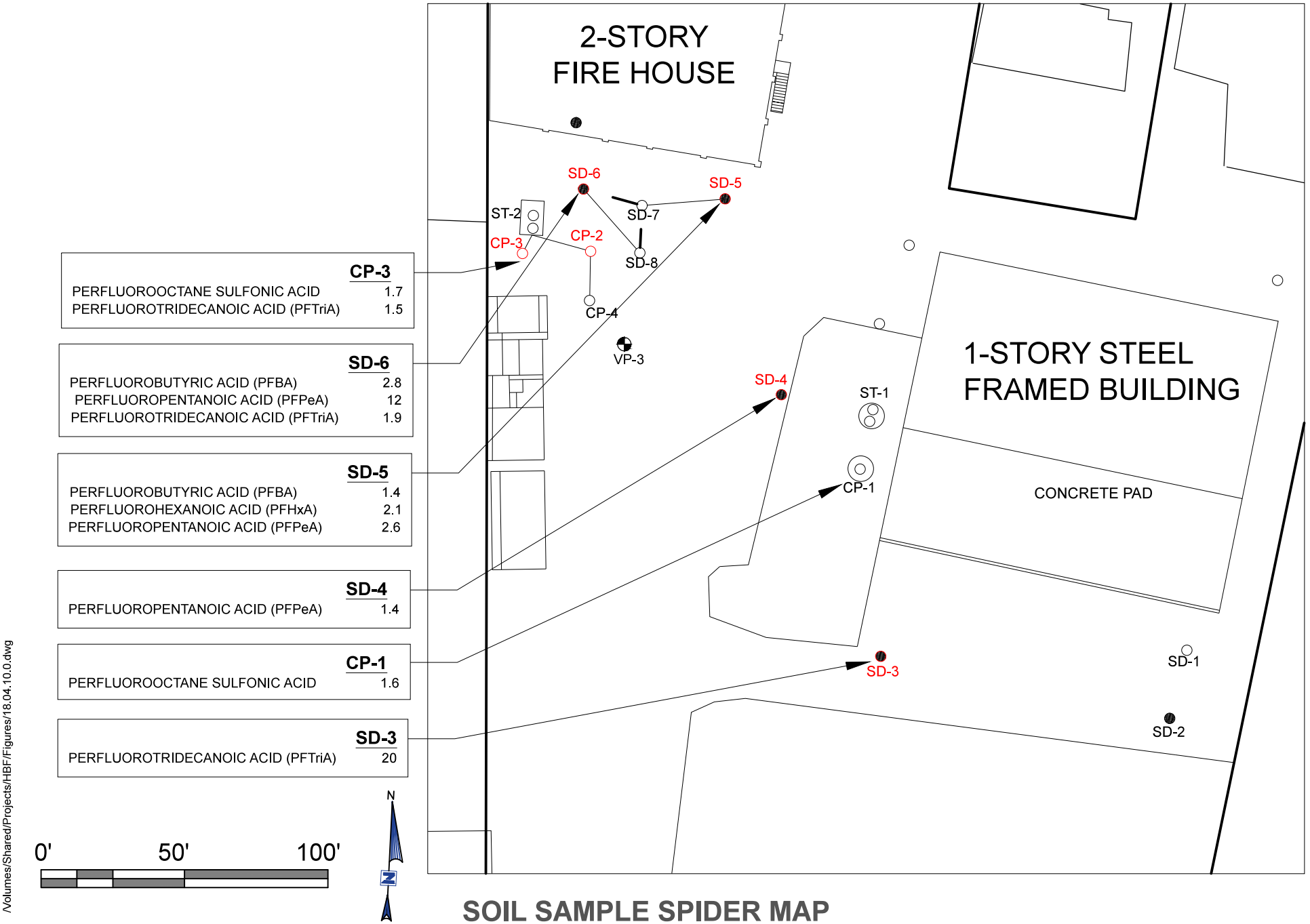
HAMPTON BAYS FIRE DISTRICT
69 W. MONTAUK HWY,
HAMPTON BAYS, NY 11946

ZEB ENVIRONMENTAL SOLUTIONS, INC.
188 WEST MONTAUK HIGHWAY, SUITE E6
HAMPTON BAYS, NY 11946
PH: (631) 594-5300
E-MAIL: Zyoungman@ZEBenvironmental.com

DATE:	JOB No.:	FIGURE No.:
11/20/17	HBF-1701	1

APPROVED BY:	DESIGNED BY:	DRAWN BY:	SCALE:	SHEET
ZY	DD	DD	AS SHOWN	1 OF 2


VP-1
6.26'
VP-2
6.21'
H.B.F.D. NORTH PARCEL 1
H.B.F.D. NORTH PARCEL 2
GW FLOW
6.20'
EL: 41'
MIXED RESIDENTIAL AND
COMMERCIAL USE
MONATUK HIGHWAY
6.20'
2-STORY
FIRE HOUSE
SD-6
SD-5
SD-7
ST-2
CP-3
CP-2
SD-8
CP-4
1-STORY STEEL
FRAMED BUILDING
SD-4
ST-1
CP-1
CONCRETE PAD
EL: 53'
SD-3
SD-1
SD-2
6.19'
VP-5
6.14'
VP-6
6.19'
6.19
EL: 49'
EL: 50'
GOOD GROUND ROAD
N
SITE PLAN &
GW ELEVATIONS
= VERTICAL PROFILE WELL
0'
50'
100'
REVISION
DATE
INITIAL
COMMENTS
HAMPTON BAYS FIRE
DISTRICT
FIGURE:
2
ENVIRONMENTAL SOLUTIONS, INC.
188 WEST MONTAUK HIGHWAY, SUITE E6
HAMPTON BAYS, NY 11946
PH: (631) 594-5300
E-MAIL: Zyoungman@ZEBenvironmental.com
DATE:
05/08/2018
JOB No.:
HBF-1701
APPROVED BY:
ZY
DESIGNED BY: DD
DRAWN BY: DD
SCALE: AS SHOWN
SHEET:1 OF 1



/Volumes/Shared/Projects/HBF/Figures/18.04.10.0.dwg

SOIL SAMPLE SPIDER MAP

ZEB ENVIRONMENTAL SOLUTIONS, INC.
188 WEST MONTAUK HIGHWAY, SUITE E6
HAMPTON BAYS, NY 11946
PH: (631) 594-5300
E-MAIL: Zyoungman@ZEBenvironmental.com

69 West Montauk Hwy,
Hampton Bays, NY 11946

DATE:	JOB No.:	FIGURE No.:
05/08/2018	HBF-1701	3

APPROVED BY:	DESIGNED BY:	DRAWN BY:	SCALE:	SHEET
ZY	DD	DD	-	- OF -

VP-1 (45-50)

PERFLUOROOCTANE SULFONIC ACID	230
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	120
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	130

VP-1 (65-70)

PERFLUOROOCTANE SULFONIC ACID	30
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	140
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	140

VP-1 (85-90)

PERFLUOROHEXANESULFONIC ACID	22
PERFLUORONONANOIC ACID	40
PERFLUOROOCTANE SULFONIC ACID	58
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	120
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	130

VP-2 (45-50)

PERFLUOROOCTANE SULFONIC ACID	65
PERFLUOROPENTANOIC ACID (PFPeA)	20
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	120
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	130

VP-2 (70-75)

Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	110
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	120

VP-2 (90-95)

Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	120
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	140

VP-3 (45-50)

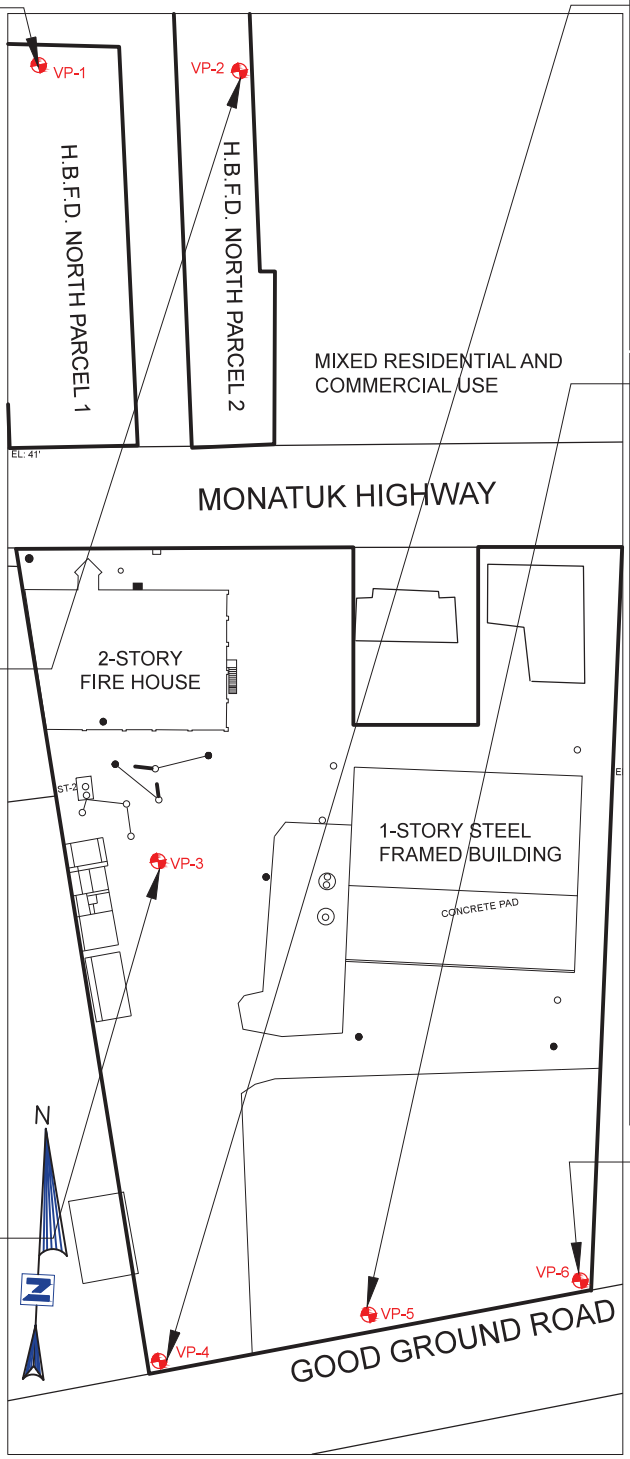
PERFLUOROHEXANOIC ACID (PFHxA)	37
PERFLUORONONANOIC ACID	21
Perfluorooctane Sulfonamide (FOSA)	150
PERFLUOROOCTANE SULFONIC ACID	200
Perfluorooctanoic acid (PFOA)	56
PERFLUOROPENTANOIC ACID (PFPeA)	45
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	110
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	130
SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE (8:2)	210

VP-3 (65-70)

PERFLUOROOCTANE SULFONIC ACID	35
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	100
SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE (8:2)	110

VP-3 (65-70)

Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	110
SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE (8:2)	110



GW SPIDER MAP

= VERTICAL PROFILE WELL

(all values are provided in ng/L)

0' 75' 150'

VP-4 (50-55)

Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	120
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	130

VP-4 (70-75)

Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	110
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	120

VP-4 (90-95)

Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	110
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	120

VP-5 (50-55)

Perfluorooctanoic acid	230
Perfluoroheptanoic Acid (PFHpA)	46
PERFLUOROHEXANESULFONIC ACID	61
PERFLUORONONANOIC ACID	21
PERFLUOROOCTANE SULFONIC ACID	2400
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	110
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	120
SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE (8:2)	45

VP-5 (70-75)

Perfluoroheptanoic Acid (PFHpA)	54
PERFLUOROHEXANESULFONIC ACID	250
PERFLUOROHEXANOIC ACID (PFHxA)	56
PERFLUORONONANOIC ACID	40
Perfluorooctane Sulfonamide (FOSA)	87
PERFLUOROOCTANE SULFONIC ACID	580
Perfluorooctanoic acid (PFOA)	250
PERFLUOROPENTANOIC ACID (PFPeA)	44
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	120
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	130
SODIUM 1H,1H,2H,2H-PERFLUORODECANE SULFONATE (8:2)	130

VP-5 (90-95)

PERFLUOROOCTANE SULFONIC ACID	69
Perfluorooctanoic acid (PFOA)	78
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	120
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	120

VP-6 (50-55)

PERFLUOROBUTANOIC ACID	37
PERFLUOROHEPTANOIC ACID	120
PERFLUOROHEXANESULFONIC ACID	470
PERFLUOROHEXANOIC ACID (PFHxA)	96
Perfluorooctanoic acid (PFOA)	25
PERFLUOROPENTANOIC ACID (PFPeA)	110
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	110
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	130

VP-6 (70-75)

PERFLUOROHEXANESULFONIC ACID	37
PERFLUOROHEXANOIC ACID (PFHxA)	12
PERFLUOROOCTANE SULFONIC ACID	78
Perfluorooctanoic acid (PFOA)	96
PERFLUOROPENTANOIC ACID (PFPeA)	48
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	100
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	120

VP-6 (90-95)

PERFLUOROHEXANESULFONIC ACID	31
PERFLUOROOCTANE SULFONIC ACID	76
Perfluorooctanoic acid (PFOA)	52
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-decane sulfonate (6:2)	110
Sodium 1H,1H,2H,2H-perfluoro-1-[1,2-13C2]-octane sulfonate (6:2)	110

ZEB ENVIRONMENTAL SOLUTIONS, INC.
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HAMPTON BAYS, NY 11946
PH: (631) 594-5300
E-MAIL: Zyoungman@ZEBenvironmental.com

REVISION	DATE	INITIAL	COMMENTS

DATE:	JOB No.:	APPROVED BY:	
05/29/2018	HBF-1701	ZY	

DESIGNED BY: DD	DRAWN BY: DD	SCALE: AS SHOWN	SHEET: 1 OF 1

HAMPTON BAYS FIRE DISTRICT

FIGURE: 4

APPENDIX A

LABORATORY ANALYTICAL REPORTS – SEDIMENT SAMPLES

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

TestAmerica Job ID: 320-35535-1
Client Project/Site: PFAS, New York

For:
Zeb Environmental Solutions Inc
188 West Montauk Highway
E6
Hampton Bays, New York 11946

Attn: Zeb Youngman

Authorized for release by:
2/19/2018 9:12:27 AM

Laura Turpen, Project Manager I
(916)374-4414
laura.turpen@testamericainc.com

Table of Contents

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
F1	MS and/or MSD Recovery is outside acceptance limits.
B	Compound was found in the blank and sample.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 320-35535-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative
320-35535-1

Comments
No additional comments.

Receipt
The samples were received on 1/31/2018 9:30 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 2.1º C.

LCMS
Method(s) 537 (modified): The internal standard (IS) recovery was below control limits for the following sample. The associated undiluted sample was within control limits for the internal standard; therefore, data is being reported.
SD-4 (320-35535-3)

Method(s) 537 (modified): The Isotope Dilution Analyte (IDA) recoveries associated with the following sample are below the method recommended limit for d5-NEtFOSAA and d5-NEtFOSAA: CP-1 (320-35535-1[MSD]). Generally, data quality is not considered affected if the IDA signal-to-noise ratio is greater than 10:1, which is achieved for all IDA in the sample.

Method(s) 537 (modified): The matrix spike duplicate (MSD) recovery for preparation batch 320-206755 and analytical batch 320-208950 was outside control limits for Perfluorotridecanoic Acid (PFTriA). Sample matrix interference and/or non-homogeneity are suspected because the associated laboratory control sample (LCS) recovery was within acceptance limits.

Method(s) 537 (modified): Internal standard (ISTD) response for the following sample was outside control limits: CP-3 (320-35535-7). The sample was re-analyzed with concurring results, and the original set of data has been reported.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

General Chemistry
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Organic Prep
No analytical or quality issues were noted, other than those described in the Definitions/Glossary page.

Detection Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35535-1

Client Sample ID: CP-1 — Lab Sample ID: 320-35535-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.072	J	0.21	0.029	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.041	J	0.21	0.023	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.043	J	0.21	0.037	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.11	J	0.21	0.032	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.6		0.21	0.21	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: SD-3 — Lab Sample ID: 320-35535-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.17	J	0.26	0.036	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.12	J	0.26	0.099	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.15	J	0.26	0.046	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.22	J	0.26	0.046	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.17	J	0.26	0.086	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic Acid (PFTriA)	20		0.26	0.066	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.22	J	0.26	0.069	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: SD-4 — Lab Sample ID: 320-35535-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.54		0.21	0.030	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.4		0.21	0.082	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.14	J	0.21	0.038	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic Acid (PFTriA)	0.20	J	0.21	0.054	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: SD-5 — Lab Sample ID: 320-35535-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.4		0.23	0.032	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.6		0.23	0.087	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		0.23	0.047	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.25		0.23	0.041	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.29		0.23	0.041	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic Acid (PFTriA)	0.57		0.23	0.058	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.077	J	0.23	0.061	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.038	J	0.23	0.035	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: SD-6 — Lab Sample ID: 320-35535-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	2.8		0.29	0.041	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	12		0.29	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.48		0.29	0.13	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.40		0.29	0.053	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.57		0.29	0.053	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic Acid (PFTriA)	1.9		0.29	0.075	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.093	J	0.29	0.046	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.16	J	0.29	0.058	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: CP-2 — Lab Sample ID: 320-35535-6

This Detection Summary does not include radiochemical test results.

Client Sample ID: CP-2 (Continued) — Lab Sample ID: 320-35535-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.25	J	0.29	0.040	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.13	J	0.29	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.075	J	0.29	0.051	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.11	J	0.29	0.031	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.12	J	0.29	0.051	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.10	J	0.29	0.095	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic Acid (PFTriA)	0.68		0.29	0.073	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.12	J	0.29	0.077	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.047	J	0.29	0.036	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.18	J	0.29	0.044	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.3		0.29	0.29	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: CP-3 — Lab Sample ID: 320-35535-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.33		0.27	0.038	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.086	J	0.27	0.049	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.084	J	0.27	0.030	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.19	J	0.27	0.049	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.27		0.27	0.091	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic Acid (PFTriA)	1.5		0.27	0.070	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.14	J	0.27	0.074	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.24	J	0.27	0.042	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.7		0.27	0.27	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanesulfonic acid (PFDS)	0.093	J	0.27	0.053	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: DUP-01 — Lab Sample ID: 320-35535-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.25	J	0.29	0.040	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.12	J	0.29	0.11	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	0.12	J	0.29	0.12	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.075	J	0.29	0.052	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.12	J	0.29	0.032	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	0.15	J	0.29	0.052	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorododecanoic acid (PFDoA)	0.12	J	0.29	0.097	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotridecanoic Acid (PFTriA)	0.75		0.29	0.074	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorotetradecanoic acid (PFTeA)	0.17	J	0.29	0.078	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.19	J	0.29	0.045	ug/Kg	1	☼	537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	1.5		0.29	0.29	ug/Kg	1	☼	537 (modified)	Total/NA

Client Sample ID: EQUIPMENT BLANK — Lab Sample ID: 320-35535-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.27	J B	1.9	0.16	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: CP-1
Date Collected: 01/29/18 13:45
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-1
Matrix: Solid
Percent Solids: 96.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.072**	**J**	0.21	0.029	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.079	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.088	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorodecanoic acid (PFDA)	**0.041**	**J**	0.21	0.023	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluoroundecanoic acid (PFUnA)	**0.043**	**J**	0.21	0.037	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorotridecanoic Acid (PFTriA)	ND	F1	0.21	0.052	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.055	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorohexanesulfonic acid (PFHxS)	**0.11**	**J**	0.21	0.032	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorooctanesulfonic acid (PFOS)	**1.6**		0.21	0.21	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.21	0.084	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
6:2FTS	ND		2.1	0.15	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
8:2FTS	ND		2.1	0.26	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C5 PFPeA	*70*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C2 PFHxA	*62*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C4-PFHpA	*60*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C4 PFOA	*66*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C5 PFNA	*64*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C2 PFDA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C2 PFUnA	*65*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C2 PFDoA	*58*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C2-PFTeDA	*64*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C3-PFBS	*62*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
18O2 PFHxS	*62*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C4 PFOS	*61*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C8 FOSA	*61*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
d3-NMeFOSAA	*51*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
d5-NEtFOSAA	*49*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
M2-6:2FTS	*76*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
M2-8:2FTS	*76*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**3.1**		0.1	0.1	%			02/02/18 10:57	1
Percent Solids	**96.9**		0.1	0.1	%			02/02/18 10:57	1

Client Sample ID: SD-3
Date Collected: 01/29/18 14:00
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-2
Matrix: Solid
Percent Solids: 77.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.17**	**J**	0.26	0.036	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluoropentanoic acid (PFPeA)	**0.12**	**J**	0.26	0.099	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorohexanoic acid (PFHxA)	ND		0.26	0.054	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluoroheptanoic acid (PFHpA)	ND		0.26	0.037	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorooctanoic acid (PFOA)	ND		0.26	0.11	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorononanoic acid (PFNA)	**0.15**	**J**	0.26	0.046	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorodecanoic acid (PFDA)	ND		0.26	0.028	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluoroundecanoic acid (PFUnA)	**0.22**	**J**	0.26	0.046	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorododecanoic acid (PFDoA)	**0.17**	**J**	0.26	0.086	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorotridecanoic Acid (PFTriA)	**20**		0.26	0.066	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorotetradecanoic acid (PFTeA)	**0.22**	**J**	0.26	0.069	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.26	0.032	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.26	0.040	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.26	0.045	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.26	0.26	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.26	0.050	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.26	0.11	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.6	0.50	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.6	0.48	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
6:2FTS	ND		2.6	0.19	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1
8:2FTS	ND		2.6	0.32	ug/Kg	☼	02/02/18 14:19	02/17/18 15:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*60*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C5 PFPeA	*71*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C2 PFHxA	*59*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C4-PFHpA	*59*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C4 PFOA	*63*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C5 PFNA	*62*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C2 PFDA	*70*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C2 PFUnA	*70*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C2 PFDoA	*69*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C2-PFTeDA	*81*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C3-PFBS	*72*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
18O2 PFHxS	*65*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C4 PFOS	*63*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C8 FOSA	*65*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
d3-NMeFOSAA	*58*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
d5-NEtFOSAA	*55*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
M2-6:2FTS	*77*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
M2-8:2FTS	*92*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**22.6**		0.1	0.1	%			02/02/18 10:57	1

Client Sample ID: SD-3

Date Collected: 01/29/18 14:00
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-2
Matrix: Solid
Percent Solids: 77.4

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	77.4		0.1	0.1	%			02/02/18 10:57	1

Client Sample ID: SD-4

Date Collected: 01/29/18 14:10
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-3
Matrix: Solid
Percent Solids: 92.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	0.54		0.21	0.030	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluoropentanoic acid (PFPeA)	1.4		0.21	0.082	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.045	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.031	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.092	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluoroundecanoic acid (PFUnA)	0.14	J	0.21	0.038	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.071	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorotridecanoic Acid (PFTriA)	0.20	J	0.21	0.054	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.058	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.027	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.21	0.21	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.042	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.21	0.087	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.42	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
6:2FTS	ND		2.1	0.16	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1
8:2FTS	ND		2.1	0.27	ug/Kg	☼	02/02/18 14:19	02/17/18 15:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*65*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C5 PFPeA	*80*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C2 PFHxA	*72*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C4-PFHpA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C4 PFOA	*79*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C5 PFNA	*80*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C2 PFDA	*76*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C2 PFUnA	*92*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C2 PFDoA	*73*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C2-PFTeDA	*80*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C3-PFBS	*82*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
18O2 PFHxS	*79*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C4 PFOS	*78*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C8 FOSA	*63*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
d3-NMeFOSAA	*70*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
d5-NEtFOSAA	*87*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*

Client Sample ID: SD-4

Lab Sample ID: 320-35535-3
Date Collected: 01/29/18 14:10
Matrix: Solid
Date Received: 01/31/18 09:30
Percent Solids: 92.2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2FTS	112		25 - 150	02/02/18 14:19	02/17/18 15:28	1
M2-8:2FTS	123		25 - 150	02/02/18 14:19	02/17/18 15:28	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	7.8		0.1	0.1	%			02/02/18 10:57	1
Percent Solids	92.2		0.1	0.1	%			02/02/18 10:57	1

Client Sample ID: SD-5

Lab Sample ID: 320-35535-4
Date Collected: 01/29/18 14:17
Matrix: Solid
Date Received: 01/31/18 09:30
Percent Solids: 88.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.4		0.23	0.032	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluoropentanoic acid (PFPeA)	2.6		0.23	0.087	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorohexanoic acid (PFHxA)	2.1		0.23	0.047	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.033	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.097	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorononanoic acid (PFNA)	0.25		0.23	0.041	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.025	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluoroundecanoic acid (PFUnA)	0.29		0.23	0.041	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.076	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorotridecanoic Acid (PFTriA)	0.57		0.23	0.058	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorotetradecanoic acid (PFTeA)	0.077	J	0.23	0.061	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.028	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorohexanesulfonic acid (PFHxS)	0.038	J	0.23	0.035	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.23	0.040	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.23	0.23	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.23	0.044	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.23	0.093	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.3	0.44	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.3	0.42	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
6:2FTS	ND		2.3	0.17	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1
8:2FTS	ND		2.3	0.28	ug/Kg	☼	02/02/18 14:19	02/17/18 15:36	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	54		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C5 PFPeA	66		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C2 PFHxA	69		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C4-PFHpA	60		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C4 PFOA	67		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C5 PFNA	72		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C2 PFDA	75		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C2 PFUnA	89		25 - 150	02/02/18 14:19	02/17/18 15:36	1

Client Sample ID: SD-5

Date Collected: 01/29/18 14:17
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-4

Matrix: Solid
Percent Solids: 88.0

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	63		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C2-PFTeDA	87		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C3-PFBS	74		25 - 150	02/02/18 14:19	02/17/18 15:36	1
18O2 PFHxS	76		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C4 PFOS	76		25 - 150	02/02/18 14:19	02/17/18 15:36	1
13C8 FOSA	57		25 - 150	02/02/18 14:19	02/17/18 15:36	1
d3-NMeFOSAA	76		25 - 150	02/02/18 14:19	02/17/18 15:36	1
d5-NEtFOSAA	71		25 - 150	02/02/18 14:19	02/17/18 15:36	1
M2-6:2FTS	110		25 - 150	02/02/18 14:19	02/17/18 15:36	1
M2-8:2FTS	133		25 - 150	02/02/18 14:19	02/17/18 15:36	1

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	11.9		0.1	0.1	%			02/02/18 10:57	1
Percent Solids	88.1		0.1	0.1	%			02/02/18 10:57	1

Client Sample ID: SD-6

Date Collected: 01/29/18 14:40
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-5

Matrix: Solid
Percent Solids: 67.7

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	2.8		0.29	0.041	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluoropentanoic acid (PFPeA)	12		0.29	0.11	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorohexanoic acid (PFHxA)	ND		0.29	0.062	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluoroheptanoic acid (PFHpA)	ND		0.29	0.043	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorooctanoic acid (PFOA)	0.48		0.29	0.13	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorononanoic acid (PFNA)	0.40		0.29	0.053	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorodecanoic acid (PFDA)	ND		0.29	0.032	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluoroundecanoic acid (PFUnA)	0.57		0.29	0.053	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorododecanoic acid (PFDoA)	ND		0.29	0.099	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorotridecanoic Acid (PFTriA)	1.9		0.29	0.075	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.29	0.080	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.29	0.037	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorohexanesulfonic acid (PFHxS)	0.093	J	0.29	0.046	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.29	0.052	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.29	0.29	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorodecanesulfonic acid (PFDS)	0.16	J	0.29	0.058	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.29	0.12	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.9	0.58	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.9	0.55	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
6:2FTS	ND		2.9	0.22	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
8:2FTS	ND		2.9	0.37	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1

Client Sample ID: SD-6

Lab Sample ID: 320-35535-5
Date Collected: 01/29/18 14:40
Matrix: Solid
Date Received: 01/31/18 09:30
Percent Solids: 67.7

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*38*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C5 PFPeA	*43*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C2 PFHxA	*41*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C4-PFHpA	*39*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C4 PFOA	*45*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C5 PFNA	*54*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C2 PFDA	*57*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C2 PFUnA	*64*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C2 PFDoA	*44*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C2-PFTeDA	*57*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C3-PFBS	*56*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
18O2 PFHxS	*50*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C4 PFOS	*49*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C8 FOSA	*43*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
d3-NMeFOSAA	*40*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
d5-NEtFOSAA	*50*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
M2-6:2FTS	*82*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
M2-8:2FTS	*101*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**32.3**		0.1	0.1	%			02/02/18 10:57	1
Percent Solids	**67.7**		0.1	0.1	%			02/02/18 10:57	1

Client Sample ID: CP-2

Lab Sample ID: 320-35535-6
Date Collected: 01/29/18 15:10
Matrix: Solid
Date Received: 01/31/18 09:30
Percent Solids: 70.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.25**	**J**	0.29	0.040	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluoropentanoic acid (PFPeA)	**0.13**	**J**	0.29	0.11	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorohexanoic acid (PFHxA)	ND		0.29	0.060	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluoroheptanoic acid (PFHpA)	ND		0.29	0.041	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorooctanoic acid (PFOA)	ND		0.29	0.12	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorononanoic acid (PFNA)	**0.075**	**J**	0.29	0.051	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorodecanoic acid (PFDA)	**0.11**	**J**	0.29	0.031	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluoroundecanoic acid (PFUnA)	**0.12**	**J**	0.29	0.051	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorododecanoic acid (PFDoA)	**0.10**	**J**	0.29	0.095	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorotridecanoic Acid (PFTriA)	**0.68**		0.29	0.073	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorotetradecanoic acid (PFTeA)	**0.12**	**J**	0.29	0.077	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorobutanesulfonic acid (PFBS)	**0.047**	**J**	0.29	0.036	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorohexanesulfonic acid (PFHxS)	**0.18**	**J**	0.29	0.044	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.29	0.050	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorooctanesulfonic acid (PFOS)	**1.3**		0.29	0.29	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1

Client Sample ID: CP-2

Date Collected: 01/29/18 15:10
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-6
Matrix: Solid
Percent Solids: 70.2

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorodecanesulfonic acid (PFDS)	ND		0.29	0.056	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.29	0.12	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.9	0.56	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.9	0.53	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
6:2FTS	ND		2.9	0.21	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1
8:2FTS	ND		2.9	0.36	ug/Kg	☼	02/02/18 14:19	02/17/18 15:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*56*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C5 PFPeA	*68*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C2 PFHxA	*54*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C4-PFHpA	*55*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C4 PFOA	*68*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C5 PFNA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C2 PFDA	*84*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C2 PFUnA	*83*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C2 PFDoA	*86*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C2-PFTeDA	*99*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C3-PFBS	*78*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
18O2 PFHxS	*69*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C4 PFOS	*68*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C8 FOSA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
d3-NMeFOSAA	*78*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
d5-NEtFOSAA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
M2-6:2FTS	*98*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
M2-8:2FTS	*130*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**29.8**		0.1	0.1	%			02/02/18 10:57	1
Percent Solids	**70.2**		0.1	0.1	%			02/02/18 10:57	1

Client Sample ID: CP-3

Date Collected: 01/29/18 15:35
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-7
Matrix: Solid
Percent Solids: 72.5

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.33**		0.27	0.038	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluoropentanoic acid (PFPeA)	ND		0.27	0.10	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorohexanoic acid (PFHxA)	ND		0.27	0.057	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluoroheptanoic acid (PFHpA)	ND		0.27	0.040	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorooctanoic acid (PFOA)	ND		0.27	0.12	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorononanoic acid (PFNA)	**0.086**	**J**	0.27	0.049	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorodecanoic acid (PFDA)	**0.084**	**J**	0.27	0.030	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluoroundecanoic acid (PFUnA)	**0.19**	**J**	0.27	0.049	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorododecanoic acid (PFDoA)	**0.27**		0.27	0.091	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1

Client Sample ID: CP-3

Date Collected: 01/29/18 15:35
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-7
Matrix: Solid
Percent Solids: 72.5

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorotridecanoic Acid (PFTriA)	**1.5**		0.27	0.070	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorotetradecanoic acid (PFTeA)	**0.14**	**J**	0.27	0.074	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.27	0.034	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorohexanesulfonic acid (PFHxS)	**0.24**	**J**	0.27	0.042	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.27	0.048	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorooctanesulfonic acid (PFOS)	**1.7**		0.27	0.27	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorodecanesulfonic acid (PFDS)	**0.093**	**J**	0.27	0.053	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.27	0.11	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.7	0.53	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.7	0.50	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
6:2FTS	ND		2.7	0.20	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
8:2FTS	ND		2.7	0.34	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*43*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C5 PFPeA	*52*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C2 PFHxA	*40*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C4-PFHpA	*46*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C4 PFOA	*49*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C5 PFNA	*48*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C2 PFDA	*55*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C2 PFUnA	*64*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C2 PFDoA	*66*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C2-PFTeDA	*80*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C3-PFBS	*58*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
18O2 PFHxS	*50*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C4 PFOS	*52*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
13C8 FOSA	*45*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
d3-NMeFOSAA	*63*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
d5-NEtFOSAA	*55*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
M2-6:2FTS	*76*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*
M2-8:2FTS	*103*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:15*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**27.5**		0.1	0.1	%			02/02/18 10:57	1
Percent Solids	**72.5**		0.1	0.1	%			02/02/18 10:57	1

Client Sample ID: DUP-01

Date Collected: 01/29/18 11:11
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-8
Matrix: Solid
Percent Solids: 68.6

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.25**	**J**	0.29	0.040	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1

Client Sample ID: DUP-01
Date Collected: 01/29/18 11:11
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-8
Matrix: Solid
Percent Solids: 68.6

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluoropentanoic acid (PFPeA)	**0.12**	**J**	0.29	0.11	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorohexanoic acid (PFHxA)	ND		0.29	0.061	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluoroheptanoic acid (PFHpA)	ND		0.29	0.042	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorooctanoic acid (PFOA)	**0.12**	**J**	0.29	0.12	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorononanoic acid (PFNA)	**0.075**	**J**	0.29	0.052	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorodecanoic acid (PFDA)	**0.12**	**J**	0.29	0.032	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluoroundecanoic acid (PFUnA)	**0.15**	**J**	0.29	0.052	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorododecanoic acid (PFDoA)	**0.12**	**J**	0.29	0.097	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorotridecanoic Acid (PFTriA)	**0.75**		0.29	0.074	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorotetradecanoic acid (PFTeA)	**0.17**	**J**	0.29	0.078	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.29	0.036	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorohexanesulfonic acid (PFHxS)	**0.19**	**J**	0.29	0.045	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.29	0.051	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorooctanesulfonic acid (PFOS)	**1.5**		0.29	0.29	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.29	0.056	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.29	0.12	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.9	0.56	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.9	0.53	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
6:2FTS	ND		2.9	0.22	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1
8:2FTS	ND		2.9	0.36	ug/Kg	☼	02/02/18 14:19	02/17/18 16:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C5 PFPeA	*66*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C2 PFHxA	*55*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C4-PFHpA	*56*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C4 PFOA	*68*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C5 PFNA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C2 PFDA	*75*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C2 PFUnA	*78*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C2 PFDoA	*85*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C2-PFTeDA	*104*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C3-PFBS	*72*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
18O2 PFHxS	*68*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C4 PFOS	*65*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C8 FOSA	*64*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
d3-NMeFOSAA	*78*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
d5-NEtFOSAA	*69*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
M2-6:2FTS	*99*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
M2-8:2FTS	*131*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*

General Chemistry

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Moisture	**31.4**		0.1	0.1	%			02/02/18 10:57	1

Client Sample ID: DUP-01

Lab Sample ID: 320-35535-8
Date Collected: 01/29/18 11:11
Matrix: Solid
Date Received: 01/31/18 09:30
Percent Solids: 68.6

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	RL	Unit	D	Prepared	Analyzed	Dil Fac
Percent Solids	68.6		0.1	0.1	%			02/02/18 10:57	1

Client Sample ID: EQUIPMENT BLANK

Lab Sample ID: 320-35535-9
Date Collected: 01/29/18 16:00
Matrix: Water
Date Received: 01/31/18 09:30

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.9	0.34	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluoropentanoic acid (PFPeA)	ND		1.9	0.47	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.56	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.24	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.82	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorohexanesulfonic acid (PFHxS)	0.27	J B	1.9	0.16	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.52	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/02/18 08:04	02/03/18 09:02	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/02/18 08:04	02/03/18 09:02	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/02/18 08:04	02/03/18 09:02	1
6:2FTS	ND		19	1.9	ng/L		02/02/18 08:04	02/03/18 09:02	1
8:2FTS	ND		19	1.9	ng/L		02/02/18 08:04	02/03/18 09:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C5 PFPeA	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C2 PFHxA	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C4-PFHpA	*101*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C5 PFNA	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C2 PFDA	*112*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C2 PFUnA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C2 PFDoA	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C2-PFTeDA	*133*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C3-PFBS	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
18O2 PFHxS	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C4 PFOS	*109*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C8 FOSA	*101*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
d3-NMeFOSAA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
d5-NEtFOSAA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35535-1

Client Sample ID: EQUIPMENT BLANK
Date Collected: 01/29/18 16:00
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-9
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2FTS	99		25 - 150	02/02/18 08:04	02/03/18 09:02	1
M2-8:2FTS	97		25 - 150	02/02/18 08:04	02/03/18 09:02	1

Isotope Dilution Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35535-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Solid **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-35535-1	CP-1	59	70	62	60	66	64	67	65
320-35535-1 MS	CP-1	48	59	57	52	58	57	68	68
320-35535-1 MSD	CP-1	38	42	40	36	41	40	43	44
320-35535-2	SD-3	60	71	59	59	63	62	70	70
320-35535-3	SD-4	65	80	72	67	79	80	76	92
320-35535-4	SD-5	54	66	69	60	67	72	75	89
320-35535-5	SD-6	38	43	41	39	45	54	57	64
320-35535-6	CP-2	56	68	54	55	68	67	84	83
320-35535-7	CP-3	43	52	40	46	49	48	55	64
320-35535-8	DUP-01	54	66	55	56	68	67	75	78
LCS 320-206755/2-A	Lab Control Sample	74	87	83	75	81	70	79	76
MB 320-206755/1-A	Method Blank	57	61	60	48	59	48	56	57

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	3C3-PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	-NMeFOSA (25-150)	-NEtFOSA (25-150)
320-35535-1	CP-1	58	64	62	62	61	61	51	49
320-35535-1 MS	CP-1	70	76	63	63	63	62	54	54
320-35535-1 MSD	CP-1	46	64	47	46	42	41	33	33
320-35535-2	SD-3	69	81	72	65	63	65	58	55
320-35535-3	SD-4	73	80	82	79	78	63	70	87
320-35535-4	SD-5	63	87	74	76	76	57	76	71
320-35535-5	SD-6	44	57	56	50	49	43	40	50
320-35535-6	CP-2	86	99	78	69	68	67	78	67
320-35535-7	CP-3	66	80	58	50	52	45	63	55
320-35535-8	DUP-01	85	104	72	68	65	64	78	69
LCS 320-206755/2-A	Lab Control Sample	71	83	87	88	82	76	61	64
MB 320-206755/1-A	Method Blank	53	56	62	65	60	58	41	46

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)						
320-35535-1	CP-1	76	76						
320-35535-1 MS	CP-1	67	76						
320-35535-1 MSD	CP-1	49	51						
320-35535-2	SD-3	77	92						
320-35535-3	SD-4	112	123						
320-35535-4	SD-5	110	133						
320-35535-5	SD-6	82	101						
320-35535-6	CP-2	98	130						
320-35535-7	CP-3	76	103						
320-35535-8	DUP-01	99	131						
LCS 320-206755/2-A	Lab Control Sample	79	81						
MB 320-206755/1-A	Method Blank	58	58						

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
PFHpA = 13C4-PFHpA
PFOA = 13C4 PFOA

PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2-PFTeDA
13C3-PFBS = 13C3-PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
M262FTS = M2-6:2FTS
M282FTS = M2-8:2FTS

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFBA	PFPeA	PFHxA	PFHpA	PFOA	PFNA	PFDA	PFUnA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-35535-9	EQUIPMENT BLANK	110	113	111	101	108	113	112	108
LCS 320-206637/2-A	Lab Control Sample	112	110	111	110	111	109	111	106
LCSD 320-206637/3-A	Lab Control Sample Dup	112	106	103	108	104	110	112	103
MB 320-206637/1-A	Method Blank	113	110	109	108	108	110	114	108

		Percent Isotope Dilution Recovery (Acceptance Limits)							
		PFDoA	PFTDA	3C3-PFBS	PFHxS	PFOS	PFOSA	-NMeFOSA	-NEtFOSA
Lab Sample ID	Client Sample ID	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)	(25-150)
320-35535-9	EQUIPMENT BLANK	107	133	107	110	109	101	110	108
LCS 320-206637/2-A	Lab Control Sample	104	124	101	105	103	101	97	96
LCSD 320-206637/3-A	Lab Control Sample Dup	108	126	107	106	104	102	97	101
MB 320-206637/1-A	Method Blank	99	118	106	111	108	100	95	99

		Percent Isotope Dilution Recovery (Acceptance Limits)	
		M262FTS	M282FTS
Lab Sample ID	Client Sample ID	(25-150)	(25-150)
320-35535-9	EQUIPMENT BLANK	99	97
LCS 320-206637/2-A	Lab Control Sample	93	93
LCSD 320-206637/3-A	Lab Control Sample Dup	92	94
MB 320-206637/1-A	Method Blank	91	96

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
PFHpA = 13C4-PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2-PFTeDA
13C3-PFBS = 13C3-PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3-NMeFOSAA = d3-NMeFOSAA

Isotope Dilution Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35535-1

d5-NEtFOSAA = d5-NEtFOSAA
M262FTS = M2-6:2FTS
M282FTS = M2-8:2FTS

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-206637/1-A
Matrix: Water
Analysis Batch: 206883

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206637

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.0	0.35	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorohexanesulfonic acid (PFHxS)	0.238	J	2.0	0.17	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		02/02/18 08:04	02/03/18 06:34	1
Perfluorooctane Sulfonamide (FOSA)	ND		2.0	0.35	ng/L		02/02/18 08:04	02/03/18 06:34	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		02/02/18 08:04	02/03/18 06:34	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		02/02/18 08:04	02/03/18 06:34	1
6:2FTS	ND		20	2.0	ng/L		02/02/18 08:04	02/03/18 06:34	1
8:2FTS	ND		20	2.0	ng/L		02/02/18 08:04	02/03/18 06:34	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C5 PFPeA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C2 PFHxA	*109*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C4-PFHpA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C5 PFNA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C2 PFDA	*114*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C2 PFUnA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C2 PFDoA	*99*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C2-PFTeDA	*118*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C3-PFBS	*106*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
18O2 PFHxS	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C4 PFOS	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
13C8 FOSA	*100*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
d3-NMeFOSAA	*95*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
d5-NEtFOSAA	*99*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
M2-6:2FTS	*91*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*
M2-8:2FTS	*96*		*25 - 150*	*02/02/18 08:04*	*02/03/18 06:34*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-206637/2-A
Matrix: Water
Analysis Batch: 206883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206637

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	35.9		ng/L		90	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	34.8		ng/L		87	66 - 126
Perfluorohexanoic acid (PFHxA)	40.0	34.3		ng/L		86	66 - 126
Perfluoroheptanoic acid (PFHpA)	40.0	37.0		ng/L		92	66 - 126
Perfluorooctanoic acid (PFOA)	40.0	36.4		ng/L		91	64 - 124
Perfluorononanoic acid (PFNA)	40.0	35.8		ng/L		90	68 - 128
Perfluorodecanoic acid (PFDA)	40.0	35.8		ng/L		89	69 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	37.1		ng/L		93	60 - 120
Perfluorododecanoic acid (PFDoA)	40.0	36.7		ng/L		92	71 - 131
Perfluorotridecanoic Acid (PFTriA)	40.0	38.4		ng/L		96	72 - 132
Perfluorotetradecanoic acid (PFTeA)	40.0	36.6		ng/L		91	68 - 128
Perfluorobutanesulfonic acid (PFBS)	35.4	36.3		ng/L		103	73 - 133
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.5		ng/L		89	63 - 123
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	36.6		ng/L		96	68 - 128
Perfluorooctanesulfonic acid (PFOS)	37.1	34.8		ng/L		94	67 - 127
Perfluorodecanesulfonic acid (PFDS)	38.6	37.1		ng/L		96	68 - 128
Perfluorooctane Sulfonamide (FOSA)	40.0	36.9		ng/L		92	70 - 130
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	34.0		ng/L		85	67 - 127
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	38.3		ng/L		96	65 - 125
6:2FTS	37.9	31.9		ng/L		84	66 - 126
8:2FTS	38.3	35.2		ng/L		92	67 - 127

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*112*		*25 - 150*
13C5 PFPeA	*110*		*25 - 150*
13C2 PFHxA	*111*		*25 - 150*
13C4-PFHpA	*110*		*25 - 150*
13C4 PFOA	*111*		*25 - 150*
13C5 PFNA	*109*		*25 - 150*
13C2 PFDA	*111*		*25 - 150*
13C2 PFUnA	*106*		*25 - 150*
13C2 PFDoA	*104*		*25 - 150*
13C2-PFTeDA	*124*		*25 - 150*
13C3-PFBS	*101*		*25 - 150*
18O2 PFHxS	*105*		*25 - 150*
13C4 PFOS	*103*		*25 - 150*
13C8 FOSA	*101*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-206637/2-A
Matrix: Water
Analysis Batch: 206883

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206637

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d3-NMeFOSAA	97		25 - 150
d5-NEtFOSAA	96		25 - 150
M2-6:2FTS	93		25 - 150
M2-8:2FTS	93		25 - 150

Lab Sample ID: LCSD 320-206637/3-A
Matrix: Water
Analysis Batch: 206883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206637

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			40.0	36.6		ng/L		91	70 - 130	2	30
Perfluoropentanoic acid (PFPeA)			40.0	35.1		ng/L		88	66 - 126	1	30
Perfluorohexanoic acid (PFHxA)			40.0	36.6		ng/L		92	66 - 126	6	30
Perfluoroheptanoic acid (PFHpA)			40.0	35.4		ng/L		89	66 - 126	4	30
Perfluorooctanoic acid (PFOA)			40.0	35.5		ng/L		89	64 - 124	3	30
Perfluorononanoic acid (PFNA)			40.0	35.0		ng/L		87	68 - 128	2	30
Perfluorodecanoic acid (PFDA)			40.0	34.8		ng/L		87	69 - 129	3	30
Perfluoroundecanoic acid (PFUnA)			40.0	38.2		ng/L		96	60 - 120	3	30
Perfluorododecanoic acid (PFDoA)			40.0	36.1		ng/L		90	71 - 131	2	30
Perfluorotridecanoic Acid (PFTriA)			40.0	39.6		ng/L		99	72 - 132	3	30
Perfluorotetradecanoic acid (PFTeA)			40.0	41.8		ng/L		105	68 - 128	13	30
Perfluorobutanesulfonic acid (PFBS)			35.4	33.7		ng/L		95	73 - 133	7	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	32.9		ng/L		90	63 - 123	1	30
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	35.1		ng/L		92	68 - 128	4	30
Perfluorooctanesulfonic acid (PFOS)			37.1	32.6		ng/L		88	67 - 127	6	30
Perfluorodecanesulfonic acid (PFDS)			38.6	38.1		ng/L		99	68 - 128	2	30
Perfluorooctane Sulfonamide (FOSA)			40.0	36.3		ng/L		91	70 - 130	2	30
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)			40.0	35.6		ng/L		89	67 - 127	5	30
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)			40.0	36.5		ng/L		91	65 - 125	5	30
6:2FTS			37.9	31.4		ng/L		83	66 - 126	1	30
8:2FTS			38.3	35.5		ng/L		93	67 - 127	1	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C4 PFBA	112		25 - 150
13C5 PFPeA	106		25 - 150
13C2 PFHxA	103		25 - 150
13C4-PFHpA	108		25 - 150
13C4 PFOA	104		25 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCSD 320-206637/3-A
Matrix: Water
Analysis Batch: 206883

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 206637

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	Limits
13C5 PFNA	110		25 - 150
13C2 PFDA	112		25 - 150
13C2 PFUnA	103		25 - 150
13C2 PFDoA	108		25 - 150
13C2-PFTeDA	126		25 - 150
13C3-PFBS	107		25 - 150
18O2 PFHxS	106		25 - 150
13C4 PFOS	104		25 - 150
13C8 FOSA	102		25 - 150
d3-NMeFOSAA	97		25 - 150
d5-NEtFOSAA	101		25 - 150
M2-6:2FTS	92		25 - 150
M2-8:2FTS	94		25 - 150

Lab Sample ID: MB 320-206755/1-A
Matrix: Solid
Analysis Batch: 208950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206755

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		0.20	0.028	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluoropentanoic acid (PFPeA)	ND		0.20	0.077	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorohexanoic acid (PFHxA)	ND		0.20	0.042	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluoroheptanoic acid (PFHpA)	ND		0.20	0.029	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorooctanoic acid (PFOA)	ND		0.20	0.086	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorononanoic acid (PFNA)	ND		0.20	0.036	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorodecanoic acid (PFDA)	ND		0.20	0.022	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluoroundecanoic acid (PFUnA)	ND		0.20	0.036	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorododecanoic acid (PFDoA)	ND		0.20	0.067	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorotridecanoic Acid (PFTriA)	ND		0.20	0.051	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.20	0.054	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.20	0.025	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.20	0.031	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.20	0.035	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.20	0.20	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.20	0.039	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.20	0.082	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.0	0.39	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.0	0.37	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
6:2FTS	ND		2.0	0.15	ug/Kg		02/02/18 14:19	02/17/18 14:41	1
8:2FTS	ND		2.0	0.25	ug/Kg		02/02/18 14:19	02/17/18 14:41	1

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	57		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C5 PFPeA	61		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C2 PFHxA	60		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C4-PFHpA	48		25 - 150	02/02/18 14:19	02/17/18 14:41	1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: MB 320-206755/1-A
Matrix: Solid
Analysis Batch: 208950

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 206755

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	59		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C5 PFNA	48		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C2 PFDA	56		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C2 PFUnA	57		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C2 PFDoA	53		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C2-PFTeDA	56		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C3-PFBS	62		25 - 150	02/02/18 14:19	02/17/18 14:41	1
18O2 PFHxS	65		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C4 PFOS	60		25 - 150	02/02/18 14:19	02/17/18 14:41	1
13C8 FOSA	58		25 - 150	02/02/18 14:19	02/17/18 14:41	1
d3-NMeFOSAA	41		25 - 150	02/02/18 14:19	02/17/18 14:41	1
d5-NEtFOSAA	46		25 - 150	02/02/18 14:19	02/17/18 14:41	1
M2-6:2FTS	58		25 - 150	02/02/18 14:19	02/17/18 14:41	1
M2-8:2FTS	58		25 - 150	02/02/18 14:19	02/17/18 14:41	1

Lab Sample ID: LCS 320-206755/2-A
Matrix: Solid
Analysis Batch: 208950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206755

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	2.00	1.99		ug/Kg		100	81 - 133
Perfluoropentanoic acid (PFPeA)	2.00	1.78		ug/Kg		89	79 - 120
Perfluorohexanoic acid (PFHxA)	2.00	1.88		ug/Kg		94	75 - 125
Perfluoroheptanoic acid (PFHpA)	2.00	1.80		ug/Kg		90	76 - 124
Perfluorooctanoic acid (PFOA)	2.00	1.95		ug/Kg		98	76 - 121
Perfluorononanoic acid (PFNA)	2.00	1.93		ug/Kg		97	74 - 126
Perfluorodecanoic acid (PFDA)	2.00	1.96		ug/Kg		98	74 - 124
Perfluoroundecanoic acid (PFUnA)	2.00	1.85		ug/Kg		92	74 - 114
Perfluorododecanoic acid (PFDoA)	2.00	2.03		ug/Kg		102	75 - 123
Perfluorotridecanoic Acid (PFTriA)	2.00	2.06		ug/Kg		103	43 - 116
Perfluorotetradecanoic acid (PFTeA)	2.00	1.78		ug/Kg		89	22 - 129
Perfluorobutanesulfonic acid (PFBS)	1.77	1.74		ug/Kg		98	73 - 142
Perfluorohexanesulfonic acid (PFHxS)	1.82	1.65		ug/Kg		91	75 - 121
Perfluoroheptanesulfonic Acid (PFHpS)	1.90	1.95		ug/Kg		102	78 - 146
Perfluorooctanesulfonic acid (PFOS)	1.86	1.93		ug/Kg		104	69 - 131
Perfluorodecanesulfonic acid (PFDS)	1.93	2.00		ug/Kg		104	54 - 113
Perfluorooctane Sulfonamide (FOSA)	2.00	1.98		ug/Kg		99	62 - 135
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	2.00	1.67	J	ug/Kg		84	65 - 135

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-206755/2-A
Matrix: Solid
Analysis Batch: 208950

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 206755

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)			2.00	1.80	J	ug/Kg		90	65 - 135		
6:2FTS			1.90	1.75	J	ug/Kg		92	65 - 135		
8:2FTS			1.92	1.78	J	ug/Kg		93	65 - 135		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*74*		*25 - 150*
13C5 PFPeA	*87*		*25 - 150*
13C2 PFHxA	*83*		*25 - 150*
13C4-PFHpA	*75*		*25 - 150*
13C4 PFOA	*81*		*25 - 150*
13C5 PFNA	*70*		*25 - 150*
13C2 PFDA	*79*		*25 - 150*
13C2 PFUnA	*76*		*25 - 150*
13C2 PFDoA	*71*		*25 - 150*
13C2-PFTeDA	*83*		*25 - 150*
13C3-PFBS	*87*		*25 - 150*
18O2 PFHxS	*88*		*25 - 150*
13C4 PFOS	*82*		*25 - 150*
13C8 FOSA	*76*		*25 - 150*
d3-NMeFOSAA	*61*		*25 - 150*
d5-NEtFOSAA	*64*		*25 - 150*
M2-6:2FTS	*79*		*25 - 150*
M2-8:2FTS	*81*		*25 - 150*

Lab Sample ID: 320-35535-1 MS
Matrix: Solid
Analysis Batch: 208950

Client Sample ID: CP-1
Prep Type: Total/NA
Prep Batch: 206755

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits		
Perfluorobutanoic acid (PFBA)	0.072	J	2.03	2.00		ug/Kg	☼	95	81 - 133		
Perfluoropentanoic acid (PFPeA)	ND		2.03	1.84		ug/Kg	☼	91	79 - 120		
Perfluorohexanoic acid (PFHxA)	ND		2.03	1.82		ug/Kg	☼	90	75 - 125		
Perfluoroheptanoic acid (PFHpA)	ND		2.03	1.84		ug/Kg	☼	91	76 - 124		
Perfluorooctanoic acid (PFOA)	ND		2.03	1.96		ug/Kg	☼	97	76 - 121		
Perfluorononanoic acid (PFNA)	ND		2.03	1.89		ug/Kg	☼	93	74 - 126		
Perfluorodecanoic acid (PFDA)	0.041	J	2.03	1.99		ug/Kg	☼	96	74 - 124		
Perfluoroundecanoic acid (PFUnA)	0.043	J	2.03	1.77		ug/Kg	☼	85	74 - 114		
Perfluorododecanoic acid (PFDoA)	ND		2.03	1.91		ug/Kg	☼	94	75 - 123		
Perfluorotridecanoic Acid (PFTriA)	ND	F1	2.03	1.93		ug/Kg	☼	95	43 - 116		
Perfluorotetradecanoic acid (PFTeA)	ND		2.03	1.91		ug/Kg	☼	94	22 - 129		
Perfluorobutanesulfonic acid (PFBS)	ND		1.80	1.77		ug/Kg	☼	98	73 - 142		
Perfluorohexanesulfonic acid (PFHxS)	0.11	J	1.85	1.69		ug/Kg	☼	85	75 - 121		

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-35535-1 MS
Matrix: Solid
Analysis Batch: 208950

Client Sample ID: CP-1
Prep Type: Total/NA
Prep Batch: 206755

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.94	1.90		ug/Kg	☼	98	78 - 146
Perfluorooctanesulfonic acid (PFOS)	1.6		1.89	3.26		ug/Kg	☼	88	69 - 131
Perfluorodecanesulfonic acid (PFDS)	ND		1.96	2.01		ug/Kg	☼	102	54 - 113
Perfluorooctane Sulfonamide (FOSA)	ND		2.03	2.03		ug/Kg	☼	100	62 - 135
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.03	1.84	J	ug/Kg	☼	91	65 - 135
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.03	2.01		ug/Kg	☼	99	65 - 135
6:2FTS	ND		1.93	1.69	J	ug/Kg	☼	88	65 - 135
8:2FTS	ND		1.95	1.86	J	ug/Kg	☼	95	65 - 135

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C4 PFBA	*48*		*25 - 150*
13C5 PFPeA	*59*		*25 - 150*
13C2 PFHxA	*57*		*25 - 150*
13C4-PFHpA	*52*		*25 - 150*
13C4 PFOA	*58*		*25 - 150*
13C5 PFNA	*57*		*25 - 150*
13C2 PFDA	*68*		*25 - 150*
13C2 PFUnA	*68*		*25 - 150*
13C2 PFDoA	*70*		*25 - 150*
13C2-PFTeDA	*76*		*25 - 150*
13C3-PFBS	*63*		*25 - 150*
18O2 PFHxS	*63*		*25 - 150*
13C4 PFOS	*63*		*25 - 150*
13C8 FOSA	*62*		*25 - 150*
d3-NMeFOSAA	*54*		*25 - 150*
d5-NEtFOSAA	*54*		*25 - 150*
M2-6:2FTS	*67*		*25 - 150*
M2-8:2FTS	*76*		*25 - 150*

Lab Sample ID: 320-35535-1 MSD
Matrix: Solid
Analysis Batch: 208950

Client Sample ID: CP-1
Prep Type: Total/NA
Prep Batch: 206755

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	0.072	J	2.06	2.02		ug/Kg	☼	95	81 - 133	1	30
Perfluoropentanoic acid (PFPeA)	ND		2.06	1.89		ug/Kg	☼	92	79 - 120	2	30
Perfluorohexanoic acid (PFHxA)	ND		2.06	1.96		ug/Kg	☼	95	75 - 125	7	30
Perfluoroheptanoic acid (PFHpA)	ND		2.06	1.88		ug/Kg	☼	92	76 - 124	2	30
Perfluorooctanoic acid (PFOA)	ND		2.06	1.99		ug/Kg	☼	97	76 - 121	1	30
Perfluorononanoic acid (PFNA)	ND		2.06	1.93		ug/Kg	☼	94	74 - 126	2	30
Perfluorodecanoic acid (PFDA)	0.041	J	2.06	1.96		ug/Kg	☼	93	74 - 124	1	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-35535-1 MSD
Matrix: Solid
Analysis Batch: 208950

Client Sample ID: CP-1
Prep Type: Total/NA
Prep Batch: 206755

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroundecanoic acid (PFUnA)	0.043	J	2.06	1.65		ug/Kg	☼	78	74 - 114	7	30
Perfluorododecanoic acid (PFDoA)	ND		2.06	2.08		ug/Kg	☼	101	75 - 123	9	30
Perfluorotridecanoic Acid (PFTriA)	ND	F1	2.06	2.50	F1	ug/Kg	☼	122	43 - 116	26	30
Perfluorotetradecanoic acid (PFTeA)	ND		2.06	2.05		ug/Kg	☼	100	22 - 129	7	30
Perfluorobutanesulfonic acid (PFBS)	ND		1.82	1.80		ug/Kg	☼	99	73 - 142	1	30
Perfluorohexanesulfonic acid (PFHxS)	0.11	J	1.87	1.74		ug/Kg	☼	87	75 - 121	3	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.96	1.97		ug/Kg	☼	100	78 - 146	4	30
Perfluorooctanesulfonic acid (PFOS)	1.6		1.91	3.38		ug/Kg	☼	94	69 - 131	4	30
Perfluorodecanesulfonic acid (PFDS)	ND		1.98	2.15		ug/Kg	☼	109	54 - 113	7	30
Perfluorooctane Sulfonamide (FOSA)	ND		2.06	2.02		ug/Kg	☼	98	62 - 135	0	30
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.06	1.78	J	ug/Kg	☼	86	65 - 135	4	30
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.06	2.00	J	ug/Kg	☼	97	65 - 135	1	30
6:2FTS	ND		1.95	1.66	J	ug/Kg	☼	85	65 - 135	2	30
8:2FTS	ND		1.97	1.76	J	ug/Kg	☼	90	65 - 135	5	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*38*		*25 - 150*
13C5 PFPeA	*42*		*25 - 150*
13C2 PFHxA	*40*		*25 - 150*
13C4-PFHpA	*36*		*25 - 150*
13C4 PFOA	*41*		*25 - 150*
13C5 PFNA	*40*		*25 - 150*
13C2 PFDA	*43*		*25 - 150*
13C2 PFUnA	*44*		*25 - 150*
13C2 PFDoA	*46*		*25 - 150*
13C2-PFTeDA	*64*		*25 - 150*
13C3-PFBS	*47*		*25 - 150*
18O2 PFHxS	*46*		*25 - 150*
13C4 PFOS	*42*		*25 - 150*
13C8 FOSA	*41*		*25 - 150*
d3-NMeFOSAA	*33*		*25 - 150*
d5-NEtFOSAA	*33*		*25 - 150*
M2-6:2FTS	*49*		*25 - 150*
M2-8:2FTS	*51*		*25 - 150*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35535-1

Method: D 2216 - Percent Moisture

Lab Sample ID: 320-35535-1 DU
Matrix: Solid
Analysis Batch: 206681

Client Sample ID: CP-1
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier		DU Result	DU Qualifier	Unit	D			RPD	RPD Limit
Percent Moisture	3.1			3.6		%				16	20
Percent Solids	96.9			96.4		%				0.5	20

LCMS

Prep Batch: 206637

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-35535-9	EQUIPMENT BLANK	Total/NA	Water	3535	
MB 320-206637/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-206637/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-206637/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Prep Batch: 206755

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-35535-1	CP-1	Total/NA	Solid	SHAKE	
320-35535-2	SD-3	Total/NA	Solid	SHAKE	
320-35535-3	SD-4	Total/NA	Solid	SHAKE	
320-35535-4	SD-5	Total/NA	Solid	SHAKE	
320-35535-5	SD-6	Total/NA	Solid	SHAKE	
320-35535-6	CP-2	Total/NA	Solid	SHAKE	
320-35535-7	CP-3	Total/NA	Solid	SHAKE	
320-35535-8	DUP-01	Total/NA	Solid	SHAKE	
MB 320-206755/1-A	Method Blank	Total/NA	Solid	SHAKE	
LCS 320-206755/2-A	Lab Control Sample	Total/NA	Solid	SHAKE	
320-35535-1 MS	CP-1	Total/NA	Solid	SHAKE	
320-35535-1 MSD	CP-1	Total/NA	Solid	SHAKE	

Analysis Batch: 206883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-35535-9	EQUIPMENT BLANK	Total/NA	Water	537 (modified)	206637
MB 320-206637/1-A	Method Blank	Total/NA	Water	537 (modified)	206637
LCS 320-206637/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	206637
LCSD 320-206637/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	206637

Analysis Batch: 208950

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-35535-1	CP-1	Total/NA	Solid	537 (modified)	206755
320-35535-2	SD-3	Total/NA	Solid	537 (modified)	206755
320-35535-3	SD-4	Total/NA	Solid	537 (modified)	206755
320-35535-4	SD-5	Total/NA	Solid	537 (modified)	206755
320-35535-5	SD-6	Total/NA	Solid	537 (modified)	206755
320-35535-6	CP-2	Total/NA	Solid	537 (modified)	206755
320-35535-7	CP-3	Total/NA	Solid	537 (modified)	206755
320-35535-8	DUP-01	Total/NA	Solid	537 (modified)	206755
MB 320-206755/1-A	Method Blank	Total/NA	Solid	537 (modified)	206755
LCS 320-206755/2-A	Lab Control Sample	Total/NA	Solid	537 (modified)	206755
320-35535-1 MS	CP-1	Total/NA	Solid	537 (modified)	206755
320-35535-1 MSD	CP-1	Total/NA	Solid	537 (modified)	206755

General Chemistry

Analysis Batch: 206681

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-35535-1	CP-1	Total/NA	Solid	D 2216	
320-35535-2	SD-3	Total/NA	Solid	D 2216	
320-35535-3	SD-4	Total/NA	Solid	D 2216	
320-35535-4	SD-5	Total/NA	Solid	D 2216	

General Chemistry (Continued)

Analysis Batch: 206681 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-35535-5	SD-6	Total/NA	Solid	D 2216	
320-35535-6	CP-2	Total/NA	Solid	D 2216	
320-35535-7	CP-3	Total/NA	Solid	D 2216	
320-35535-8	DUP-01	Total/NA	Solid	D 2216	
320-35535-1 DU	CP-1	Total/NA	Solid	D 2216	

Lab Chronicle

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35535-1

Client Sample ID: CP-1
Date Collected: 01/29/18 13:45
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-1
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			206681	02/02/18 10:57	SSS	TAL SAC

Client Sample ID: CP-1
Date Collected: 01/29/18 13:45
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-1
Matrix: Solid
Percent Solids: 96.9

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.02 g	10.00 mL	206755	02/02/18 14:19	TWL	TAL SAC
Total/NA	Analysis	537 (modified)		1			208950	02/17/18 14:57	ABH	TAL SAC

Client Sample ID: SD-3
Date Collected: 01/29/18 14:00
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-2
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			206681	02/02/18 10:57	SSS	TAL SAC

Client Sample ID: SD-3
Date Collected: 01/29/18 14:00
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-2
Matrix: Solid
Percent Solids: 77.4

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.02 g	10.00 mL	206755	02/02/18 14:19	TWL	TAL SAC
Total/NA	Analysis	537 (modified)		1			208950	02/17/18 15:21	ABH	TAL SAC

Client Sample ID: SD-4
Date Collected: 01/29/18 14:10
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-3
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			206681	02/02/18 10:57	SSS	TAL SAC

Client Sample ID: SD-4
Date Collected: 01/29/18 14:10
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-3
Matrix: Solid
Percent Solids: 92.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.09 g	10.00 mL	206755	02/02/18 14:19	TWL	TAL SAC
Total/NA	Analysis	537 (modified)		1			208950	02/17/18 15:28	ABH	TAL SAC

Client Sample ID: SD-5
Date Collected: 01/29/18 14:17
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-4
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			206681	02/02/18 10:57	SSS	TAL SAC

Client Sample ID: SD-5
Date Collected: 01/29/18 14:17
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-4
Matrix: Solid
Percent Solids: 88.0

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.03 g	10.00 mL	206755	02/02/18 14:19	TWL	TAL SAC
Total/NA	Analysis	537 (modified)		1			208950	02/17/18 15:36	ABH	TAL SAC

Client Sample ID: SD-6
Date Collected: 01/29/18 14:40
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-5
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			206681	02/02/18 10:57	SSS	TAL SAC

Client Sample ID: SD-6
Date Collected: 01/29/18 14:40
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-5
Matrix: Solid
Percent Solids: 67.7

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.01 g	10.00 mL	206755	02/02/18 14:19	TWL	TAL SAC
Total/NA	Analysis	537 (modified)		1			208950	02/17/18 15:44	ABH	TAL SAC

Client Sample ID: CP-2
Date Collected: 01/29/18 15:10
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-6
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			206681	02/02/18 10:57	SSS	TAL SAC

Client Sample ID: CP-2
Date Collected: 01/29/18 15:10
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-6
Matrix: Solid
Percent Solids: 70.2

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.00 g	10.00 mL	206755	02/02/18 14:19	TWL	TAL SAC
Total/NA	Analysis	537 (modified)		1			208950	02/17/18 15:52	ABH	TAL SAC

Client Sample ID: CP-3
Date Collected: 01/29/18 15:35
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-7
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			206681	02/02/18 10:57	SSS	TAL SAC

Client Sample ID: CP-3
Date Collected: 01/29/18 15:35
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-7
Matrix: Solid
Percent Solids: 72.5

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.06 g	10.00 mL	206755	02/02/18 14:19	TWL	TAL SAC
Total/NA	Analysis	537 (modified)		1			208950	02/17/18 16:15	ABH	TAL SAC

Client Sample ID: DUP-01
Date Collected: 01/29/18 11:11
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-8
Matrix: Solid

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Analysis	D 2216		1			206681	02/02/18 10:57	SSS	TAL SAC

Client Sample ID: DUP-01
Date Collected: 01/29/18 11:11
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-8
Matrix: Solid
Percent Solids: 68.6

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	SHAKE			5.05 g	10.00 mL	206755	02/02/18 14:19	TWL	TAL SAC
Total/NA	Analysis	537 (modified)		1			208950	02/17/18 16:23	ABH	TAL SAC

Client Sample ID: EQUIPMENT BLANK
Date Collected: 01/29/18 16:00
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			258.8 mL	10.0 mL	206637	02/02/18 08:04	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			206883	02/03/18 09:02	JRB	TAL SAC

Laboratory References:
TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35535-1

Laboratory: TestAmerica Sacramento

Unless otherwise noted, all analytes for this laboratory were covered under each accreditation/certification below.

Authority	Program	EPA Region	Identification Number	Expiration Date
Oregon	NELAP	10	4040	01-29-19

Analysis Method	Prep Method	Matrix	Analyte

Method Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35535-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
D 2216	Percent Moisture	ASTM	TAL SAC

Protocol References:

ASTM = ASTM International

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35535-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-35535-1	CP-1	Solid	01/29/18 13:45	01/31/18 09:30
320-35535-2	SD-3	Solid	01/29/18 14:00	01/31/18 09:30
320-35535-3	SD-4	Solid	01/29/18 14:10	01/31/18 09:30
320-35535-4	SD-5	Solid	01/29/18 14:17	01/31/18 09:30
320-35535-5	SD-6	Solid	01/29/18 14:40	01/31/18 09:30
320-35535-6	CP-2	Solid	01/29/18 15:10	01/31/18 09:30
320-35535-7	CP-3	Solid	01/29/18 15:35	01/31/18 09:30
320-35535-8	DUP-01	Solid	01/29/18 11:11	01/31/18 09:30
320-35535-9	EQUIPMENT BLANK	Water	01/29/18 16:00	01/31/18 09:30

SACoAmto

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): ZEB YOUNGMAN	Samplers Name (Printed): DAN D'ARCY	Site/Project Identification: HAMPTON BAYS FIRE DEPARTMENT
Company: ZeR ENVIRONMENTAL	P. O. #	State (Location of site): NJ: ☐ NY: ☒ Other:
		Regulatory Program: NYSDEC
Address: 188 WEST MONTAUK HWY	Analysis Turnaround Time: Standard ☒	ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST): FULL LIST PFAS
City: HAMPTON BAY State: NY 11946	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: 631 594 5300 Fax		

LAB USE ONLY — Project No: / Job No: / Sample Numbers:

Sample Identification	Date	Time	Matrix	No. of Cont.	FULL LIST PFAS											Sample Numbers
CP-1 (MS/MSD)	1/29/18	1345	S	3	X											
SD-3	↓	1400	↓	1	↓											
SD-4		1410		1												
SD-5		1417		1												
SD-6		1440		1												
CP-2		1510		1												
CP-3		1535		1												
DUP-01		1111		1												
EQUIPMENT BLANK	↓	1600	W	1	↓											

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH, 6 = Other ______, 7 = Other ______ Soil: Water:

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) Zeb Youngman	ZeR	1/30/18, 1130	1) [signature]	TA
2) [signature]	TANYEC	1/30/18 1700	2) [signature]	TA-Sac 1/31/18 938
3)			3)	
4)			4)	

2.1

320-35535 Chain of Custody

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Massachusetts (M-NJ312), North Carolina (No. 578)

Login Sample Receipt Checklist

Client: Zeb Environmental Solutions Inc

Job Number: 320-35535-1

Login Number: 35535
List Number: 1
Creator: Nelson, Kym D

List Source: TestAmerica Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	True	998581
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX B

GROUNDWATER SAMPLING LOGS

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-1 (85-90)	SAMPLED BY	DD
DATE SAMPLED	1/31/18	TIME SAMPLED	852
DEPTH TO WATER (feet)	37.56	TOTAL WELL DEPTH (feet)	90
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.12	PURGE TIME (Min)	55
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
852	5.45	0.200	629.0	5.32	8.48	-104	6.4
	5.37	0.20	619.57	5.24	8.35	####	6.32

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-1 (65-70)	SAMPLED BY	DD
DATE SAMPLED	1/31/18	TIME SAMPLED	947
DEPTH TO WATER (feet)	36.65	TOTAL WELL DEPTH (feet)	70
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.09	PURGE TIME (Min)	43
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
947	5.86	0.832	322.0	9.45	8.52	-52	4.1

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-1 (65-70)	SAMPLED BY	DD
DATE SAMPLED	1/31/18	TIME SAMPLED	1030
DEPTH TO WATER (feet)	37.38	TOTAL WELL DEPTH (feet)	50
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.10	PURGE TIME (Min)	15
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1030	5.92	5.870	999.0	9.04	8.10	-112	1.5

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-2 (90-95)	SAMPLED BY	DD
DATE SAMPLED	1/30/18	TIME SAMPLED	1128
DEPTH TO WATER (feet)	37.56	TOTAL WELL DEPTH (feet)	95
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.13	PURGE TIME (Min)	53
SAMPLE APPEARANCE	CLEAR	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1330	5.47	0.221	516.0	5.32	8.51	-101	7.0

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-2 (70-75)	SAMPLED BY	DD
DATE SAMPLED	1/30/18	TIME SAMPLED	1258
DEPTH TO WATER (feet)	36.65	TOTAL WELL DEPTH (feet)	75
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.10	PURGE TIME (Min)	46
SAMPLE APPEARANCE	LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1258	5.44	0.215	999.0	9.04	8.59	-112	4.7

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-2 (45-50)	SAMPLED BY	DD
DATE SAMPLED	1/30/18	TIME SAMPLED	1330
DEPTH TO WATER (feet)	37.83	TOTAL WELL DEPTH (feet)	50
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.10	PURGE TIME (Min)	15
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1330	5.61	0.587	999.0	9.45	8.55	-112	1.5

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-3 (85-90)	SAMPLED BY	DD
DATE SAMPLED	2/2/18	TIME SAMPLED	930
DEPTH TO WATER (feet)	38.61	TOTAL WELL DEPTH (feet)	90
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.10	PURGE TIME (Min)	64
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
930	5.99	0.298	999.0	6.74	8.29	-62	6.3

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-3 (65-70)	SAMPLED BY	DD
DATE SAMPLED	2/2/18	TIME SAMPLED	1000
DEPTH TO WATER (feet)	39.45	TOTAL WELL DEPTH (feet)	70
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.11	PURGE TIME (Min)	35
SAMPLE APPEARANCE	CLEAR	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1000	5.69	0.634	75.4	6.57	6.90	8	3.7

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-3 (45-50)	SAMPLED BY	DD
DATE SAMPLED	2/2/18	TIME SAMPLED	1025
DEPTH TO WATER (feet)	39.72	TOTAL WELL DEPTH (feet)	50
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.10	PURGE TIME (Min)	13
SAMPLE APPEARANCE	CLEAR	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1025	5.87	0.461	244.0	4.43	7.96	-32	1.3

DUP-01 Also collected at 1025

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-4 (90-95)	SAMPLED BY	DD
DATE SAMPLED	2/2/18	TIME SAMPLED	1100
DEPTH TO WATER (feet)	46.71	TOTAL WELL DEPTH (feet)	95
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.10	PURGE TIME (Min)	58
SAMPLE APPEARANCE	LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1100	5.81	0.331	999.0	6.87	6.08	-15	5.9

MS / MSD Sample Also Collected

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-4 (70-75)	SAMPLED BY	DD
DATE SAMPLED	2/2/18	TIME SAMPLED	1127
DEPTH TO WATER (feet)	45.27	TOTAL WELL DEPTH (feet)	75
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.10	PURGE TIME (Min)	38
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1127	5.84	0.386	198.0	7.37	6.65	14	3.6

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-4 (50-55)	SAMPLED BY	DD
DATE SAMPLED	2/2/18	TIME SAMPLED	1146
DEPTH TO WATER (feet)	45.17	TOTAL WELL DEPTH (feet)	55
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.07	PURGE TIME (Min)	18
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1146	5.81	0.331	315.0	8.68	6.69	-13	1.2

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-5 (90-95)	SAMPLED BY	DD
DATE SAMPLED	2/1/18	TIME SAMPLED	1315
DEPTH TO WATER (feet)	50.05	TOTAL WELL DEPTH (feet)	95
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.11	PURGE TIME (Min)	48
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1315	5.29	0.246	999.0	10.91	9.19	-15	5.5

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-5 (70-75)	SAMPLED BY	DD
DATE SAMPLED	2/1/18	TIME SAMPLED	1350
DEPTH TO WATER (feet)	49.68	TOTAL WELL DEPTH (feet)	75
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.08	PURGE TIME (Min)	38
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1350	5.83	0.532	423.0	11.47	8.33	4	3.1

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-5 (50-55)	SAMPLED BY	DD
DATE SAMPLED	2/1/18	TIME SAMPLED	1750
DEPTH TO WATER (feet)	49.11	TOTAL WELL DEPTH (feet)	55
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.05	PURGE TIME (Min)	16
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
1750	5.59	0.358	999.0	12.72	4.96	-1	0.7

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-6 (90-95)	SAMPLED BY	DD
DATE SAMPLED	2/2/18	TIME SAMPLED	810
DEPTH TO WATER (feet)	46.61	TOTAL WELL DEPTH (feet)	95
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.11	PURGE TIME (Min)	55
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
810	5.69	0.751	145.0	9.07	4.07	50	5.9

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-6 (90-95)	SAMPLED BY	DD
DATE SAMPLED	2/2/18	TIME SAMPLED	848
DEPTH TO WATER (feet)	46.25	TOTAL WELL DEPTH (feet)	75
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.10	PURGE TIME (Min)	34
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
848	5.87	7.440	147.0	6.73	5.02	5	3.5

ENVIRONMENTAL SOLUTIONS, INC.

VERTICAL PROFILE WELL SAMPLING LOGS

SITE INFORMATION

SITE ID/PROJECT NUMBER:	69 W MONTAUK HWY, HAMPTON BAYS, NY 11946		
SAMPLING POINT	VP-6 (50-55)	SAMPLED BY	DD
DATE SAMPLED	2/2/18	TIME SAMPLED	910
DEPTH TO WATER (feet)	46.26	TOTAL WELL DEPTH (feet)	55
WELL DIAMETER (inches)	1		

SAMPLING INFORMATION

PURGE METHOD	PURGE 3 WATER VOLUMES	SAMPLE METHOD	WATERA CHECK VALVE
PURGE RATE (GPM)	0.11	PURGE TIME (Min)	10
SAMPLE APPEARANCE	V. LIGHT BROWN	ODORS OBSERVED	NONE
ANALYSIS	MODIFIED EPA 537	LABORATORY	TESTAMERICA LABORATORIES, INC
DATE SHIPPED	2/2/18	SHIPPING METHOD	COURIER

SAMPLING PARAMETERS

Time	pH	Cond. (mS/m)	Turbidity (NTU)	DO mg/L	Temp. (°C)	ORP (mV)	Purge Amount (gallons)
910	6.04	0.456	733.0	6.33	7.17	0	1.1

APPENDIX C

LABORATORY ANALYTICAL REPORTS - GROUNDWATER

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

ANALYTICAL REPORT

TestAmerica Laboratories, Inc.
TestAmerica Sacramento
880 Riverside Parkway
West Sacramento, CA 95605
Tel: (916)373-5600

TestAmerica Job ID: 320-35698-1
Client Project/Site: PFAS, New York

For:
Zeb Environmental Solutions Inc
188 West Montauk Highway
E6
Hampton Bays, New York 11946

Attn: Zeb Youngman

Authorized for release by:
2/22/2018 9:18:00 AM

Laura Turpen, Project Manager I
(916)374-4414
laura.turpen@testamericainc.com

Table of Contents

Definitions/Glossary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.
B	Compound was found in the blank and sample.
*	Isotope Dilution analyte is outside acceptance limits.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
PQL	Practical Quantitation Limit
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)

Job ID: 320-35698-1

Laboratory: TestAmerica Sacramento

Narrative

Job Narrative
320-35698-1

Comments
No additional comments.

Receipt
The samples were received on 2/3/2018 9:05 AM; the samples arrived in good condition, properly preserved and, where required, on ice. The temperature of the cooler at receipt was 0.9º C.

Receipt Exceptions
The container labels for the following sample did not match the information listed on the Chain-of-Custody (COC): Equipment Blank (320-35698-20). The container labels list Field Blank, while the COC lists Equipment Blank. The sample was logged in according to the COC.

LCMS
Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for 13C2-PFTeDA in the following sample: (MB 320-207321/1-A). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

Method(s) 537 (modified): Isotope Dilution Analyte (IDA) recovery is above the method recommended limit for M2-6:2FTS in the following samples: VP-1 (65-70) (320-35698-2) and VP-2 (90-95) (320-35698-4). Quantitation by isotope dilution generally precludes any adverse effect on data quality due to elevated IDA recoveries.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Organic Prep
Method(s) 3535: Approximately 250mL of the following samples, VP-1 (85-90) (320-35698-1), VP-1 (65-70) (320-35698-2), VP-1 (45-50) (320-35698-3), VP-2 (90-95) (320-35698-4), VP-2 (70-75) (320-35698-5), VP-2 (45-50) (320-35698-6), VP-3 (85-90) (320-35698-7), VP-3 (65-70) (320-35698-8), VP-3 (45-50) (320-35698-9), DUP-01 (320-35698-10), VP-4 (90-95) (320-35698-11), VP-4 (90-95) (320-35698-11[MS]), VP-4 (90-95) (320-35698-11[MSD]), VP-4 (70-75) (320-35698-12), VP-4 (50-55) (320-35698-13), VP-5 (90-95) (320-35698-14), VP-5 (70-75) (320-35698-15), VP-5 (50-55) (320-35698-16), VP-6 (90-95) (320-35698-17), VP-6 (70-75) (320-35698-18) and VP-6 (50-55) (320-35698-19), were decanted into a new polypropylene bottle prior to extraction due to the presence of excess sediment which had the potential to clog the solid-phase column. Samples are associated with preparation batch 320-207321.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/Glossary page.

Detection Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-1 (85-90) — Lab Sample ID: 320-35698-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	10		2.0	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	16		2.0	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	19		2.0	0.57	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	11		2.0	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	15		2.0	0.83	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	40		2.0	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	3.5		2.0	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2		2.0	0.20	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	22	B	2.0	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.60	J	2.0	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	58		2.0	0.53	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-1 (65-70) — Lab Sample ID: 320-35698-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.4		1.9	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.8		1.9	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	5.1		1.9	0.56	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.4		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	6.5		1.9	0.82	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	9.3		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	3.5		1.9	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.94	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	6.8	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	30		1.9	0.52	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-1 (45-50) — Lab Sample ID: 320-35698-3

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.3		1.9	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.1		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	9.7		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.0		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	11		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	16		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	1.0	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.9		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	19	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.84	J	1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	230		1.9	0.51	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-2 (90-95) — Lab Sample ID: 320-35698-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	14		1.9	0.33	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.1		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.97	J	1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.1		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.3	J	1.9	0.26	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: VP-2 (90-95) (Continued) — Lab Sample ID: 320-35698-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorodecanoic acid (PFDA)	0.53	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.65	J B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.6		1.9	0.51	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-2 (70-75) — Lab Sample ID: 320-35698-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.89	J	1.9	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.6	J	1.9	0.47	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.97	J	1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	2.7		1.9	0.82	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.79	J	1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.54	J B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.6		1.9	0.52	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-2 (45-50) — Lab Sample ID: 320-35698-6

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	8.6		1.9	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	20		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	18		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	15		1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	15		1.9	0.79	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	13		1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	2.4		1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	1.4	J	1.9	1.0	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.5	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.30	J	1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	65		1.9	0.50	ng/L	1		537 (modified)	Total/NA
6:2FTS	5.3	J	19	1.9	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-3 (85-90) — Lab Sample ID: 320-35698-7

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.34	J	1.9	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	0.50	J	1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.33	J	1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.43	J	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.8		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	3.5	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.8		1.9	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	5.8		1.9	0.33	ng/L	1		537 (modified)	Total/NA
8:2FTS	2.8	J	19	1.9	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-3 (65-70) — Lab Sample ID: 320-35698-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.9		1.9	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	6.2		1.9	0.46	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: VP-3 (65-70) (Continued) — Lab Sample ID: 320-35698-8

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	5.4		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.4		1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.5		1.9	0.79	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	11		1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.89	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	17		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.0	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.64	J	1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	35		1.9	0.50	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	2.9		1.9	0.33	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-3 (45-50) — Lab Sample ID: 320-35698-9

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	14		1.9	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	45		1.9	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	37		1.9	0.56	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	12		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	56		1.9	0.82	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	21		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	3.3		1.9	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	19		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	17	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	2.0		1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	200		1.9	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	150		1.9	0.34	ng/L	1		537 (modified)	Total/NA
6:2FTS	5.9	J	19	1.9	ng/L	1		537 (modified)	Total/NA
8:2FTS	210		19	1.9	ng/L	1		537 (modified)	Total/NA

Client Sample ID: DUP-01 — Lab Sample ID: 320-35698-10

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	14		1.9	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	47		1.9	0.48	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	38		1.9	0.56	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	11		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	53		1.9	0.83	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	20		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	3.4		1.9	0.30	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	18		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	15	B	1.9	0.17	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	2.1		1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	210		1.9	0.53	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	150		1.9	0.34	ng/L	1		537 (modified)	Total/NA
6:2FTS	6.3	J	19	1.9	ng/L	1		537 (modified)	Total/NA
8:2FTS	200		19	1.9	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-4 (90-95) — Lab Sample ID: 320-35698-11

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.8	J	1.9	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2.6		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2.4		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	1.7	J	1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.8		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.61	J	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2.0	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.2		1.9	0.51	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-4 (70-75) — Lab Sample ID: 320-35698-12

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	0.97	J	1.9	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1.4	J	1.9	0.47	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	0.86	J	1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	8.0		1.9	0.81	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	0.60	J	1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	1.1	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	1.6	J B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	3.5		1.9	0.52	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-4 (50-55) — Lab Sample ID: 320-35698-13

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	6.2		1.9	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	4.2		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	6.8		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	3.8		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	4.6		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.0	J	1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.9		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	8.5	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4.8		1.9	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.54	J	1.9	0.33	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-5 (90-95) — Lab Sample ID: 320-35698-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	1.8	J	1.9	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	3.2		1.9	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	5.1		1.9	0.56	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	4.7		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	78		1.9	0.82	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	7.0		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	0.89	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	13	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.49	J	1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	69		1.9	0.52	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	9.9		1.9	0.34	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: VP-5 (90-95) (Continued) — Lab Sample ID: 320-35698-14

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
8:2FTS	11	J	19	1.9	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-5 (70-75) — Lab Sample ID: 320-35698-15

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	15		1.9	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	44		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	56		1.9	0.54	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	54		1.9	0.23	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	250		1.9	0.79	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	40		1.9	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	2.6		1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	9.7		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	250	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	8.2		1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	87		1.9	0.33	ng/L	1		537 (modified)	Total/NA
6:2FTS	17	J	19	1.9	ng/L	1		537 (modified)	Total/NA
8:2FTS	130		19	1.9	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	580		9.3	2.5	ng/L	5		537 (modified)	Total/NA

Client Sample ID: VP-5 (50-55) — Lab Sample ID: 320-35698-16

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	7.1		1.9	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	11		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	17		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	46		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	230		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	21		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	8.5		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	61	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	8.3		1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	2.3		1.9	0.33	ng/L	1		537 (modified)	Total/NA
6:2FTS	45		19	1.9	ng/L	1		537 (modified)	Total/NA
8:2FTS	3.1	J	19	1.9	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS) - DL	2400		19	5.1	ng/L	10		537 (modified)	Total/NA

Client Sample ID: VP-6 (90-95) — Lab Sample ID: 320-35698-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.0		1.9	0.34	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	5.9		1.9	0.47	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	5.2		1.9	0.56	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	6.7		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	52		1.9	0.81	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	17		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	2.2		1.9	0.30	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client Sample ID: VP-6 (90-95) (Continued) — Lab Sample ID: 320-35698-17

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	31	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	1.8	J	1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	76		1.9	0.52	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-6 (70-75) — Lab Sample ID: 320-35698-18

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	19		1.9	0.33	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	48		1.9	0.46	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	12		1.9	0.55	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	8.1		1.9	0.24	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	96		1.9	0.80	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	9.3		1.9	0.26	ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	0.89	J	1.9	0.29	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.2		1.9	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	37	B	1.9	0.16	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	2.3		1.9	0.18	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	78		1.9	0.51	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.67	J	1.9	0.33	ng/L	1		537 (modified)	Total/NA
6:2FTS	6.5	J	19	1.9	ng/L	1		537 (modified)	Total/NA
8:2FTS	6.6	J	19	1.9	ng/L	1		537 (modified)	Total/NA

Client Sample ID: VP-6 (50-55) — Lab Sample ID: 320-35698-19

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	37		2.0	0.35	ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	110		2.0	0.49	ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	96		2.0	0.58	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	120		2.0	0.25	ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	25		2.0	0.85	ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1.2	J	2.0	0.27	ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.3		2.0	0.20	ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	0.37	J	2.0	0.19	ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	5.7		2.0	0.54	ng/L	1		537 (modified)	Total/NA
Perfluorooctane Sulfonamide (FOSA)	0.53	J	2.0	0.35	ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS) - DL	470	B	10	0.85	ng/L	5		537 (modified)	Total/NA

Client Sample ID: Equipment Blank — Lab Sample ID: 320-35698-20

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanesulfonic acid (PFHxS)	0.26	J B	1.9	0.17	ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-1 (85-90)
Date Collected: 01/31/18 08:52
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-1
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**10**		2.0	0.34	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluoropentanoic acid (PFPeA)	**16**		2.0	0.48	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorohexanoic acid (PFHxA)	**19**		2.0	0.57	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluoroheptanoic acid (PFHpA)	**11**		2.0	0.25	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorooctanoic acid (PFOA)	**15**		2.0	0.83	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorononanoic acid (PFNA)	**40**		2.0	0.26	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorodecanoic acid (PFDA)	**3.5**		2.0	0.30	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.28	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**		2.0	0.20	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorohexanesulfonic acid (PFHxS)	**22**	**B**	2.0	0.17	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.60**	**J**	2.0	0.19	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorooctanesulfonic acid (PFOS)	**58**		2.0	0.53	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.31	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorooctane Sulfonamide (FOSA)	ND		2.0	0.34	ng/L		02/07/18 08:45	02/19/18 13:06	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.0	ng/L		02/07/18 08:45	02/19/18 13:06	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		02/07/18 08:45	02/19/18 13:06	1
6:2FTS	ND		20	2.0	ng/L		02/07/18 08:45	02/19/18 13:06	1
8:2FTS	ND		20	2.0	ng/L		02/07/18 08:45	02/19/18 13:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C5 PFPeA	*93*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C2 PFHxA	*87*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C4-PFHpA	*90*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C4 PFOA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C5 PFNA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C2 PFDA	*110*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C2 PFUnA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C2 PFDoA	*115*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C2-PFTeDA	*143*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C3-PFBS	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
18O2 PFHxS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C4 PFOS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C8 FOSA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
d3-NMeFOSAA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
d5-NEtFOSAA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
M2-6:2FTS	*138*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
M2-8:2FTS	*133*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*

Client Sample ID: VP-1 (65-70)

Date Collected: 01/31/18 09:47
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-2

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.4**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluoropentanoic acid (PFPeA)	**3.8**		1.9	0.47	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorohexanoic acid (PFHxA)	**5.1**		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluoroheptanoic acid (PFHpA)	**3.4**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorooctanoic acid (PFOA)	**6.5**		1.9	0.82	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorononanoic acid (PFNA)	**9.3**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorodecanoic acid (PFDA)	**3.5**		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorobutanesulfonic acid (PFBS)	**0.94**	**J**	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorohexanesulfonic acid (PFHxS)	**6.8**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorooctanesulfonic acid (PFOS)	**30**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 13:14	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 13:14	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:14	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:14	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C5 PFPeA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C2 PFHxA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C4-PFHpA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C4 PFOA	*114*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C5 PFNA	*113*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C2 PFDA	*119*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C2 PFUnA	*111*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C2 PFDoA	*117*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C2-PFTeDA	*131*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C3-PFBS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
18O2 PFHxS	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C4 PFOS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C8 FOSA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
d3-NMeFOSAA	*111*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
d5-NEtFOSAA	*115*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
M2-6:2FTS	*155*	*	*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
M2-8:2FTS	*147*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-1 (45-50)
Date Collected: 01/31/18 10:30
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-3
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.3**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluoropentanoic acid (PFPeA)	**6.1**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorohexanoic acid (PFHxA)	**9.7**		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluoroheptanoic acid (PFHpA)	**6.0**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorooctanoic acid (PFOA)	**11**		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorononanoic acid (PFNA)	**16**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorodecanoic acid (PFDA)	**1.0**	**J**	1.9	0.29	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorohexanesulfonic acid (PFHxS)	**19**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.84**	**J**	1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorooctanesulfonic acid (PFOS)	**230**		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:22	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 13:22	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:22	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:22	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C5 PFPeA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C2 PFHxA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C4-PFHpA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C5 PFNA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C2 PFDA	*113*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C2 PFUnA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C2 PFDoA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C2-PFTeDA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C3-PFBS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
18O2 PFHxS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C4 PFOS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C8 FOSA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
d3-NMeFOSAA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
d5-NEtFOSAA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
M2-6:2FTS	*147*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
M2-8:2FTS	*136*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-2 (90-95)
Date Collected: 01/30/18 11:28
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-4
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluoropentanoic acid (PFPeA)	ND		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorohexanoic acid (PFHxA)	**2.1**		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluoroheptanoic acid (PFHpA)	**0.97**	**J**	1.9	0.24	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorooctanoic acid (PFOA)	**2.1**		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorononanoic acid (PFNA)	**1.3**	**J**	1.9	0.26	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorodecanoic acid (PFDA)	**0.53**	**J**	1.9	0.29	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorohexanesulfonic acid (PFHxS)	**0.65**	**J B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorooctanesulfonic acid (PFOS)	**5.6**		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:30	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 13:30	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:30	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:30	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C5 PFPeA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C2 PFHxA	*93*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C4-PFHpA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C5 PFNA	*111*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C2 PFDA	*112*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C2 PFUnA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C2 PFDoA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C2-PFTeDA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C3-PFBS	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
18O2 PFHxS	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C4 PFOS	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C8 FOSA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
d3-NMeFOSAA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
d5-NEtFOSAA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
M2-6:2FTS	*155*	*	*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
M2-8:2FTS	*135*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-2 (70-75)
Date Collected: 01/30/18 12:58
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-5
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.89**	**J**	1.9	0.34	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluoropentanoic acid (PFPeA)	**1.6**	**J**	1.9	0.47	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluoroheptanoic acid (PFHpA)	**0.97**	**J**	1.9	0.24	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorooctanoic acid (PFOA)	**2.7**		1.9	0.82	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorononanoic acid (PFNA)	**0.79**	**J**	1.9	0.26	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorohexanesulfonic acid (PFHxS)	**0.54**	**J B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorooctanesulfonic acid (PFOS)	**3.6**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 13:38	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 13:38	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:38	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:38	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C5 PFPeA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C2 PFHxA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C4-PFHpA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C5 PFNA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C2 PFDA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C2 PFUnA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C2 PFDoA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C2-PFTeDA	*141*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C3-PFBS	*93*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
18O2 PFHxS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C4 PFOS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C8 FOSA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
d5-NEtFOSAA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
M2-6:2FTS	*133*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
M2-8:2FTS	*122*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-2 (45-50)
Date Collected: 01/30/18 13:30
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-6
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**8.6**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluoropentanoic acid (PFPeA)	**20**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorohexanoic acid (PFHxA)	**18**		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluoroheptanoic acid (PFHpA)	**15**		1.9	0.23	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorooctanoic acid (PFOA)	**15**		1.9	0.79	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorononanoic acid (PFNA)	**13**		1.9	0.25	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorodecanoic acid (PFDA)	**2.4**		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluoroundecanoic acid (PFUnA)	**1.4**	**J**	1.9	1.0	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorobutanesulfonic acid (PFBS)	**1.5**	**J**	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorohexanesulfonic acid (PFHxS)	**8.5**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.30**	**J**	1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorooctanesulfonic acid (PFOS)	**65**		1.9	0.50	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:46	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 13:46	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:46	1
6:2FTS	**5.3**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 13:46	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C5 PFPeA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C2 PFHxA	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C4-PFHpA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C4 PFOA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C5 PFNA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C2 PFDA	*113*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C2 PFUnA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C2 PFDoA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C2-PFTeDA	*126*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C3-PFBS	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
18O2 PFHxS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C4 PFOS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C8 FOSA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
d3-NMeFOSAA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
d5-NEtFOSAA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
M2-6:2FTS	*145*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
M2-8:2FTS	*132*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-3 (85-90)
Date Collected: 02/02/18 09:30
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-7
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.34**	**J**	1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluoropentanoic acid (PFPeA)	**0.50**	**J**	1.9	0.46	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluoroheptanoic acid (PFHpA)	**0.33**	**J**	1.9	0.24	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorononanoic acid (PFNA)	**0.43**	**J**	1.9	0.25	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorobutanesulfonic acid (PFBS)	**2.8**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorohexanesulfonic acid (PFHxS)	**3.5**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorooctane Sulfonamide (FOSA)	**5.8**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:53	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 13:53	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:53	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:53	1
8:2FTS	**2.8**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 13:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C5 PFPeA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C2 PFHxA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C4-PFHpA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C5 PFNA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C2 PFDA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C2 PFUnA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C2 PFDoA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C2-PFTeDA	*114*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C3-PFBS	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
18O2 PFHxS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C4 PFOS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C8 FOSA	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
d5-NEtFOSAA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
M2-6:2FTS	*123*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
M2-8:2FTS	*117*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-3 (65-70)
Date Collected: 02/02/18 10:00
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-8
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.9**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluoropentanoic acid (PFPeA)	**6.2**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorohexanoic acid (PFHxA)	**5.4**		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluoroheptanoic acid (PFHpA)	**3.4**		1.9	0.23	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorooctanoic acid (PFOA)	**9.5**		1.9	0.79	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorononanoic acid (PFNA)	**11**		1.9	0.25	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorodecanoic acid (PFDA)	**0.89**	**J**	1.9	0.29	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorobutanesulfonic acid (PFBS)	**17**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorohexanesulfonic acid (PFHxS)	**8.0**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.64**	**J**	1.9	0.18	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorooctanesulfonic acid (PFOS)	**35**		1.9	0.50	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorooctane Sulfonamide (FOSA)	**2.9**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 14:01	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 14:01	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 14:01	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:01	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C5 PFPeA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C2 PFHxA	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C4-PFHpA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C4 PFOA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C5 PFNA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C2 PFDA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C2 PFUnA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C2 PFDoA	*93*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C2-PFTeDA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C3-PFBS	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
18O2 PFHxS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C4 PFOS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C8 FOSA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
d3-NMeFOSAA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
d5-NEtFOSAA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
M2-6:2FTS	*123*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
M2-8:2FTS	*114*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-3 (45-50)
Date Collected: 02/02/18 10:25
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-9
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluoropentanoic acid (PFPeA)	**45**		1.9	0.47	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorohexanoic acid (PFHxA)	**37**		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluoroheptanoic acid (PFHpA)	**12**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorooctanoic acid (PFOA)	**56**		1.9	0.82	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorononanoic acid (PFNA)	**21**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorodecanoic acid (PFDA)	**3.3**		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorobutanesulfonic acid (PFBS)	**19**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorohexanesulfonic acid (PFHxS)	**17**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluoroheptanesulfonic Acid (PFHpS)	**2.0**		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorooctanesulfonic acid (PFOS)	**200**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorooctane Sulfonamide (FOSA)	**150**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:17	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 14:17	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 14:17	1
6:2FTS	**5.9**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 14:17	1
8:2FTS	**210**		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C5 PFPeA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C2 PFHxA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C4-PFHpA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C4 PFOA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C5 PFNA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C2 PFDA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C2 PFUnA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C2 PFDoA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C2-PFTeDA	*127*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C3-PFBS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
18O2 PFHxS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C4 PFOS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C8 FOSA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
d3-NMeFOSAA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
d5-NEtFOSAA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
M2-6:2FTS	*143*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
M2-8:2FTS	*121*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: DUP-01
Date Collected: 02/02/18 00:00
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-10
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluoropentanoic acid (PFPeA)	**47**		1.9	0.48	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorohexanoic acid (PFHxA)	**38**		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluoroheptanoic acid (PFHpA)	**11**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorooctanoic acid (PFOA)	**53**		1.9	0.83	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorononanoic acid (PFNA)	**20**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorodecanoic acid (PFDA)	**3.4**		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorobutanesulfonic acid (PFBS)	**18**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorohexanesulfonic acid (PFHxS)	**15**	**B**	1.9	0.17	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluoroheptanesulfonic Acid (PFHpS)	**2.1**		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorooctanesulfonic acid (PFOS)	**210**		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorooctane Sulfonamide (FOSA)	**150**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:25	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 14:25	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 14:25	1
6:2FTS	**6.3**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 14:25	1
8:2FTS	**200**		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C5 PFPeA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C2 PFHxA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C4-PFHpA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C4 PFOA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C5 PFNA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C2 PFDA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C2 PFUnA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C2 PFDoA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C2-PFTeDA	*136*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C3-PFBS	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
18O2 PFHxS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C4 PFOS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C8 FOSA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
d5-NEtFOSAA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
M2-6:2FTS	*136*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
M2-8:2FTS	*119*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-4 (90-95)
Date Collected: 02/02/18 11:00
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-11
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.8**	**J**	1.9	0.33	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluoropentanoic acid (PFPeA)	**2.6**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorohexanoic acid (PFHxA)	**2.4**		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluoroheptanoic acid (PFHpA)	**1.7**	**J**	1.9	0.23	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorooctanoic acid (PFOA)	**3.8**		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorononanoic acid (PFNA)	**0.61**	**J**	1.9	0.25	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorobutanesulfonic acid (PFBS)	**1.6**	**J**	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorohexanesulfonic acid (PFHxS)	**2.0**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorooctanesulfonic acid (PFOS)	**2.2**		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 14:33	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 14:33	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 14:33	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:33	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C5 PFPeA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C2 PFHxA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C4-PFHpA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C5 PFNA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C2 PFDA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C2 PFUnA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C2 PFDoA	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C2-PFTeDA	*126*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C3-PFBS	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
18O2 PFHxS	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C4 PFOS	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
13C8 FOSA	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
d3-NMeFOSAA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
d5-NEtFOSAA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
M2-6:2FTS	*131*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*
M2-8:2FTS	*121*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:33*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-4 (70-75)
Date Collected: 02/02/18 11:27
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-12
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.97**	**J**	1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluoropentanoic acid (PFPeA)	**1.4**	**J**	1.9	0.47	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluoroheptanoic acid (PFHpA)	**0.86**	**J**	1.9	0.24	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorooctanoic acid (PFOA)	**8.0**		1.9	0.81	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorononanoic acid (PFNA)	**0.60**	**J**	1.9	0.26	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorobutanesulfonic acid (PFBS)	**1.1**	**J**	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorohexanesulfonic acid (PFHxS)	**1.6**	**J B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorooctanesulfonic acid (PFOS)	**3.5**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:56	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 14:56	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 14:56	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:56	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C5 PFPeA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C2 PFHxA	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C4-PFHpA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C4 PFOA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C5 PFNA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C2 PFDA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C2 PFUnA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C2 PFDoA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C2-PFTeDA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C3-PFBS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
18O2 PFHxS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C4 PFOS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C8 FOSA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
d3-NMeFOSAA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
d5-NEtFOSAA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
M2-6:2FTS	*134*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
M2-8:2FTS	*118*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-4 (50-55)
Date Collected: 02/02/18 11:46
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-13
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.2**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluoropentanoic acid (PFPeA)	**4.2**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorohexanoic acid (PFHxA)	**6.8**		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluoroheptanoic acid (PFHpA)	**3.8**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorooctanoic acid (PFOA)	**4.6**		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorononanoic acid (PFNA)	**1.0**	**J**	1.9	0.25	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorobutanesulfonic acid (PFBS)	**4.9**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorohexanesulfonic acid (PFHxS)	**8.5**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorooctanesulfonic acid (PFOS)	**4.8**		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorooctane Sulfonamide (FOSA)	**0.54**	**J**	1.9	0.33	ng/L		02/07/18 08:45	02/19/18 15:04	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 15:04	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 15:04	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:04	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*82*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C5 PFPeA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C2 PFHxA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C4-PFHpA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C4 PFOA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C5 PFNA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C2 PFDA	*111*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C2 PFUnA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C2 PFDoA	*90*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C2-PFTeDA	*118*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C3-PFBS	*93*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
18O2 PFHxS	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C4 PFOS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C8 FOSA	*92*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
d5-NEtFOSAA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
M2-6:2FTS	*143*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
M2-8:2FTS	*130*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-5 (90-95)
Date Collected: 02/01/18 13:15
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-14
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.8**	**J**	1.9	0.34	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluoropentanoic acid (PFPeA)	**3.2**		1.9	0.47	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorohexanoic acid (PFHxA)	**5.1**		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluoroheptanoic acid (PFHpA)	**4.7**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorooctanoic acid (PFOA)	**78**		1.9	0.82	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorononanoic acid (PFNA)	**7.0**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorobutanesulfonic acid (PFBS)	**0.89**	**J**	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorohexanesulfonic acid (PFHxS)	**13**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.49**	**J**	1.9	0.18	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorooctanesulfonic acid (PFOS)	**69**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorooctane Sulfonamide (FOSA)	**9.9**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 15:12	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 15:12	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 15:12	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:12	1
8:2FTS	**11**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 15:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C5 PFPeA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C2 PFHxA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C4-PFHpA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C5 PFNA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C2 PFDA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C2 PFUnA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C2 PFDoA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C2-PFTeDA	*140*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C3-PFBS	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
18O2 PFHxS	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C4 PFOS	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C8 FOSA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
d3-NMeFOSAA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
d5-NEtFOSAA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
M2-6:2FTS	*135*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
M2-8:2FTS	*129*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-5 (70-75)
Date Collected: 02/01/18 13:50
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-15
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**15**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluoropentanoic acid (PFPeA)	**44**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorohexanoic acid (PFHxA)	**56**		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluoroheptanoic acid (PFHpA)	**54**		1.9	0.23	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorooctanoic acid (PFOA)	**250**		1.9	0.79	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorononanoic acid (PFNA)	**40**		1.9	0.25	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorodecanoic acid (PFDA)	**2.6**		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorobutanesulfonic acid (PFBS)	**9.7**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorohexanesulfonic acid (PFHxS)	**250**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluoroheptanesulfonic Acid (PFHpS)	**8.2**		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 15:27	1
Perfluorooctane Sulfonamide (FOSA)	**87**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 15:27	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 15:27	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 15:27	1
6:2FTS	**17**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 15:27	1
8:2FTS	**130**		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C5 PFPeA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C2 PFHxA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C4-PFHpA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C5 PFNA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C2 PFDA	*115*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C2 PFUnA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C2 PFDoA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C2-PFTeDA	*127*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C3-PFBS	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
18O2 PFHxS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C4 PFOS	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
13C8 FOSA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
d3-NMeFOSAA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
d5-NEtFOSAA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
M2-6:2FTS	*142*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*
M2-8:2FTS	*135*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:27*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**580**		9.3	2.5	ng/L		02/07/18 08:45	02/17/18 06:12	5

Client Sample ID: VP-5 (70-75)

Lab Sample ID: 320-35698-15

Date Collected: 02/01/18 13:50

Matrix: Water

Date Received: 02/03/18 09:05

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	93		25 - 150	02/07/18 08:45	02/17/18 06:12	5

Client Sample ID: VP-5 (50-55)

Lab Sample ID: 320-35698-16

Date Collected: 02/01/18 17:50

Matrix: Water

Date Received: 02/03/18 09:05

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.1**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluoropentanoic acid (PFPeA)	**11**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorohexanoic acid (PFHxA)	**17**		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluoroheptanoic acid (PFHpA)	**46**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorooctanoic acid (PFOA)	**230**		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorononanoic acid (PFNA)	**21**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorobutanesulfonic acid (PFBS)	**8.5**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorohexanesulfonic acid (PFHxS)	**61**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluoroheptanesulfonic Acid (PFHpS)	**8.3**		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorooctane Sulfonamide (FOSA)	**2.3**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 15:35	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 15:35	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 15:35	1
6:2FTS	**45**		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:35	1
8:2FTS	**3.1**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 15:35	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	85		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C5 PFPeA	109		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C2 PFHxA	98		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C4-PFHpA	104		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C4 PFOA	107		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C5 PFNA	88		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C2 PFDA	116		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C2 PFUnA	106		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C2 PFDoA	107		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C2-PFTeDA	137		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C3-PFBS	99		25 - 150	02/07/18 08:45	02/19/18 15:35	1
18O2 PFHxS	107		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C4 PFOS	91		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C8 FOSA	103		25 - 150	02/07/18 08:45	02/19/18 15:35	1
d3-NMeFOSAA	100		25 - 150	02/07/18 08:45	02/19/18 15:35	1
d5-NEtFOSAA	101		25 - 150	02/07/18 08:45	02/19/18 15:35	1
M2-6:2FTS	138		25 - 150	02/07/18 08:45	02/19/18 15:35	1

Client Sample ID: VP-5 (50-55)

Date Collected: 02/01/18 17:50
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-16
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2FTS	127		25 - 150	02/07/18 08:45	02/19/18 15:35	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	**2400**		19	5.1	ng/L		02/07/18 08:45	02/17/18 06:20	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	95		25 - 150	02/07/18 08:45	02/17/18 06:20	10

Client Sample ID: VP-6 (90-95)

Date Collected: 02/02/18 08:10
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-17
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.0**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluoropentanoic acid (PFPeA)	**5.9**		1.9	0.47	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorohexanoic acid (PFHxA)	**5.2**		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluoroheptanoic acid (PFHpA)	**6.7**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorooctanoic acid (PFOA)	**52**		1.9	0.81	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorononanoic acid (PFNA)	**17**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorodecanoic acid (PFDA)	**2.2**		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorobutanesulfonic acid (PFBS)	**1.6**	**J**	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorohexanesulfonic acid (PFHxS)	**31**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluoroheptanesulfonic Acid (PFHpS)	**1.8**	**J**	1.9	0.18	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorooctanesulfonic acid (PFOS)	**76**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 15:59	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 15:59	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 15:59	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:59	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C5 PFPeA	103		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C2 PFHxA	93		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C4-PFHpA	101		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C4 PFOA	101		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C5 PFNA	104		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C2 PFDA	105		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C2 PFUnA	93		25 - 150	02/07/18 08:45	02/19/18 15:59	1

Client Sample ID: VP-6 (90-95)

Date Collected: 02/02/18 08:10
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-17
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	94		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C2-PFTeDA	109		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C3-PFBS	93		25 - 150	02/07/18 08:45	02/19/18 15:59	1
18O2 PFHxS	99		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C4 PFOS	99		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C8 FOSA	89		25 - 150	02/07/18 08:45	02/19/18 15:59	1
d3-NMeFOSAA	97		25 - 150	02/07/18 08:45	02/19/18 15:59	1
d5-NEtFOSAA	95		25 - 150	02/07/18 08:45	02/19/18 15:59	1
M2-6:2FTS	121		25 - 150	02/07/18 08:45	02/19/18 15:59	1
M2-8:2FTS	117		25 - 150	02/07/18 08:45	02/19/18 15:59	1

Client Sample ID: VP-6 (70-75)

Date Collected: 02/02/18 08:48
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-18
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**19**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluoropentanoic acid (PFPeA)	**48**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorohexanoic acid (PFHxA)	**12**		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluoroheptanoic acid (PFHpA)	**8.1**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorooctanoic acid (PFOA)	**96**		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorononanoic acid (PFNA)	**9.3**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorodecanoic acid (PFDA)	**0.89**	**J**	1.9	0.29	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorohexanesulfonic acid (PFHxS)	**37**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluoroheptanesulfonic Acid (PFHpS)	**2.3**		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorooctanesulfonic acid (PFOS)	**78**		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorooctane Sulfonamide (FOSA)	**0.67**	**J**	1.9	0.33	ng/L		02/07/18 08:45	02/19/18 16:07	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 16:07	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 16:07	1
6:2FTS	**6.5**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 16:07	1
8:2FTS	**6.6**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 16:07	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C5 PFPeA	101		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C2 PFHxA	91		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C4-PFHpA	99		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C4 PFOA	102		25 - 150	02/07/18 08:45	02/19/18 16:07	1

Client Sample ID: VP-6 (70-75)

Date Collected: 02/02/18 08:48
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-18
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	105		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C2 PFDA	102		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C2 PFUnA	96		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C2 PFDoA	92		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C2-PFTeDA	120		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C3-PFBS	92		25 - 150	02/07/18 08:45	02/19/18 16:07	1
18O2 PFHxS	98		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C4 PFOS	97		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C8 FOSA	92		25 - 150	02/07/18 08:45	02/19/18 16:07	1
d3-NMeFOSAA	100		25 - 150	02/07/18 08:45	02/19/18 16:07	1
d5-NEtFOSAA	93		25 - 150	02/07/18 08:45	02/19/18 16:07	1
M2-6:2FTS	130		25 - 150	02/07/18 08:45	02/19/18 16:07	1
M2-8:2FTS	113		25 - 150	02/07/18 08:45	02/19/18 16:07	1

Client Sample ID: VP-6 (50-55)

Date Collected: 02/02/18 09:10
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-19
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**37**		2.0	0.35	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluoropentanoic acid (PFPeA)	**110**		2.0	0.49	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorohexanoic acid (PFHxA)	**96**		2.0	0.58	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluoroheptanoic acid (PFHpA)	**120**		2.0	0.25	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorooctanoic acid (PFOA)	**25**		2.0	0.85	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorononanoic acid (PFNA)	**1.2**	**J**	2.0	0.27	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorobutanesulfonic acid (PFBS)	**4.3**		2.0	0.20	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.37**	**J**	2.0	0.19	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorooctanesulfonic acid (PFOS)	**5.7**		2.0	0.54	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorooctane Sulfonamide (FOSA)	**0.53**	**J**	2.0	0.35	ng/L		02/07/18 08:45	02/19/18 16:14	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		02/07/18 08:45	02/19/18 16:14	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		02/07/18 08:45	02/19/18 16:14	1
6:2FTS	ND		20	2.0	ng/L		02/07/18 08:45	02/19/18 16:14	1
8:2FTS	ND		20	2.0	ng/L		02/07/18 08:45	02/19/18 16:14	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	82		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C5 PFPeA	101		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C2 PFHxA	92		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C4-PFHpA	97		25 - 150	02/07/18 08:45	02/19/18 16:14	1

Client Sample ID: VP-6 (50-55)

Date Collected: 02/02/18 09:10
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-19
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	105		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C5 PFNA	110		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C2 PFDA	104		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C2 PFUnA	97		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C2 PFDoA	97		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C2-PFTeDA	115		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C3-PFBS	101		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C4 PFOS	100		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C8 FOSA	97		25 - 150	02/07/18 08:45	02/19/18 16:14	1
d3-NMeFOSAA	102		25 - 150	02/07/18 08:45	02/19/18 16:14	1
d5-NEtFOSAA	97		25 - 150	02/07/18 08:45	02/19/18 16:14	1
M2-6:2FTS	138		25 - 150	02/07/18 08:45	02/19/18 16:14	1
M2-8:2FTS	120		25 - 150	02/07/18 08:45	02/19/18 16:14	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	470	B	10	0.85	ng/L		02/07/18 08:45	02/17/18 06:28	5

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	105		25 - 150	02/07/18 08:45	02/17/18 06:28	5

Client Sample ID: Equipment Blank

Date Collected: 02/02/18 12:10
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-20
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluoropentanoic acid (PFPeA)	ND		1.9	0.48	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.57	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.83	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorohexanesulfonic acid (PFHxS)	0.26	J B	1.9	0.17	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 16:38	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 16:38	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 16:38	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 16:38	1

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: Equipment Blank
Date Collected: 02/02/18 12:10
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-20
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 16:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C5 PFPeA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C2 PFHxA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C4-PFHpA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C5 PFNA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C2 PFDA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C2 PFUnA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C2 PFDoA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C2-PFTeDA	*110*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C3-PFBS	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
18O2 PFHxS	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C4 PFOS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C8 FOSA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
d3-NMeFOSAA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
d5-NEtFOSAA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
M2-6:2FTS	*122*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
M2-8:2FTS	*117*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*

Isotope Dilution Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFBA (25-150)	PFPeA (25-150)	PFHxA (25-150)	PFHpA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
320-35698-1	VP-1 (85-90)	71	93	87	90	100	107	110	107
320-35698-2	VP-1 (65-70)	87	104	100	103	114	113	119	111
320-35698-3	VP-1 (45-50)	92	106	97	102	105	104	113	102
320-35698-4	VP-2 (90-95)	90	105	93	97	105	111	112	106
320-35698-5	VP-2 (70-75)	98	98	101	104	105	109	106	105
320-35698-6	VP-2 (45-50)	89	104	94	98	106	109	113	104
320-35698-7	VP-3 (85-90)	91	95	96	99	105	101	105	101
320-35698-8	VP-3 (65-70)	64	98	94	100	106	102	104	97
320-35698-9	VP-3 (45-50)	85	106	96	96	104	103	105	102
320-35698-10	DUP-01	83	102	91	103	106	103	105	103
320-35698-11	VP-4 (90-95)	91	104	98	101	108	106	109	101
320-35698-11 MS	VP-4 (90-95)	93	102	97	104	106	106	109	98
320-35698-11 MSD	VP-4 (90-95)	89	96	95	97	99	99	99	93
320-35698-12	VP-4 (70-75)	87	99	94	104	104	104	107	98
320-35698-13	VP-4 (50-55)	82	97	91	91	104	106	111	100
320-35698-14	VP-5 (90-95)	90	99	99	102	108	107	108	103
320-35698-15 - DL	VP-5 (70-75)								
320-35698-15	VP-5 (70-75)	91	108	100	103	105	104	115	109
320-35698-16 - DL	VP-5 (50-55)								
320-35698-16	VP-5 (50-55)	85	109	98	104	107	88	116	106
320-35698-17	VP-6 (90-95)	92	103	93	101	101	104	105	93
320-35698-18	VP-6 (70-75)	88	101	91	99	102	105	102	96
320-35698-19 - DL	VP-6 (50-55)								
320-35698-19	VP-6 (50-55)	82	101	92	97	105	110	104	97
320-35698-20	Equipment Blank	100	102	108	104	105	107	109	105
LCS 320-207321/2-A	Lab Control Sample	105	107	111	110	106	111	112	99
MB 320-207321/1-A	Method Blank	101	103	110	107	108	111	115	107

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	3C3-PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	-NMeFOSA (25-150)	-NEtFOSA (25-150)
320-35698-1	VP-1 (85-90)	115	143	91	99	99	96	107	100
320-35698-2	VP-1 (65-70)	117	131	103	106	104	101	111	115
320-35698-3	VP-1 (45-50)	102	108	99	104	103	99	102	104
320-35698-4	VP-2 (90-95)	102	109	94	105	102	95	97	99
320-35698-5	VP-2 (70-75)	97	141	93	101	101	96	98	100
320-35698-6	VP-2 (45-50)	103	126	95	103	104	95	101	102
320-35698-7	VP-3 (85-90)	101	114	91	101	99	94	98	96
320-35698-8	VP-3 (65-70)	93	109	95	99	101	91	95	99
320-35698-9	VP-3 (45-50)	101	127	101	103	103	95	100	96
320-35698-10	DUP-01	99	136	100	104	99	96	98	98
320-35698-11	VP-4 (90-95)	94	126	100	105	102	94	99	103
320-35698-11 MS	VP-4 (90-95)	96	134	99	106	102	92	99	95
320-35698-11 MSD	VP-4 (90-95)	93	119	91	97	96	89	93	92
320-35698-12	VP-4 (70-75)	99	98	99	103	101	95	102	101
320-35698-13	VP-4 (50-55)	90	118	93	98	101	92	98	97
320-35698-14	VP-5 (90-95)	104	140	96	100	102	98	103	100
320-35698-15 - DL	VP-5 (70-75)					93			
320-35698-15	VP-5 (70-75)	105	127	100	104	108	97	101	102
320-35698-16 - DL	VP-5 (50-55)					95			

Isotope Dilution Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Matrix: Water **Prep Type: Total/NA**

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	3C3-PFBS (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	-NMeFOSA (25-150)	-NEtFOSA (25-150)
320-35698-16	VP-5 (50-55)	107	137	99	107	91	103	100	101
320-35698-17	VP-6 (90-95)	94	109	93	99	99	89	97	95
320-35698-18	VP-6 (70-75)	92	120	92	98	97	92	100	93
320-35698-19 - DL	VP-6 (50-55)				105				
320-35698-19	VP-6 (50-55)	97	115	101		100	97	102	97
320-35698-20	Equipment Blank	101	110	96	105	104	98	103	99
LCS 320-207321/2-A	Lab Control Sample	100	140	99	110	106	101	104	104
MB 320-207321/1-A	Method Blank	107	153 *	100	107	102	98	110	105

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M262FTS (25-150)	M282FTS (25-150)						
320-35698-1	VP-1 (85-90)	138	133						
320-35698-2	VP-1 (65-70)	155 *	147						
320-35698-3	VP-1 (45-50)	147	136						
320-35698-4	VP-2 (90-95)	155 *	135						
320-35698-5	VP-2 (70-75)	133	122						
320-35698-6	VP-2 (45-50)	145	132						
320-35698-7	VP-3 (85-90)	123	117						
320-35698-8	VP-3 (65-70)	123	114						
320-35698-9	VP-3 (45-50)	143	121						
320-35698-10	DUP-01	136	119						
320-35698-11	VP-4 (90-95)	131	121						
320-35698-11 MS	VP-4 (90-95)	128	113						
320-35698-11 MSD	VP-4 (90-95)	126	112						
320-35698-12	VP-4 (70-75)	134	118						
320-35698-13	VP-4 (50-55)	143	130						
320-35698-14	VP-5 (90-95)	135	129						
320-35698-15 - DL	VP-5 (70-75)								
320-35698-15	VP-5 (70-75)	142	135						
320-35698-16 - DL	VP-5 (50-55)								
320-35698-16	VP-5 (50-55)	138	127						
320-35698-17	VP-6 (90-95)	121	117						
320-35698-18	VP-6 (70-75)	130	113						
320-35698-19 - DL	VP-6 (50-55)								
320-35698-19	VP-6 (50-55)	138	120						
320-35698-20	Equipment Blank	122	117						
LCS 320-207321/2-A	Lab Control Sample	127	124						
MB 320-207321/1-A	Method Blank	125	119						

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
PFHpA = 13C4-PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA

Isotope Dilution Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

PFTDA = 13C2-PFTeDA
13C3-PFBS = 13C3-PFBS
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3-NMeFOSAA = d3-NMeFOSAA
d5-NEtFOSAA = d5-NEtFOSAA
M262FTS = M2-6:2FTS
M282FTS = M2-8:2FTS

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-207321/1-A
Matrix: Water
Analysis Batch: 209125

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 207321

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		2.0	0.35	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluoropentanoic acid (PFPeA)	ND		2.0	0.49	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorohexanoic acid (PFHxA)	ND		2.0	0.58	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluoroheptanoic acid (PFHpA)	ND		2.0	0.25	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorooctanoic acid (PFOA)	ND		2.0	0.85	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.27	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.20	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorohexanesulfonic acid (PFHxS)	0.307	J	2.0	0.17	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		2.0	0.19	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.54	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		02/07/18 08:45	02/19/18 12:51	1
Perfluorooctane Sulfonamide (FOSA)	ND		2.0	0.35	ng/L		02/07/18 08:45	02/19/18 12:51	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		02/07/18 08:45	02/19/18 12:51	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		02/07/18 08:45	02/19/18 12:51	1
6:2FTS	ND		20	2.0	ng/L		02/07/18 08:45	02/19/18 12:51	1
8:2FTS	ND		20	2.0	ng/L		02/07/18 08:45	02/19/18 12:51	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C5 PFPeA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C2 PFHxA	*110*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C4-PFHpA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C5 PFNA	*111*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C2 PFDA	*115*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C2 PFUnA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C2 PFDoA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C2-PFTeDA	*153*	*	*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C3-PFBS	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
18O2 PFHxS	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C4 PFOS	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
13C8 FOSA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
d3-NMeFOSAA	*110*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
d5-NEtFOSAA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
M2-6:2FTS	*125*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*
M2-8:2FTS	*119*		*25 - 150*	*02/07/18 08:45*	*02/19/18 12:51*	*1*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-207321/2-A
Matrix: Water
Analysis Batch: 209125

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 207321

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	39.8		ng/L		100	70 - 130
Perfluoropentanoic acid (PFPeA)	40.0	35.4		ng/L		88	66 - 126
Perfluorohexanoic acid (PFHxA)	40.0	37.2		ng/L		93	66 - 126
Perfluoroheptanoic acid (PFHpA)	40.0	36.1		ng/L		90	66 - 126
Perfluorooctanoic acid (PFOA)	40.0	43.9		ng/L		110	64 - 124
Perfluorononanoic acid (PFNA)	40.0	36.7		ng/L		92	68 - 128
Perfluorodecanoic acid (PFDA)	40.0	39.4		ng/L		98	69 - 129
Perfluoroundecanoic acid (PFUnA)	40.0	31.4		ng/L		79	60 - 120
Perfluorododecanoic acid (PFDoA)	40.0	41.0		ng/L		103	71 - 131
Perfluorotridecanoic Acid (PFTriA)	40.0	47.5		ng/L		119	72 - 132
Perfluorotetradecanoic acid (PFTeA)	40.0	42.1		ng/L		105	68 - 128
Perfluorobutanesulfonic acid (PFBS)	35.4	36.9		ng/L		104	73 - 133
Perfluorohexanesulfonic acid (PFHxS)	36.4	32.8		ng/L		90	63 - 123
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	37.4		ng/L		98	68 - 128
Perfluorooctanesulfonic acid (PFOS)	37.1	36.7		ng/L		99	67 - 127
Perfluorodecanesulfonic acid (PFDS)	38.6	36.4		ng/L		94	68 - 128
Perfluorooctane Sulfonamide (FOSA)	40.0	40.1		ng/L		100	70 - 130
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	40.0	36.6		ng/L		92	67 - 127
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	40.0	38.1		ng/L		95	65 - 125
6:2FTS	37.9	34.9		ng/L		92	66 - 126
8:2FTS	38.3	34.9		ng/L		91	67 - 127

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*105*		*25 - 150*
13C5 PFPeA	*107*		*25 - 150*
13C2 PFHxA	*111*		*25 - 150*
13C4-PFHpA	*110*		*25 - 150*
13C4 PFOA	*106*		*25 - 150*
13C5 PFNA	*111*		*25 - 150*
13C2 PFDA	*112*		*25 - 150*
13C2 PFUnA	*99*		*25 - 150*
13C2 PFDoA	*100*		*25 - 150*
13C2-PFTeDA	*140*		*25 - 150*
13C3-PFBS	*99*		*25 - 150*
18O2 PFHxS	*110*		*25 - 150*
13C4 PFOS	*106*		*25 - 150*
13C8 FOSA	*101*		*25 - 150*

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: LCS 320-207321/2-A
Matrix: Water
Analysis Batch: 209125

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 207321

Isotope Dilution	LCS %Recovery	LCS Qualifier	Limits
d3-NMeFOSAA	104		25 - 150
d5-NEtFOSAA	104		25 - 150
M2-6:2FTS	127		25 - 150
M2-8:2FTS	124		25 - 150

Lab Sample ID: 320-35698-11 MS
Matrix: Water
Analysis Batch: 209125

Client Sample ID: VP-4 (90-95)
Prep Type: Total/NA
Prep Batch: 207321

Analyte	Sample Result	Sample Qualifier	Spike Added	MS Result	MS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	1.8	J	37.5	39.1		ng/L		99	70 - 130
Perfluoropentanoic acid (PFPeA)	2.6		37.5	36.5		ng/L		90	66 - 126
Perfluorohexanoic acid (PFHxA)	2.4		37.5	38.7		ng/L		97	66 - 126
Perfluoroheptanoic acid (PFHpA)	1.7	J	37.5	36.6		ng/L		93	66 - 126
Perfluorooctanoic acid (PFOA)	3.8		37.5	40.3		ng/L		97	64 - 124
Perfluorononanoic acid (PFNA)	0.61	J	37.5	35.0		ng/L		92	68 - 128
Perfluorodecanoic acid (PFDA)	ND		37.5	37.2		ng/L		99	69 - 129
Perfluoroundecanoic acid (PFUnA)	ND		37.5	28.6		ng/L		76	60 - 120
Perfluorododecanoic acid (PFDoA)	ND		37.5	39.0		ng/L		104	71 - 131
Perfluorotridecanoic Acid (PFTriA)	ND		37.5	43.1		ng/L		115	72 - 132
Perfluorotetradecanoic acid (PFTeA)	ND		37.5	37.0		ng/L		99	68 - 128
Perfluorobutanesulfonic acid (PFBS)	1.6	J	33.1	35.8		ng/L		103	73 - 133
Perfluorohexanesulfonic acid (PFHxS)	2.0	B	34.1	33.8		ng/L		93	63 - 123
Perfluoroheptanesulfonic Acid (PFHpS)	ND		35.7	35.0		ng/L		98	68 - 128
Perfluorooctanesulfonic acid (PFOS)	2.2		34.8	35.8		ng/L		97	67 - 127
Perfluorodecanesulfonic acid (PFDS)	ND		36.1	34.3		ng/L		95	68 - 128
Perfluorooctane Sulfonamide (FOSA)	ND		37.5	42.4		ng/L		113	70 - 130
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		37.5	33.3		ng/L		89	67 - 127
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		37.5	35.9		ng/L		96	65 - 125
6:2FTS	ND		35.5	34.3		ng/L		97	66 - 126
8:2FTS	ND		35.9	33.4		ng/L		93	67 - 127

Isotope Dilution	MS %Recovery	MS Qualifier	Limits
13C4 PFBA	93		25 - 150
13C5 PFPeA	102		25 - 150
13C2 PFHxA	97		25 - 150
13C4-PFHpA	104		25 - 150
13C4 PFOA	106		25 - 150

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-35698-11 MS
Matrix: Water
Analysis Batch: 209125

Client Sample ID: VP-4 (90-95)
Prep Type: Total/NA
Prep Batch: 207321

Isotope Dilution	*MS %Recovery*	*MS Qualifier*	*Limits*
13C5 PFNA	*106*		*25 - 150*
13C2 PFDA	*109*		*25 - 150*
13C2 PFUnA	*98*		*25 - 150*
13C2 PFDoA	*96*		*25 - 150*
13C2-PFTeDA	*134*		*25 - 150*
13C3-PFBS	*99*		*25 - 150*
18O2 PFHxS	*106*		*25 - 150*
13C4 PFOS	*102*		*25 - 150*
13C8 FOSA	*92*		*25 - 150*
d3-NMeFOSAA	*99*		*25 - 150*
d5-NEtFOSAA	*95*		*25 - 150*
M2-6:2FTS	*128*		*25 - 150*
M2-8:2FTS	*113*		*25 - 150*

Lab Sample ID: 320-35698-11 MSD
Matrix: Water
Analysis Batch: 209125

Client Sample ID: VP-4 (90-95)
Prep Type: Total/NA
Prep Batch: 207321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)	1.8	J	39.3	40.3		ng/L		98	70 - 130	3	30
Perfluoropentanoic acid (PFPeA)	2.6		39.3	38.7		ng/L		92	66 - 126	6	30
Perfluorohexanoic acid (PFHxA)	2.4		39.3	38.2		ng/L		91	66 - 126	1	30
Perfluoroheptanoic acid (PFHpA)	1.7	J	39.3	40.2		ng/L		98	66 - 126	9	30
Perfluorooctanoic acid (PFOA)	3.8		39.3	42.1		ng/L		97	64 - 124	4	30
Perfluorononanoic acid (PFNA)	0.61	J	39.3	38.1		ng/L		95	68 - 128	9	30
Perfluorodecanoic acid (PFDA)	ND		39.3	38.9		ng/L		99	69 - 129	4	30
Perfluoroundecanoic acid (PFUnA)	ND		39.3	30.0		ng/L		76	60 - 120	5	30
Perfluorododecanoic acid (PFDoA)	ND		39.3	37.6		ng/L		95	71 - 131	4	30
Perfluorotridecanoic Acid (PFTriA)	ND		39.3	43.3		ng/L		110	72 - 132	0	30
Perfluorotetradecanoic acid (PFTeA)	ND		39.3	42.3		ng/L		107	68 - 128	13	30
Perfluorobutanesulfonic acid (PFBS)	1.6	J	34.8	39.1		ng/L		108	73 - 133	9	30
Perfluorohexanesulfonic acid (PFHxS)	2.0	B	35.8	36.6		ng/L		97	63 - 123	8	30
Perfluoroheptanesulfonic Acid (PFHpS)	ND		37.5	36.3		ng/L		97	68 - 128	4	30
Perfluorooctanesulfonic acid (PFOS)	2.2		36.5	37.6		ng/L		97	67 - 127	5	30
Perfluorodecanesulfonic acid (PFDS)	ND		37.9	35.5		ng/L		93	68 - 128	3	30
Perfluorooctane Sulfonamide (FOSA)	ND		39.3	42.9		ng/L		109	70 - 130	1	30
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		39.3	36.6		ng/L		93	67 - 127	9	30
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		39.3	37.7		ng/L		96	65 - 125	5	30

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Lab Sample ID: 320-35698-11 MSD
Matrix: Water
Analysis Batch: 209125

Client Sample ID: VP-4 (90-95)
Prep Type: Total/NA
Prep Batch: 207321

Analyte	Sample Result	Sample Qualifier	Spike Added	MSD Result	MSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
6:2FTS	ND		37.3	34.2		ng/L		92	66 - 126	0	30
8:2FTS	ND		37.7	33.8		ng/L		90	67 - 127	1	30

Isotope Dilution	*MSD %Recovery*	*MSD Qualifier*	*Limits*
13C4 PFBA	*89*		*25 - 150*
13C5 PFPeA	*96*		*25 - 150*
13C2 PFHxA	*95*		*25 - 150*
13C4-PFHpA	*97*		*25 - 150*
13C4 PFOA	*99*		*25 - 150*
13C5 PFNA	*99*		*25 - 150*
13C2 PFDA	*99*		*25 - 150*
13C2 PFUnA	*93*		*25 - 150*
13C2 PFDoA	*93*		*25 - 150*
13C2-PFTeDA	*119*		*25 - 150*
13C3-PFBS	*91*		*25 - 150*
18O2 PFHxS	*97*		*25 - 150*
13C4 PFOS	*96*		*25 - 150*
13C8 FOSA	*89*		*25 - 150*
d3-NMeFOSAA	*93*		*25 - 150*
d5-NEtFOSAA	*92*		*25 - 150*
M2-6:2FTS	*126*		*25 - 150*
M2-8:2FTS	*112*		*25 - 150*

LCMS

Prep Batch: 207321

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-35698-1	VP-1 (85-90)	Total/NA	Water	3535	
320-35698-2	VP-1 (65-70)	Total/NA	Water	3535	
320-35698-3	VP-1 (45-50)	Total/NA	Water	3535	
320-35698-4	VP-2 (90-95)	Total/NA	Water	3535	
320-35698-5	VP-2 (70-75)	Total/NA	Water	3535	
320-35698-6	VP-2 (45-50)	Total/NA	Water	3535	
320-35698-7	VP-3 (85-90)	Total/NA	Water	3535	
320-35698-8	VP-3 (65-70)	Total/NA	Water	3535	
320-35698-9	VP-3 (45-50)	Total/NA	Water	3535	
320-35698-10	DUP-01	Total/NA	Water	3535	
320-35698-11	VP-4 (90-95)	Total/NA	Water	3535	
320-35698-12	VP-4 (70-75)	Total/NA	Water	3535	
320-35698-13	VP-4 (50-55)	Total/NA	Water	3535	
320-35698-14	VP-5 (90-95)	Total/NA	Water	3535	
320-35698-15	VP-5 (70-75)	Total/NA	Water	3535	
320-35698-15 - DL	VP-5 (70-75)	Total/NA	Water	3535	
320-35698-16 - DL	VP-5 (50-55)	Total/NA	Water	3535	
320-35698-16	VP-5 (50-55)	Total/NA	Water	3535	
320-35698-17	VP-6 (90-95)	Total/NA	Water	3535	
320-35698-18	VP-6 (70-75)	Total/NA	Water	3535	
320-35698-19 - DL	VP-6 (50-55)	Total/NA	Water	3535	
320-35698-19	VP-6 (50-55)	Total/NA	Water	3535	
320-35698-20	Equipment Blank	Total/NA	Water	3535	
MB 320-207321/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-207321/2-A	Lab Control Sample	Total/NA	Water	3535	
320-35698-11 MS	VP-4 (90-95)	Total/NA	Water	3535	
320-35698-11 MSD	VP-4 (90-95)	Total/NA	Water	3535	

Analysis Batch: 208913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-35698-15 - DL	VP-5 (70-75)	Total/NA	Water	537 (modified)	207321
320-35698-16 - DL	VP-5 (50-55)	Total/NA	Water	537 (modified)	207321
320-35698-19 - DL	VP-6 (50-55)	Total/NA	Water	537 (modified)	207321

Analysis Batch: 209125

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-35698-1	VP-1 (85-90)	Total/NA	Water	537 (modified)	207321
320-35698-2	VP-1 (65-70)	Total/NA	Water	537 (modified)	207321
320-35698-3	VP-1 (45-50)	Total/NA	Water	537 (modified)	207321
320-35698-4	VP-2 (90-95)	Total/NA	Water	537 (modified)	207321
320-35698-5	VP-2 (70-75)	Total/NA	Water	537 (modified)	207321
320-35698-6	VP-2 (45-50)	Total/NA	Water	537 (modified)	207321
320-35698-7	VP-3 (85-90)	Total/NA	Water	537 (modified)	207321
320-35698-8	VP-3 (65-70)	Total/NA	Water	537 (modified)	207321
320-35698-9	VP-3 (45-50)	Total/NA	Water	537 (modified)	207321
320-35698-10	DUP-01	Total/NA	Water	537 (modified)	207321
320-35698-11	VP-4 (90-95)	Total/NA	Water	537 (modified)	207321
320-35698-12	VP-4 (70-75)	Total/NA	Water	537 (modified)	207321
320-35698-13	VP-4 (50-55)	Total/NA	Water	537 (modified)	207321
320-35698-14	VP-5 (90-95)	Total/NA	Water	537 (modified)	207321
320-35698-15	VP-5 (70-75)	Total/NA	Water	537 (modified)	207321

LCMS (Continued)

Analysis Batch: 209125 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
320-35698-16	VP-5 (50-55)	Total/NA	Water	537 (modified)	207321
320-35698-17	VP-6 (90-95)	Total/NA	Water	537 (modified)	207321
320-35698-18	VP-6 (70-75)	Total/NA	Water	537 (modified)	207321
320-35698-19	VP-6 (50-55)	Total/NA	Water	537 (modified)	207321
320-35698-20	Equipment Blank	Total/NA	Water	537 (modified)	207321
MB 320-207321/1-A	Method Blank	Total/NA	Water	537 (modified)	207321
LCS 320-207321/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	207321
320-35698-11 MS	VP-4 (90-95)	Total/NA	Water	537 (modified)	207321
320-35698-11 MSD	VP-4 (90-95)	Total/NA	Water	537 (modified)	207321

Lab Chronicle

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-1 (85-90)
Date Collected: 01/31/18 08:52
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			254.9 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 13:06	CBW	TAL SAC

Client Sample ID: VP-1 (65-70)
Date Collected: 01/31/18 09:47
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			259.4 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 13:14	CBW	TAL SAC

Client Sample ID: VP-1 (45-50)
Date Collected: 01/31/18 10:30
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			264.5 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 13:22	CBW	TAL SAC

Client Sample ID: VP-2 (90-95)
Date Collected: 01/30/18 11:28
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			264.2 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 13:30	CBW	TAL SAC

Client Sample ID: VP-2 (70-75)
Date Collected: 01/30/18 12:58
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			258.7 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 13:38	CBW	TAL SAC

Client Sample ID: VP-2 (45-50)
Date Collected: 01/30/18 13:30
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			268.4 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 13:46	CBW	TAL SAC

Lab Chronicle

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-3 (85-90)
Date Collected: 02/02/18 09:30
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-7
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			264.8 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 13:53	CBW	TAL SAC

Client Sample ID: VP-3 (65-70)
Date Collected: 02/02/18 10:00
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-8
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			267.5 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 14:01	CBW	TAL SAC

Client Sample ID: VP-3 (45-50)
Date Collected: 02/02/18 10:25
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-9
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			260.1 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 14:17	CBW	TAL SAC

Client Sample ID: DUP-01
Date Collected: 02/02/18 00:00
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-10
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			257 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 14:25	CBW	TAL SAC

Client Sample ID: VP-4 (90-95)
Date Collected: 02/02/18 11:00
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-11
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			266.4 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 14:33	CBW	TAL SAC

Client Sample ID: VP-4 (70-75)
Date Collected: 02/02/18 11:27
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-12
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			261.1 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 14:56	CBW	TAL SAC

Client Sample ID: VP-4 (50-55)

Lab Sample ID: 320-35698-13

Date Collected: 02/02/18 11:46

Matrix: Water

Date Received: 02/03/18 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			265.4 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 15:04	CBW	TAL SAC

Client Sample ID: VP-5 (90-95)

Lab Sample ID: 320-35698-14

Date Collected: 02/01/18 13:15

Matrix: Water

Date Received: 02/03/18 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			258 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 15:12	CBW	TAL SAC

Client Sample ID: VP-5 (70-75)

Lab Sample ID: 320-35698-15

Date Collected: 02/01/18 13:50

Matrix: Water

Date Received: 02/03/18 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	DL		268.9 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)	DL	5			208913	02/17/18 06:12	CBW	TAL SAC
Total/NA	Prep	3535			268.9 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 15:27	CBW	TAL SAC

Client Sample ID: VP-5 (50-55)

Lab Sample ID: 320-35698-16

Date Collected: 02/01/18 17:50

Matrix: Water

Date Received: 02/03/18 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	DL		264.2 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)	DL	10			208913	02/17/18 06:20	CBW	TAL SAC
Total/NA	Prep	3535			264.2 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 15:35	CBW	TAL SAC

Client Sample ID: VP-6 (90-95)

Lab Sample ID: 320-35698-17

Date Collected: 02/02/18 08:10

Matrix: Water

Date Received: 02/03/18 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			260.9 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 15:59	CBW	TAL SAC

Lab Chronicle

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Client Sample ID: VP-6 (70-75)

Lab Sample ID: 320-35698-18

Date Collected: 02/02/18 08:48

Matrix: Water

Date Received: 02/03/18 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			264.2 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 16:07	CBW	TAL SAC

Client Sample ID: VP-6 (50-55)

Lab Sample ID: 320-35698-19

Date Collected: 02/02/18 09:10

Matrix: Water

Date Received: 02/03/18 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535	DL		250.5 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)	DL	5			208913	02/17/18 06:28	CBW	TAL SAC
Total/NA	Prep	3535			250.5 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 16:14	CBW	TAL SAC

Client Sample ID: Equipment Blank

Lab Sample ID: 320-35698-20

Date Collected: 02/02/18 12:10

Matrix: Water

Date Received: 02/03/18 09:05

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			256.6 mL	10.00 mL	207321	02/07/18 08:45	J1S	TAL SAC
Total/NA	Analysis	537 (modified)		1			209125	02/19/18 16:38	CBW	TAL SAC

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Accreditation/Certification Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Laboratory: TestAmerica Sacramento

The accreditations/certifications listed below are applicable to this report.

Authority	Program	EPA Region	Identification Number	Expiration Date
Oregon	NELAP	10	4040	01-29-19

Method Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

Laboratory References:

TAL SAC = TestAmerica Sacramento, 880 Riverside Parkway, West Sacramento, CA 95605, TEL (916)373-5600

Sample Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-35698-1	VP-1 (85-90)	Water	01/31/18 08:52	02/03/18 09:05
320-35698-2	VP-1 (65-70)	Water	01/31/18 09:47	02/03/18 09:05
320-35698-3	VP-1 (45-50)	Water	01/31/18 10:30	02/03/18 09:05
320-35698-4	VP-2 (90-95)	Water	01/30/18 11:28	02/03/18 09:05
320-35698-5	VP-2 (70-75)	Water	01/30/18 12:58	02/03/18 09:05
320-35698-6	VP-2 (45-50)	Water	01/30/18 13:30	02/03/18 09:05
320-35698-7	VP-3 (85-90)	Water	02/02/18 09:30	02/03/18 09:05
320-35698-8	VP-3 (65-70)	Water	02/02/18 10:00	02/03/18 09:05
320-35698-9	VP-3 (45-50)	Water	02/02/18 10:25	02/03/18 09:05
320-35698-10	DUP-01	Water	02/02/18 00:00	02/03/18 09:05
320-35698-11	VP-4 (90-95)	Water	02/02/18 11:00	02/03/18 09:05
320-35698-12	VP-4 (70-75)	Water	02/02/18 11:27	02/03/18 09:05
320-35698-13	VP-4 (50-55)	Water	02/02/18 11:46	02/03/18 09:05
320-35698-14	VP-5 (90-95)	Water	02/01/18 13:15	02/03/18 09:05
320-35698-15	VP-5 (70-75)	Water	02/01/18 13:50	02/03/18 09:05
320-35698-16	VP-5 (50-55)	Water	02/01/18 17:50	02/03/18 09:05
320-35698-17	VP-6 (90-95)	Water	02/02/18 08:10	02/03/18 09:05
320-35698-18	VP-6 (70-75)	Water	02/02/18 08:48	02/03/18 09:05
320-35698-19	VP-6 (50-55)	Water	02/02/18 09:10	02/03/18 09:05
320-35698-20	Equipment Blank	Water	02/02/18 12:10	02/03/18 09:05

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed) Daniel D'Arcy	Site/Project Identification HBFD
Company ZEB Environmental Solutions	P. O. #	State (Location of site): NJ: ☐ NY: ☒ Other:
Address 188 W. Montauk Hwy	Analysis Turnaround Time: Standard ☑	Regulatory Program:
City Hampton Bays State NY 11946	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	LAB USE ONLY Project No:
Phone (631)594-5300 Fax		Job No:

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	PFC IDA - PFCs Standard List (21 Analytes)	Sample Numbers
VP-1 ~~(90-95)~~ (85-90)	1/30	852	L	2	X	
VP-1 (65-70)	1/31	947	L	2	X	
VP-1 (45-50)	1/31	1030	L	2	X	
VP-2 (90-95)	1/30	1125	L	2	X	
VP-2 (70-75)	1/30	1258	L	2	X	
VP-2 (45-50)	1/30	1330	L	2	X	
VP-3 (85-90)	2/2	930	L	2	X	
VP-3 (65-70)	2/2	1000	L	2	X	
VP-3 (45-50)	2/2	1025	L	2	X	
DUP-01	2/2		L	2	X	

320-35698 Chain of Custody

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil: / Water:
6 = Other _____, 7 = Other _____

Special Instructions Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1)	ZEB	2/2 1415	1)	TA
2)	TA	2/2/18 1720	2) TA-SAC	02/03/18 905 0.9°C
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).
Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0814)

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TestAmerica
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CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification
		HBFD
Company: ZEB Environmental Solutions	P. O. #	State (Location of site): NJ: ☐ NY: ☒ Other:
		Regulatory Program:
Address: 188 W Montauk Hwy	Analysis Turnaround Time: Standard ☑	
City: Hampton Bays State: NY	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone: (631)594-5200 Fax:		

Sample Identification	Date	Time	Matrix	No. of Cont.	BFLS & FCL IDA Standard List	LAB USE ONLY Project No: / Job No: / Sample Numbers
VP-4 (90-95)	2/2	1100	L		X	
VP-4 (90-95) (MS/MSD)	2/2	1100	L		X	
VP-4 (70-75)	2/2	1127	L		X	
VP-4 (50-55)	2/2	1146	L		X	
VP-5 (90-95)	2/1	1315	L		X	
VP-5 (70-75)	2/1	1350	L		X	
VP-5 (50-55)	2/1	1750	L		X	
VP-6 (90-95)	2/2	810	L		X	
VP-6 (70-75)	2/2	848	L		X	
VP-6 (50-55)	2/1	910	L		X	

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil: / Water:

6 = Other _____, 7 = Other _____

Special Instructions Water Metals Filtered (Yes/No)? _____

Relinquished by	Company	Date / Time	Received by	Company
1)	ZEB	2/2 1415	1)	
Relinquished by 2)	Company T.A	Date / Time 2/2/18 17:20	Received by 2) TA-SAC	Company 02/03/18 405 0.9°C
Relinquished by 3)	Company	Date / Time	Received by 3)	Company
Relinquished by 4)	Company	Date / Time	Received by 4)	Company

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). TAL - 0016 (0814)

Massachusetts (M-NJ312), North Carolina (No. 578)

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Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

SAC

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed) Daniel Daly	Site/Project Identification HBFD
Company ZEB Environmental Solutions	P. O. #	State (Location of site): NJ: ☐ NY: ☒ Other:
Address 185 W Montauk Hwy	Analysis Turnaround Time: Standard ☑	Regulatory Program:
City Hampton Bays State NY	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	LAB USE ONLY Project No:
Phone (631) 594-5300 Fax		Job No:

ANALYSIS REQUESTED (ENTER "X" BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	PFC 3DA BFD	Standard List (21 Analytes)	Sample Numbers
* Equipment Blank	2/2	1210	L		X		
* labeled Field Blank AA	02/03/18						

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil: / Water:

6 = Other _____, 7 = Other _____

Special Instructions Water Metals Filtered (Yes/No)? _____

	Relinquished by	Company	Date / Time	Received by	Company
1)		ZEB	2/2 1415		
2)			2/2/18 17:00	02/03/18 905	TA-SAC 0.9°C
3)					
4)					

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132).

Massachusetts (M-NJ312), North Carolina (No. 578)

TAL - 0016 (0814)

Login Sample Receipt Checklist

Client: Zeb Environmental Solutions Inc

Job Number: 320-35698-1

Login Number: 35698
List Number: 1
Creator: Aguayo, Alonso

List Source: TestAmerica Sacramento

Question	Answer	Comment
Radioactivity wasn't checked or is </= background as measured by a survey meter.	True	
The cooler's custody seal, if present, is intact.	N/A	
Sample custody seals, if present, are intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	False	IDs on containers do not match the COC. Logged in per COC.
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
Multiphasic samples are not present.	True	
Samples do not require splitting or compositing.	True	
Residual Chlorine Checked.	N/A	

APPENDIX D

DATA VALIDATION & USABLITY REPORT

PREMIER ENVIRONMENTAL SERVICES, INC.

DATA REVIEW SUMMARY
OF THE
SAMPLES COLLECTED FROM

PFAS, NEW YORK

ORGANIC ANALYSES
IN NON-AQUEOUS SAMPLES

Test America Laboratories, Inc.
West Sacramento, CA

PROJECT NUMBER: 320-35535-1

April 2018

Prepared for
Zeb Environmental Solutions, Inc.
Hampton Bays, New York

Prepared by
Premier Environmental Services
2815 Covered Bridge Road
Merrick, New York 11566
(516)223-9761

DATA VALIDATION FOR:	**Fluorinated Alkyl Substances (PFAS)**
SITE:	**PFAS, New York**
LABORATORY REPORT NO:	**320-35535-1**
CONTRACT LAB:	**Test America Laboratories, Inc. Sacramento, CA**
REVIEWER:	**Renee Cohen**
DATE REVIEW COMPLETED:	**April 2018**
MATRIX:	**Aqueous**

The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review and the USEPA Region II SOPs where applicable. In addition, method and QC criteria were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.

Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID's. Copies of the data qualifiers that may be used in this report are located in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. Copies of the Chain of Custody (COC) documents are located in Appendix C of this report.

This data assessment is for eight (8) non-aqueous samples (inc. one field duplicate sample) and one (1) Equipment Blank sample listed on the COC documents that accompanied the samples to the laboratory. The samples were collected on January 29, 2018 and received at the laboratory on January 31, 2018 for the analyses requested on the COC documentation. The samples were analyzed for Fluorinated Alkyl Substances (PFAS) per the COC documents that accompanied the samples to the laboratory.

ORGANIC DATA ASSESSMENT

1. OVERVIEW:

This data review report is for the samples analyzed for Fluorinated Alkyl Substances. Analyses were performed in accordance with USEPA Method 537 (modified). Data validation will utilize the validation guidelines listed above, however, QA/QC requirements of Method 537 will supersede CLP requirements in terms of calibration and holding time where applicable. The non-aqueous samples associated with this data set were analyzed and reported for PFAs via the USEPA Method 537 (modified). Test America Laboratories - Sacramento generated a stand-alone report for these analyses. A summary of the applicable QC will be discussed at each section of the report.

2. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The holding times for aqueous and solid/soil samples are based on sample receipt.

Eight (8) non-aqueous samples (inc. 1 field duplicate sample) and one (1) Equipment Blank sample were collected January 29, 2018 and received at the laboratory on January 31, 2018. The samples were prepared in two (2) extraction batches on February 2, 2018 and analyzed via EPA Method 537 on February 3, 2018 and February 17, 2018.

3. SURROGATES:

Samples to be analyzed for PFAs are fortified with a minimum of eighteen (18) method recommended surrogate compounds. Surrogate compounds are added to the samples prior to analysis. Surrogate compounds are used to evaluate the overall laboratory performance and the efficiency of the analytical technique. The surrogate compound was added to the sample prior to analysis to evaluate the overall laboratory performance and the efficiency of the analytical technique. The laboratory reported recovery QC limits (25-150%) for these analyses. The field sample and QC sample surrogate percent recoveries were summarized in this data report.

The laboratory fortified each of the samples in this data set with eighteen isotope dilution analytes. The percent recovery of each isotope dilution analytes met the in-house QC criteria in each of the sample analyses reported in this data set.

ORGANIC DATA ASSESSMENT

4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

In addition, a blank spike sample/reference sample/LCS was prepared and analyzed with each sample batch/analysis reported in this data set.

Sample CP-1 was prepared and analyzed as the site-specific MS/MSD with this data set. In-house percent recovery limits were applied to each target analyte. The % recovery of each target analyte met QC criteria in the MS and MSD sample with the exception of Perfluorotridecanoic Acid (PFTriA). The recovery was reported above QC limit. PFTriA was not detected in sample CP-1, no further action was taken. The RPD limit of 0-30 was applied to each target analyte. The RPD of the reported target analytes met QC criteria

A laboratory control sample (LCS) and/or laboratory control sample duplicate (LCS) is associated with this data set. In-house QC limits were applied. The percent recovery of each target analyte met QC criteria in the reported LCS and LCS/LCSD sample analyses reported in this data set.

5. BLANK CONTAMINATION:

Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.

A) Method Blank contamination

Two (2) method blank samples are associated with the samples in this data set. PFHxS was detected in the method blank 206637 at a concentration of 0.238 J ng/L. Target analytes were not detected in method blank 206755.

B) Field or Equipment Rinse Blank (ERB) contamination

A Field Blank sample is not associated with this data set. Sample Equipment Blank is associated with this data set. The Equipment Blank is free from contaminants with the exception of PFHxS (0.27 JB ng/L). This target analyte has been negated "U" qualified due to method blank contamination.

PFHxS was detected between the MDL and RL in the samples associated with this data set. When detected at a concentration that can be attributed to the Equipment Blank sample, PFHxS has been negated "U" qualified.

Qualified data result pages are located in Appendix B of this report.

C) Trip Blank contamination

A Trip Blank samples is not associated with this data set.

ORGANIC DATA ASSESSMENT

6. LC/MS CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance. Region USEPA and Region II criteria is the criteria for these LCMS Isotopic Analyses.

A) RESPONSE FACTOR

The response factor measures the instrument's response to specific chemical compounds. Region II data review requires that the response factor of all analytes be greater than or equal to 0.05 in both initial and continuing calibration analyses. A value less than 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Region II data validation criteria states that if the minimum RRF criteria is not met in an initial calibration the positive results are qualified "J". Non-detect results in the initial calibration with a RRF <0.05 are qualified "R", unusable. If RRF criteria is not met in the continuing calibration curve analysis, affected positive analytes will be qualified "J" estimated. Those analytes not detected are not qualified. The SW-846 Methods cite specific analytes known as System Performance Check Compounds (SPCC). Minimum response criteria are set for these analytes. If the minimum criteria are not met, analyses must stop and the source of problems must be found and corrected. Data associated with this set has been reviewed for the criteria in the cited in the EPA Method criteria.

One (1) initial calibration curve analysis is associated with these sample analyses. The laboratory performed an initial multilevel calibration on February 1, 2018 (Inst. A8_N). Initial calibration concentration between 0.025 ng/ml through 10.0 ng/ml were analyzed. The RRF of reported target compounds met QC criteria in this initial calibration curve analysis.

One (1) continuing calibration standard is associated with the calibration curve analyses. Continuing calibration curve analysis was performed February 16, 2018 (V27242.D). The RRF of reported target compounds met QC criteria in the continuing calibration standard analysis.

One (1) initial calibration curve analysis is associated with these sample analyses. The laboratory performed an initial multilevel calibration on February 15, 2018 (Inst. A8_N). Initial calibration concentration between 0.025 ng/ml through 10.0 ng/ml were analyzed. The RRF of reported target compounds met QC criteria in this initial calibration curve analysis.

One (1) continuing calibration standard is associated with the calibration curve analyses. Continuing calibration curve analysis was performed February 16, 2018 (V27242.D). The RRF of reported target compounds met QC criteria in the continuing calibration standard analysis.

6. LC/MS CALIBRATION (cont'd):

B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the compounds in the continuing calibration standard to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Method criteria states that the percent RSD of the initial calibration curve must be less than 40% or 50%. The criteria have been applied to all reported target analytes. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects may be flagged "UJ", based on professional judgment. If %RSD and %D grossly exceed QC criteria (>90%), non-detects data may be qualified "R", unusable.

One (1) initial calibration curve analysis is associated with these sample analyses. The laboratory performed an initial multilevel calibration on February 1, 2018 (Inst. A8_N). Initial calibration concentration between 0.025 ng/ml through 10.0 ng/ml were analyzed. The %RSD of reported target compounds met QC criteria in this initial calibration curve analysis.

One (1) opening and one (1) closing continuing calibration standard is associated with the calibration curve analyses. Continuing calibration curve analysis was performed February 3, 2018. The % Difference of reported target compounds met QC criteria in the continuing calibration standard analysis.

One (1) initial calibration curve analysis is associated with these sample analyses. The laboratory performed an initial multilevel calibration on February 15, 2018 (Inst. A8_N). Initial calibration concentration between 0.025 ng/ml through 10.0 ng/ml were analyzed. The %RSD of reported target compounds met QC criteria in this initial calibration curve analysis.

7. LC/MS INTERNAL STANDARDS PERFORMANCE:

Internal standard (IS) performance criteria ensure that the GC/MS sensitivity and response are stable during every run. The method guidance state that if the area count is outside the (-50% to +100%) range of the associated standard, all of the positive results for compounds quantitated using that IS are qualified estimated, "J", and all non-detects below 50% are qualified "UJ", non-detects above 100% should not be qualified or "R" if there is a severe loss of sensitivity. The internal standard area count evaluation criteria are applied to all field and QC samples.

The samples in this data set were spiked with the internal standard compounds. The internal standard recovery was reported below QC limit in samples SD-4 and CP-3. Sample SD-4 was initially analyzed from a dilution analysis. The Internal Standard (IS) recovery was reported below QC limit. The sample was reanalyzed without dilution and acceptable IS were obtained. No further action was taken. Sample CP-3 was initially analyzed, Internal Standard response was reported outside QC limit. The sample was reanalyzed and comparable data was obtained. PFOA in has been estimated "UJ" qualified in sample CP-3.

Qualified data result pages are located in Appendix B of this report.

ORGANIC DATA ASSESSMENT

8. DUPLICATE SAMPLE ANALYSIS

The duplicate sample analysis is used to evaluate the precision of the methods for each parameter. If the duplicate sample analysis results for a particular analyte fall outside the control windows of 20% (35% for soil samples) RPD or =/- CRDL, whichever is appropriate depending upon the concentration of the sample, the associated sample results are qualified "J" estimated.

Sample CP-2 was collected in duplicate. The RPD (%) of detected target analytes in sample CP-2/DUP-01 met QC criteria. Sample data has not been qualified based on the results of field duplicate sample analyses.

9. COMPOUND IDENTIFICATION:

Target compounds are identified on the LC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectrum which has a ratio of the primary and secondary ion intensities with 20% of that in the standard compound. Target compounds are identified on the GC by using the analytes retention time. Concentration is quantitated from the initial calibration curve.

Eight (8) non-aqueous samples (inc. one Field Duplicate) and one (1) Equipment Blank sample were analyzed and reported within this data set. The samples in this data set were analyzed and reported without dilution. Results reported between the laboratory method detection limit and the laboratory reporting limit (RL) have been reported and qualified "J" by the laboratory. Final results are reported in ug/kg.

10. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

Analytical QC criteria were met for these analyses except for what was described in the above report. The data reported agrees with the raw data provided in the final report. The laboratory provided a complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package.

The data provided for this data set is acceptable for use, with noted data qualifiers. The qualified data result pages are located in Appendix B of this report.

TABLE 1

Sample Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35535-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-35535-1	CP-1	Solid	01/29/18 13:45	01/31/18 09:30
320-35535-2	SD-3	Solid	01/29/18 14:00	01/31/18 09:30
320-35535-3	SD-4	Solid	01/29/18 14:10	01/31/18 09:30
320-35535-4	SD-5	Solid	01/29/18 14:17	01/31/18 09:30
320-35535-5	SD-6	Solid	01/29/18 14:40	01/31/18 09:30
320-35535-6	CP-2	Solid	01/29/18 15:10	01/31/18 09:30
320-35535-7	CP-3	Solid	01/29/18 15:35	01/31/18 09:30
320-35535-8	DUP-01	Solid	01/29/18 11:11	01/31/18 09:30
320-35535-9	EQUIPMENT BLANK	Water	01/29/18 16:00	01/31/18 09:30

APPENDIX A

DATA QUALIFIER DEFINITIONS

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

APPENDIX B

Client Sample ID: CP-1

Date Collected: 01/29/18 13:45
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-1

Matrix: Solid
Percent Solids: 96.9

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.072**	**J**	0.21	0.029	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluoropentanoic acid (PFPeA)	ND		0.21	0.079	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.043	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.030	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.088	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.037	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorodecanoic acid (PFDA)	**0.041**	**J**	0.21	0.023	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluoroundecanoic acid (PFUnA)	**0.043**	**J**	0.21	0.037	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.069	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorotridecanoic Acid (PFTriA)	ND	F1	0.21	0.052	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.055	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.026	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorohexanesulfonic acid (PFHxS)	**0.11**	**J**	0.21	0.032	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.036	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorooctanesulfonic acid (PFOS)	**1.6**		0.21	0.21	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.040	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.21	0.084	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.40	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.38	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
6:2FTS	ND		2.1	0.15	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1
8:2FTS	ND		2.1	0.26	ug/Kg	☼	02/02/18 14:19	02/17/18 14:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C5 PFPeA	*70*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C2 PFHxA	*62*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C4-PFHpA	*60*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C4 PFOA	*66*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C5 PFNA	*64*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C2 PFDA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C2 PFUnA	*65*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C2 PFDoA	*58*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C2-PFTeDA	*64*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C3-PFBS	*62*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
18O2 PFHxS	*62*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C4 PFOS	*61*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
13C8 FOSA	*61*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
d3-NMeFOSAA	*51*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
d5-NEtFOSAA	*49*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
M2-6:2FTS	*76*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*
M2-8:2FTS	*76*		*25 - 150*	*02/02/18 14:19*	*02/17/18 14:57*	*1*

Client Sample ID: SD-3

Date Collected: 01/29/18 14:00
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-2

Matrix: Solid
Percent Solids: 77.4

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.17**	**J**	0.26	0.036	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluoropentanoic acid (PFPeA)	**0.12**	**J**	0.26	0.099	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorohexanoic acid (PFHxA)	ND		0.26	0.054	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluoroheptanoic acid (PFHpA)	ND		0.26	0.037	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorooctanoic acid (PFOA)	ND		0.26	0.11	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorononanoic acid (PFNA)	**0.15**	**J**	0.26	0.046	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorodecanoic acid (PFDA)	ND		0.26	0.028	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluoroundecanoic acid (PFUnA)	**0.22**	**J**	0.26	0.046	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorododecanoic acid (PFDoA)	**0.17**	**J**	0.26	0.086	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorotridecanoic Acid (PFTriA)	**20**		0.26	0.066	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorotetradecanoic acid (PFTeA)	**0.22**	**J**	0.26	0.069	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.26	0.032	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.26	0.040	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.26	0.045	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.26	0.26	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.26	0.050	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.26	0.11	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.6	0.50	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.6	0.48	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
6:2FTS	ND		2.6	0.19	ug/Kg		02/02/18 14:19	02/17/18 15:21	1
8:2FTS	ND		2.6	0.32	ug/Kg		02/02/18 14:19	02/17/18 15:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*60*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C5 PFPeA	*71*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C2 PFHxA	*59*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C4-PFHpA	*59*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C4 PFOA	*63*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C5 PFNA	*62*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C2 PFDA	*70*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C2 PFUnA	*70*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C2 PFDoA	*69*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C2-PFTeDA	*81*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C3-PFBS	*72*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
18O2 PFHxS	*65*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C4 PFOS	*63*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
13C8 FOSA	*65*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
d3-NMeFOSAA	*58*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
d5-NEtFOSAA	*55*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
M2-6:2FTS	*77*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*
M2-8:2FTS	*92*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:21*	*1*

Client Sample ID: SD-4

Date Collected: 01/29/18 14:10
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-3

Matrix: Solid
Percent Solids: 92.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.54**		0.21	0.030	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluoropentanoic acid (PFPeA)	**1.4**		0.21	0.082	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorohexanoic acid (PFHxA)	ND		0.21	0.045	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluoroheptanoic acid (PFHpA)	ND		0.21	0.031	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorooctanoic acid (PFOA)	ND		0.21	0.092	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorononanoic acid (PFNA)	ND		0.21	0.038	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorodecanoic acid (PFDA)	ND		0.21	0.023	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluoroundecanoic acid (PFUnA)	**0.14**	**J**	0.21	0.038	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorododecanoic acid (PFDoA)	ND		0.21	0.071	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorotridecanoic Acid (PFTriA)	**0.20**	**J**	0.21	0.054	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.21	0.058	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.21	0.027	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorohexanesulfonic acid (PFHxS)	ND		0.21	0.033	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.21	0.037	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.21	0.21	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.21	0.042	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.21	0.087	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.1	0.42	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.1	0.39	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
6:2FTS	ND		2.1	0.16	ug/Kg		02/02/18 14:19	02/17/18 15:28	1
8:2FTS	ND		2.1	0.27	ug/Kg		02/02/18 14:19	02/17/18 15:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*65*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C5 PFPeA	*80*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C2 PFHxA	*72*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C4-PFHpA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C4 PFOA	*79*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C5 PFNA	*80*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C2 PFDA	*76*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C2 PFUnA	*92*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C2 PFDoA	*73*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C2-PFTeDA	*80*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C3-PFBS	*82*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
18O2 PFHxS	*79*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C4 PFOS	*78*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
13C8 FOSA	*63*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
d3-NMeFOSAA	*70*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
d5-NEtFOSAA	*87*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
M2-6:2FTS	*112*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*
M2-8:2FTS	*123*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:28*	*1*

Client Sample ID: SD-5

Date Collected: 01/29/18 14:17
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-4

Matrix: Solid
Percent Solids: 88.0

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.4**		0.23	0.032	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluoropentanoic acid (PFPeA)	**2.6**		0.23	0.087	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorohexanoic acid (PFHxA)	**2.1**		0.23	0.047	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluoroheptanoic acid (PFHpA)	ND		0.23	0.033	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorooctanoic acid (PFOA)	ND		0.23	0.097	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorononanoic acid (PFNA)	**0.25**		0.23	0.041	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorodecanoic acid (PFDA)	ND		0.23	0.025	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluoroundecanoic acid (PFUnA)	**0.29**		0.23	0.041	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorododecanoic acid (PFDoA)	ND		0.23	0.076	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorotridecanoic Acid (PFTriA)	**0.57**		0.23	0.058	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorotetradecanoic acid (PFTeA)	**0.077**	J	0.23	0.061	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.23	0.028	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorohexanesulfonic acid (PFHxS)	**0.038**	J U	0.23	0.035	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.23	0.040	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.23	0.23	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.23	0.044	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.23	0.093	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.3	0.44	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.3	0.42	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
6:2FTS	ND		2.3	0.17	ug/Kg		02/02/18 14:19	02/17/18 15:36	1
8:2FTS	ND		2.3	0.28	ug/Kg		02/02/18 14:19	02/17/18 15:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C5 PFPeA	*66*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C2 PFHxA	*69*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C4-PFHpA	*60*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C4 PFOA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C5 PFNA	*72*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C2 PFDA	*75*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C2 PFUnA	*89*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C2 PFDoA	*63*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C2-PFTeDA	*87*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C3-PFBS	*74*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
18O2 PFHxS	*76*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C4 PFOS	*76*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
13C8 FOSA	*57*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
d3-NMeFOSAA	*76*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
d5-NEtFOSAA	*71*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
M2-6:2FTS	*110*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*
M2-8:2FTS	*133*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:36*	*1*

Client Sample ID: SD-6

Date Collected: 01/29/18 14:40
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-5

Matrix: Solid
Percent Solids: 67.7

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**2.8**		0.29	0.041	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluoropentanoic acid (PFPeA)	**12**		0.29	0.11	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorohexanoic acid (PFHxA)	ND		0.29	0.062	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluoroheptanoic acid (PFHpA)	ND		0.29	0.043	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorooctanoic acid (PFOA)	**0.48**		0.29	0.13	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorononanoic acid (PFNA)	**0.40**		0.29	0.053	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorodecanoic acid (PFDA)	ND		0.29	0.032	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluoroundecanoic acid (PFUnA)	**0.57**		0.29	0.053	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorododecanoic acid (PFDoA)	ND		0.29	0.099	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorotridecanoic Acid (PFTriA)	**1.9**		0.29	0.075	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorotetradecanoic acid (PFTeA)	ND		0.29	0.080	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.29	0.037	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorohexanesulfonic acid (PFHxS)	**0.093**	J	0.29	0.046	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.29	0.052	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorooctanesulfonic acid (PFOS)	ND		0.29	0.29	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorodecanesulfonic acid (PFDS)	**0.16**	J	0.29	0.058	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.29	0.12	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.9	0.58	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.9	0.55	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
6:2FTS	ND		2.9	0.22	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1
8:2FTS	ND		2.9	0.37	ug/Kg	☼	02/02/18 14:19	02/17/18 15:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*38*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C5 PFPeA	*43*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C2 PFHxA	*41*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C4-PFHpA	*39*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C4 PFOA	*45*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C5 PFNA	*54*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C2 PFDA	*57*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C2 PFUnA	*64*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C2 PFDoA	*44*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C2-PFTeDA	*57*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C3-PFBS	*56*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
18O2 PFHxS	*50*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C4 PFOS	*49*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
13C8 FOSA	*43*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
d3-NMeFOSAA	*40*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
d5-NEtFOSAA	*50*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
M2-6:2FTS	*82*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*
M2-8:2FTS	*101*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:44*	*1*

Client Sample ID: CP-2

Date Collected: 01/29/18 15:10
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-6

Matrix: Solid
Percent Solids: 70.2

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.25**	**J**	0.29	0.040	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluoropentanoic acid (PFPeA)	**0.13**	**J**	0.29	0.11	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorohexanoic acid (PFHxA)	ND		0.29	0.060	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluoroheptanoic acid (PFHpA)	ND		0.29	0.041	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorooctanoic acid (PFOA)	ND		0.29	0.12	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorononanoic acid (PFNA)	**0.075**	**J**	0.29	0.051	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorodecanoic acid (PFDA)	**0.11**	**J**	0.29	0.031	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluoroundecanoic acid (PFUnA)	**0.12**	**J**	0.29	0.051	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorododecanoic acid (PFDoA)	**0.10**	**J**	0.29	0.095	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorotridecanoic Acid (PFTriA)	**0.68**		0.29	0.073	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorotetradecanoic acid (PFTeA)	**0.12**	**J**	0.29	0.077	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorobutanesulfonic acid (PFBS)	**0.047**	**J**	0.29	0.036	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorohexanesulfonic acid (PFHxS)	**0.18**	**J**	0.29	0.044	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.29	0.050	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorooctanesulfonic acid (PFOS)	**1.3**		0.29	0.29	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.29	0.056	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.29	0.12	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.9	0.56	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.9	0.53	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
6:2FTS	ND		2.9	0.21	ug/Kg		02/02/18 14:19	02/17/18 15:52	1
8:2FTS	ND		2.9	0.36	ug/Kg		02/02/18 14:19	02/17/18 15:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*56*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C5 PFPeA	*68*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C2 PFHxA	*54*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C4-PFHpA	*55*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C4 PFOA	*68*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C5 PFNA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C2 PFDA	*84*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C2 PFUnA	*83*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C2 PFDoA	*86*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C2-PFTeDA	*99*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C3-PFBS	*78*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
18O2 PFHxS	*69*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C4 PFOS	*68*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
13C8 FOSA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
d3-NMeFOSAA	*78*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
d5-NEtFOSAA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
M2-6:2FTS	*98*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*
M2-8:2FTS	*130*		*25 - 150*	*02/02/18 14:19*	*02/17/18 15:52*	*1*

Client Sample ID: CP-3

Date Collected: 01/29/18 15:35
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-7

Matrix: Solid
Percent Solids: 72.5

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.33**		0.27	0.038	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluoropentanoic acid (PFPeA)	ND		0.27	0.10	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorohexanoic acid (PFHxA)	ND		0.27	0.057	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluoroheptanoic acid (PFHpA)	ND		0.27	0.040	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorooctanoic acid (PFOA)	ND	U J	0.27	0.12	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorononanoic acid (PFNA)	**0.086**	**J**	0.27	0.049	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorodecanoic acid (PFDA)	**0.084**	**J**	0.27	0.030	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluoroundecanoic acid (PFUnA)	**0.19**	**J**	0.27	0.049	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorododecanoic acid (PFDoA)	**0.27**		0.27	0.091	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorotridecanoic Acid (PFTriA)	**1.5**		0.27	0.070	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorotetradecanoic acid (PFTeA)	**0.14**	**J**	0.27	0.074	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.27	0.034	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorohexanesulfonic acid (PFHxS)	**0.24**	**J U**	0.27	0.042	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.27	0.048	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorooctanesulfonic acid (PFOS)	**1.7**		0.27	0.27	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorodecanesulfonic acid (PFDS)	**0.093**	**J**	0.27	0.053	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.27	0.11	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.7	0.53	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.7	0.50	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
6:2FTS	ND		2.7	0.20	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1
8:2FTS	ND		2.7	0.34	ug/Kg	☼	02/02/18 14:19	02/17/18 16:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	43		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C5 PFPeA	52		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C2 PFHxA	40		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C4-PFHpA	46		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C4 PFOA	49		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C5 PFNA	48		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C2 PFDA	55		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C2 PFUnA	64		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C2 PFDoA	66		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C2-PFTeDA	80		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C3-PFBS	58		25 - 150	02/02/18 14:19	02/17/18 16:15	1
18O2 PFHxS	50		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C4 PFOS	52		25 - 150	02/02/18 14:19	02/17/18 16:15	1
13C8 FOSA	45		25 - 150	02/02/18 14:19	02/17/18 16:15	1
d3-NMeFOSAA	63		25 - 150	02/02/18 14:19	02/17/18 16:15	1
d5-NEtFOSAA	55		25 - 150	02/02/18 14:19	02/17/18 16:15	1
M2-6:2FTS	76		25 - 150	02/02/18 14:19	02/17/18 16:15	1
M2-8:2FTS	103		25 - 150	02/02/18 14:19	02/17/18 16:15	1

Client Sample ID: DUP-01

Date Collected: 01/29/18 11:11
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-8

Matrix: Solid
Percent Solids: 68.6

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.25**	**J**	0.29	0.040	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluoropentanoic acid (PFPeA)	**0.12**	**J**	0.29	0.11	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorohexanoic acid (PFHxA)	ND		0.29	0.061	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluoroheptanoic acid (PFHpA)	ND		0.29	0.042	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorooctanoic acid (PFOA)	**0.12**	**J**	0.29	0.12	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorononanoic acid (PFNA)	**0.075**	**J**	0.29	0.052	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorodecanoic acid (PFDA)	**0.12**	**J**	0.29	0.032	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluoroundecanoic acid (PFUnA)	**0.15**	**J**	0.29	0.052	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorododecanoic acid (PFDoA)	**0.12**	**J**	0.29	0.097	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorotridecanoic Acid (PFTriA)	**0.75**		0.29	0.074	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorotetradecanoic acid (PFTeA)	**0.17**	**J**	0.29	0.078	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorobutanesulfonic acid (PFBS)	ND		0.29	0.036	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorohexanesulfonic acid (PFHxS)	**0.19**	**J**	0.29	0.045	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		0.29	0.051	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorooctanesulfonic acid (PFOS)	**1.5**		0.29	0.29	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorodecanesulfonic acid (PFDS)	ND		0.29	0.056	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
Perfluorooctane Sulfonamide (FOSA)	ND		0.29	0.12	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		2.9	0.56	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		2.9	0.53	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
6:2FTS	ND		2.9	0.22	ug/Kg		02/02/18 14:19	02/17/18 16:23	1
8:2FTS	ND		2.9	0.36	ug/Kg		02/02/18 14:19	02/17/18 16:23	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*54*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C5 PFPeA	*66*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C2 PFHxA	*55*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C4-PFHpA	*56*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C4 PFOA	*68*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C5 PFNA	*67*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C2 PFDA	*75*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C2 PFUnA	*78*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C2 PFDoA	*85*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C2-PFTeDA	*104*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C3-PFBS	*72*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
18O2 PFHxS	*68*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C4 PFOS	*65*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
13C8 FOSA	*64*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
d3-NMeFOSAA	*78*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
d5-NEtFOSAA	*69*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
M2-6:2FTS	*99*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*
M2-8:2FTS	*131*		*25 - 150*	*02/02/18 14:19*	*02/17/18 16:23*	*1*

Client Sample ID: EQUIPMENT BLANK
Date Collected: 01/29/18 16:00
Date Received: 01/31/18 09:30

Lab Sample ID: 320-35535-9
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.9	0.34	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluoropentanoic acid (PFPeA)	ND		1.9	0.47	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.56	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.24	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.82	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorohexanesulfonic acid (PFHxS)	0.27	J B	1.9	0.16	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.52	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/02/18 08:04	02/03/18 09:02	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/02/18 08:04	02/03/18 09:02	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/02/18 08:04	02/03/18 09:02	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/02/18 08:04	02/03/18 09:02	1
6:2FTS	ND		19	1.9	ng/L		02/02/18 08:04	02/03/18 09:02	1
8:2FTS	ND		19	1.9	ng/L		02/02/18 08:04	02/03/18 09:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C5 PFPeA	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C2 PFHxA	*111*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C4-PFHpA	*101*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C5 PFNA	*113*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C2 PFDA	*112*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C2 PFUnA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C2 PFDoA	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C2-PFTeDA	*133*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C3-PFBS	*107*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
18O2 PFHxS	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C4 PFOS	*109*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
13C8 FOSA	*101*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
d3-NMeFOSAA	*110*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
d5-NEtFOSAA	*108*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
M2-6:2FTS	*99*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*
M2-8:2FTS	*97*		*25 - 150*	*02/02/18 08:04*	*02/03/18 09:02*	*1*

APPENDIX C

SACRAmento

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice): ZEB YOUNGMAN

Company: ZEB ENVIRONMENTAL

Address: 188 WEST MONTAUK HWY

City: HAMPTON BAY State: NY 11946

Phone: 631 594 5300 Fax:

Samplers Name (Printed): DAN D'ARCY

P.O. #:

Site/Project Identification: HAMPTON BAYS FIRE DEPARTMENT

State (Location of site): NJ: [ ] NY: [X] Other:

Regulatory Program: NYSDEC

Analysis Turnaround Time: Standard [X]; Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]

ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST): PFAS Full List

LAB USE ONLY: Project No: Job No:

Sample Identification	Date	Time	Matrix	No. of Cont.	PFAS Full List	Sample Numbers
CP-1 (MS/MSD)	11/29/18	1345	S	3	X	
SD-3	↓	1400	↓	1	↓	
SD-4	↓	1410	↓	1	↓	
SD-5	↓	1417	↓	1	↓	
SD-6	↓	1440	↓	1	↓	
CP-2	↓	1510	↓	1	↓	
CP-3	↓	1535	↓	1	↓	
DUP-01	↓	1111	↓	1	↓	
EQUIPMENT BLANK	↓	1600	W	1	↓	

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH; 6 = Other ______, 7 = Other ______ — Soil: / Water:

Special Instructions

Water Metals Filtered (Yes/No)?

Relinquished by	Company	Date / Time	Received by	Company
1) Zeb Youngman	ZEB	11/30/18 1130	1) [signature]	TA
2) [signature]	TANYEC	11/30/18 1700	2) [signature]	TA-Sac 11/31/18 930
3)			3)	
4)			4)	

2.1

320-35535 Chain of Custody

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Massachusetts (M-NJ312), North Carolina (No. 578)

PREMIER ENVIRONMENTAL SERVICES, INC.

DATA REVIEW SUMMARY
OF THE
SAMPLES COLLECTED FROM

PFAS, NEW YORK

ORGANIC ANALYSES
IN AQUEOUS SAMPLES

Test America Laboratories, Inc.
West Sacramento, CA

PROJECT NUMBER: 320-35698-1

April 2018

Prepared for
Zeb Environmental Solutions, Inc.
Hampton Bays, New York

Prepared by
Premier Environmental Services
2815 Covered Bridge Road
Merrick, New York 11566
(516)223-9761

DATA VALIDATION FOR:	**Fluorinated Alkyl Substances (PFAS)**
SITE:	**PFAS, New York**
LABORATORY REPORT NO:	**320-35698-1**
CONTRACT LAB:	**Test America Laboratories, Inc. Sacramento, CA**
REVIEWER:	**Renee Cohen**
DATE REVIEW COMPLETED:	**April 2018**
MATRIX:	**Aqueous**

The data validation was performed according to the guidelines in the USEPA National Functional Guidelines for Organic Data Review and the USEPA Region II SOPs where applicable. In addition, method and QC criteria were cited. All data are considered valid and acceptable except those analytes which have been deemed unusable "R" (unreliable). Due to various QC problems some analytes may have been qualified with a "J" (estimated), "N" (presumptive evidence for the presence of the material, "U" (non-detect), or "JN" (presumptive evidence for the presence of the material at an estimated value) flag. All actions are detailed on the attached sheets.

Table 1 of this report includes a cross reference between the field sample ID and laboratory sample ID's. Copies of the data qualifiers that may be used in this report are located in Appendix A of this report. Qualified data result pages are located in Appendix B of this report. Copies of the Chain of Custody (COC) documents are located in Appendix C of this report.

This data assessment is for nineteen (19) aqueous samples (inc. one field duplicate sample) and one (1) Equipment Blank sample listed on the COC documents that accompanied the samples to the laboratory. The samples were collected on January 30, 2018, January 31, 2018, February 1, 2018 and February 2, 2018 and received at the laboratory on February 3, 2018 for the analyses requested on the COC documentation. The samples were analyzed for Fluorinated Alkyl Substances (PFAS) per the COC documents that accompanied the samples to the laboratory.

ORGANIC DATA ASSESSMENT

1. OVERVIEW:

This data review report is for the samples analyzed for Fluorinated Alkyl Substances. Analyses were performed in accordance with USEPA Method 537 (modified). Data validation will utilize the validation guidelines listed above, however, QA/QC requirements of Method 537 will supersede CLP requirements in terms of calibration and holding time where applicable. The aqueous samples associated with this data set were analyzed and reported for PFAs via the USEPA Method 537 (modified). Test America Laboratories - Sacramento generated a stand-alone report for these analyses. A summary of the applicable QC will be discussed at each section of the report.

2. HOLDING TIME:

The amount of an analyte in a sample can change with time due to chemical instability, degradation, volatilization, etc. If the specified holding time is exceeded, the data may not be valid. The holding times for aqueous and solid/soil samples are based on sample receipt.

Nineteen (19) aqueous samples (inc. 1 field duplicate sample) and one (1) Equipment Blank sample were collected January 30, 2018 through February 2, 2018 and received at the laboratory on February 3, 2018. The samples were prepared in one (1) extraction batch on February 17, 2018 and analyzed via EPA Method 537 (Modified) February 17, 2018 through February 19, 2018.

3. SURROGATES:

Samples to be analyzed for PFAs are fortified with a minimum of eighteen (18) method recommended surrogate compounds. Surrogate compounds are added to the samples prior to analysis. Surrogate compounds are used to evaluate the overall laboratory performance and the efficiency of the analytical technique. The surrogate compound was added to the sample prior to analysis to evaluate the overall laboratory performance and the efficiency of the analytical technique. The laboratory reported recovery QC limits (25-150%) for these analyses. The field sample and QC sample surrogate percent recoveries were summarized in this data report.

The laboratory fortified each of the samples in this data set with eighteen isotope dilution analytes. The percent recovery of each isotope dilution analytes met the in-house QC criteria in each of the sample analyses reported in this data set. PFTeDA was recovered above QC limit in the method blank sample associated with this data set. The associated analyte was not detected in the method blank sample. No action was taken based on this QC outlier.

The percent isotope dilution recovery of M2-6:2FTS was recovered above QC limit in samples VP-1 (65-70) and VP-2 (90-95). The associated target analyte was not detected in these samples, therefore, no action was taken based on this QC outlier.

4. MATRIX SPIKE/SPIKE DUPLICATE, MS/MSD:

The MS/MSD data are generated to determine the long-term precision and accuracy of the analytical method in various matrices and to demonstrate acceptable compound recovery by the laboratory at the time of sample analysis.

In addition, a blank spike sample/reference sample/LCS was prepared and analyzed with each sample batch/analysis reported in this data set.

Sample VP-4 (90-95) was prepared and analyzed as the site-specific MS/MSD with this data set. In-house percent recovery limits were applied to each target analyte. The % recovery of each target analyte met QC criteria in the MS and MSD sample analyses reported in this data set. RPD (%) of the MS/MSD (0-30) was applied. RPD (%) in the site-specific MS/MSD met QC criteria.

A laboratory control sample (LCS) and/or laboratory control sample duplicate (LCS) is associated with this data set. In-house QC limits were applied. The percent recovery of each target analyte met QC criteria in the reported LCS sample analyses reported in this data set.

5. BLANK CONTAMINATION:

Quality assurance (QA) blanks, such as the method, trip, field, or rinse blanks are prepared to identify any contamination that may have been introduced into the samples during sample preparation or field activity. Method blanks measure laboratory contamination. Trip blanks measure cross-contamination of samples during shipment. Field and rinse blanks measure cross-contamination of samples during field operations. Samples were only qualified with those QC samples associated with the particular blank.

A) Method Blank contamination

One (1) method blank sample is associated with the samples in this data set. Perfluorohexanesulfonic acid (PFHxS) was detected in the preparation method blank 207321 at a concentration of 0.307 J ng/L. PFHxS was detected in a number of the samples reported in this data set. The laboratory applied the "B" qualifier to the sample result. When PFHxS was detected at a concentration attributed to the method blank sample, PFHxS has been negated "U" qualified.

Qualified data result pages are located in Appendix B of this report.

B) Field or Equipment Rinse Blank (ERB) contamination

A Field Blank sample is not associated with this data set. Sample Equipment Blank is associated with this data set. The Equipment Blank is free from contaminants with the exception of PFHxS (0.26 JB ng/L).

PFHxS was detected between the MDL and RL in the samples associated with this data set. When detected at a concentration that can be attributed to the Equipment Blank sample, PFHxS has been negated "U" qualified.

Qualified data result pages are located in Appendix B of this report.

C) Trip Blank contamination

A Trip Blank samples is not associated with this data set.

ORGANIC DATA ASSESSMENT

6. LC/MS CALIBRATION:

Satisfactory instrument calibration is established to ensure that the instrument is capable of producing acceptable quantitative data. An initial calibration demonstrates that the instrument is capable of giving acceptable performance at the beginning of an experimental sequence. The continuing calibration verifies that the instrument is giving satisfactory daily performance. Region USEPA and Region II criteria is the criteria for these LCMS Isotopic Analyses.

A) RESPONSE FACTOR

The response factor measures the instrument's response to specific chemical compounds. Region II data review requires that the response factor of all analytes be greater than or equal to 0.05 in both initial and continuing calibration analyses. A value less than 0.05 indicates a serious detection and quantitation problem (poor sensitivity). Region II data validation criteria states that if the minimum RRF criteria is not met in an initial calibration the positive results are qualified "J". Non-detect results in the initial calibration with a RRF <0.05 are qualified "R", unusable. If RRF criteria is not met in the continuing calibration curve analysis, affected positive analytes will be qualified "J" estimated. Those analytes not detected are not qualified. The SW-846 Methods cite specific analytes known as System Performance Check Compounds (SPCC). Minimum response criteria are set for these analytes. If the minimum criteria are not met, analyses must stop and the source of problems must be found and corrected. Data associated with this set has been reviewed for the criteria in the cited in the EPA Method criteria.

One (1) initial calibration curve analysis is associated with these sample analyses. The laboratory performed an initial multilevel calibration on February 15, 2018 (Inst. A8_N). Initial calibration concentration between 0.025 ng/ml through 10.0 ng/ml were analyzed. The RRF of reported target compounds met QC criteria in this initial calibration curve analysis.

One (1) continuing calibration standard is associated with the calibration curve analyses. Continuing calibration curve analysis was performed February 17, 2018 and February 19, 2018. The RRF of reported target compounds met QC criteria in the continuing calibration standard analysis.

6. LC/MS CALIBRATION (cont'd):

B) PERCENT RELATIVE STANDARD DEVIATION (RSD) AND PERCENT DIFFERENCE (%D):

Percent RSD is calculated from the initial calibration and is used to indicate the stability of the specific compound response factor over increasing concentration. Percent D compares the response factor of the compounds in the continuing calibration standard to the mean response factor (RRF) from the initial calibration. Percent D is a measure of the instrument's daily performance. Method criteria states that the percent RSD of the initial calibration curve must be less than 40% or 50%. The criteria have been applied to all reported target analytes. A value outside of these limits indicates potential detection and quantitation errors. For these reasons, all positive results are flagged as estimated, "J" and non-detects may be flagged "UJ", based on professional judgment. If %RSD and %D grossly exceed QC criteria (>90%), non-detects data may be qualified "R", unusable.

One (1) initial calibration curve analysis is associated with these sample analyses. The laboratory performed an initial multilevel calibration on February 15, 2018 (Inst. A8_N). Initial calibration concentration between 0.025 ng/ml through 10.0 ng/ml were analyzed. The %RSD of reported target compounds met QC criteria in this initial calibration curve analysis.

One (1) opening and one (1) closing continuing calibration standard is associated with the calibration curve analyses. Continuing calibration curve analysis was performed February17, 2018 (Analysis Batch 208913) and February 19, 2018 (Analysis Batch 209125). The % Difference of reported target compounds met QC criteria in these continuing calibration standard analyses.

7. <u>DUPLICATE SAMPLE ANALYSIS</u>

The duplicate sample analysis is used to evaluate the precision of the methods for each parameter. If the duplicate sample analysis results for a particular analyte fall outside the control windows of 20% (35% for soil samples) RPD or =/- CRDL, whichever is appropriate depending upon the concentration of the sample, the associated sample results are qualified "J" estimated.

Sample VP-3(49-50) was collected in duplicate. The RPD (%) of detected target analytes in sample VP-3 (49-50) met QC criteria. Sample data has not been qualified based on the results of field duplicate sample analyses.

ORGANIC DATA ASSESSMENT

8. COMPOUND IDENTIFICATION:

Target compounds are identified on the LC/MS by using the analyte's relative retention time (RRT) and by comparison to the ion spectra obtained from known standards. For the results to be a positive hit, the sample peak must be within ± 0.06 RRT units of the standard compound and have an ion spectrum which has a ratio of the primary and secondary ion intensities with 20% of that in the standard compound. Target compounds are identified on the LC by using the analytes retention time. Concentration is quantitated from the initial calibration curve.

Eighteen (18) aqueous samples (inc. one Field Duplicate) and one (1) Equipment Blank sample were analyzed and reported within this data set. The samples in this data set were analyzed and reported without dilution. Results reported between the laboratory method detection limit and the laboratory reporting limit (RL) have been reported and qualified "J" by the laboratory.

The laboratory case narrative noted that each of the aqueous samples reported were decanted into a new polypropylene bottle prior to extraction due to the presence of sediment in the vial. The sediment would have caused analysis issues during the solid phase column analysis.

Sample extracts were analyzed and reported to the base reporting with the exception of the following:

Sample VP-5 (70-75) was initially analyzed without dilution. Target analytes with the exception of PFOS were reported from this analysis. VP-5 (70-75) was reanalyzed from a 1:5 dilution analysis to report the concentration of PFOS (580 ng/L) within the calibration range the instrument.

Sample VP-5 (50-55) was initially analyzed without dilution. Target analytes with the exception of PFOS were reported from this analysis. VP-5 (50-55) was reanalyzed from a 1:10 dilution analysis to report the concentration of PFOS (580 ng/L) within the calibration range the instrument.

Sample VP-6 (50-55) was initially analyzed without dilution. Target analytes with the exception of PFHxS were reported from this analysis. The sample extract was reanalyzed from a 1:5 dilution analysis to report the concentration of PFHxS (470 ng/L) within the calibration range the instrument.

9. SYSTEM PERFORMANCE AND OVERALL ASSESSMENT

Analytical QC criteria were met for these analyses except for what was described in the above report. The data reported agrees with the raw data provided in the final report. The laboratory provided a complete data package and reported all data using acceptable protocols and laboratory qualifiers as defined in the report package.

The data provided for this data set is acceptable for use, with noted data qualifiers. The qualified data result pages are located in Appendix B of this report.

TABLE 1

Sample Summary

Client: Zeb Environmental Solutions Inc
Project/Site: PFAS, New York

TestAmerica Job ID: 320-35698-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
320-35698-1	VP-1 (85-90)	Water	01/31/18 08:52	02/03/18 09:05
320-35698-2	VP-1 (65-70)	Water	01/31/18 09:47	02/03/18 09:05
320-35698-3	VP-1 (45-50)	Water	01/31/18 10:30	02/03/18 09:05
320-35698-4	VP-2 (90-95)	Water	01/30/18 11:28	02/03/18 09:05
320-35698-5	VP-2 (70-75)	Water	01/30/18 12:58	02/03/18 09:05
320-35698-6	VP-2 (45-50)	Water	01/30/18 13:30	02/03/18 09:05
320-35698-7	VP-3 (85-90)	Water	02/02/18 09:30	02/03/18 09:05
320-35698-8	VP-3 (65-70)	Water	02/02/18 10:00	02/03/18 09:05
320-35698-9	VP-3 (45-50)	Water	02/02/18 10:25	02/03/18 09:05
320-35698-10	DUP-01	Water	02/02/18 00:00	02/03/18 09:05
320-35698-11	VP-4 (90-95)	Water	02/02/18 11:00	02/03/18 09:05
320-35698-12	VP-4 (70-75)	Water	02/02/18 11:27	02/03/18 09:05
320-35698-13	VP-4 (50-55)	Water	02/02/18 11:46	02/03/18 09:05
320-35698-14	VP-5 (90-95)	Water	02/01/18 13:15	02/03/18 09:05
320-35698-15	VP-5 (70-75)	Water	02/01/18 13:50	02/03/18 09:05
320-35698-16	VP-5 (50-55)	Water	02/01/18 17:50	02/03/18 09:05
320-35698-17	VP-6 (90-95)	Water	02/02/18 08:10	02/03/18 09:05
320-35698-18	VP-6 (70-75)	Water	02/02/18 08:48	02/03/18 09:05
320-35698-19	VP-6 (50-55)	Water	02/02/18 09:10	02/03/18 09:05
320-35698-20	Equipment Blank	Water	02/02/18 12:10	02/03/18 09:05

APPENDIX A

DATA QUALIFIER DEFINITIONS

U - The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J - The analyte was positively identified; the associated numerical value is the approximate concentration of the analyte in the sample.

N - The analysis indicates the presence of an analyte for which there is presumptive evidence to make a "tentative identification."

NJ - The analysis indicates the presence of an analyte that has been "tentatively identified" and the associated numerical value represents its approximate concentration.

UJ - The analyte was not detected above the reported sample quantitation limit. However, the reported quantitation limit is approximate and may or may not represent the actual limit of quantitation necessary to accurately and precisely measure the analyte in the sample.

R - The sample results are unreliable/unusable. The presence or absence of the analyte cannot be verified.

APPENDIX B

Client Sample ID: VP-1 (85-90)
Date Collected: 01/31/18 08:52
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-1
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**10**		2.0	0.34	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluoropentanoic acid (PFPeA)	**16**		2.0	0.48	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorohexanoic acid (PFHxA)	**19**		2.0	0.57	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluoroheptanoic acid (PFHpA)	**11**		2.0	0.25	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorooctanoic acid (PFOA)	**15**		2.0	0.83	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorononanoic acid (PFNA)	**40**		2.0	0.26	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorodecanoic acid (PFDA)	**3.5**		2.0	0.30	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.54	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.28	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorobutanesulfonic acid (PFBS)	**2.2**		2.0	0.20	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorohexanesulfonic acid (PFHxS)	**22**	**B**	2.0	0.17	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.60**	**J**	2.0	0.19	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorooctanesulfonic acid (PFOS)	**58**		2.0	0.53	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.31	ng/L		02/07/18 08:45	02/19/18 13:06	1
Perfluorooctane Sulfonamide (FOSA)	ND		2.0	0.34	ng/L		02/07/18 08:45	02/19/18 13:06	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.0	ng/L		02/07/18 08:45	02/19/18 13:06	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		02/07/18 08:45	02/19/18 13:06	1
6:2FTS	ND		20	2.0	ng/L		02/07/18 08:45	02/19/18 13:06	1
8:2FTS	ND		20	2.0	ng/L		02/07/18 08:45	02/19/18 13:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*71*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C5 PFPeA	*93*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C2 PFHxA	*87*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C4-PFHpA	*90*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C4 PFOA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C5 PFNA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C2 PFDA	*110*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C2 PFUnA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C2 PFDoA	*115*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C2-PFTeDA	*143*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C3-PFBS	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
18O2 PFHxS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C4 PFOS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
13C8 FOSA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
d3-NMeFOSAA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
d5-NEtFOSAA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
M2-6:2FTS	*138*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*
M2-8:2FTS	*133*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:06*	*1*

Client Sample ID: VP-1 (65-70)
Date Collected: 01/31/18 09:47
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-2
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.4**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluoropentanoic acid (PFPeA)	**3.8**		1.9	0.47	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorohexanoic acid (PFHxA)	**5.1**		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluoroheptanoic acid (PFHpA)	**3.4**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorooctanoic acid (PFOA)	**6.5**		1.9	0.82	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorononanoic acid (PFNA)	**9.3**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorodecanoic acid (PFDA)	**3.5**		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorobutanesulfonic acid (PFBS)	**0.94**	**J**	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorohexanesulfonic acid (PFHxS)	**6.8**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorooctanesulfonic acid (PFOS)	**30**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 13:14	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 13:14	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 13:14	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:14	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:14	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C5 PFPeA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C2 PFHxA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C4-PFHpA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C4 PFOA	*114*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C5 PFNA	*113*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C2 PFDA	*119*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C2 PFUnA	*111*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C2 PFDoA	*117*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C2-PFTeDA	*131*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C3-PFBS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
18O2 PFHxS	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C4 PFOS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
13C8 FOSA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
d3-NMeFOSAA	*111*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
d5-NEtFOSAA	*115*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
M2-6:2FTS	*155*	*	*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*
M2-8:2FTS	*147*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:14*	*1*

Client Sample ID: VP-1 (45-50)

Date Collected: 01/31/18 10:30
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-3

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.3**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluoropentanoic acid (PFPeA)	**6.1**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorohexanoic acid (PFHxA)	**9.7**		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluoroheptanoic acid (PFHpA)	**6.0**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorooctanoic acid (PFOA)	**11**		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorononanoic acid (PFNA)	**16**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorodecanoic acid (PFDA)	**1.0**	**J**	1.9	0.29	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorobutanesulfonic acid (PFBS)	**2.9**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorohexanesulfonic acid (PFHxS)	**19**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.84**	**J**	1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorooctanesulfonic acid (PFOS)	**230**		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:22	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:22	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 13:22	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:22	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:22	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*92*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C5 PFPeA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C2 PFHxA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C4-PFHpA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C5 PFNA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C2 PFDA	*113*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C2 PFUnA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C2 PFDoA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C2-PFTeDA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C3-PFBS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
18O2 PFHxS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C4 PFOS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
13C8 FOSA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
d3-NMeFOSAA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
d5-NEtFOSAA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
M2-6:2FTS	*147*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*
M2-8:2FTS	*136*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:22*	*1*

Client Sample ID: VP-2 (90-95)

Date Collected: 01/30/18 11:28
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-4
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluoropentanoic acid (PFPeA)	ND		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorohexanoic acid (PFHxA)	**2.1**		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluoroheptanoic acid (PFHpA)	**0.97**	J	1.9	0.24	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorooctanoic acid (PFOA)	**2.1**		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorononanoic acid (PFNA)	**1.3**	J	1.9	0.26	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorodecanoic acid (PFDA)	**0.53**	J	1.9	0.29	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorohexanesulfonic acid (PFHxS)	**0.65**	J B U	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorooctanesulfonic acid (PFOS)	**5.6**		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:30	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:30	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 13:30	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:30	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:30	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C5 PFPeA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C2 PFHxA	*93*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C4-PFHpA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C5 PFNA	*111*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C2 PFDA	*112*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C2 PFUnA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C2 PFDoA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C2-PFTeDA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C3-PFBS	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
18O2 PFHxS	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C4 PFOS	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
13C8 FOSA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
d3-NMeFOSAA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
d5-NEtFOSAA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
M2-6:2FTS	*155*	*	*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*
M2-8:2FTS	*135*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:30*	*1*

Client Sample ID: VP-2 (70-75)

Date Collected: 01/30/18 12:58
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-5

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.89**	**J**	1.9	0.34	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluoropentanoic acid (PFPeA)	**1.6**	**J**	1.9	0.47	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluoroheptanoic acid (PFHpA)	**0.97**	**J**	1.9	0.24	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorooctanoic acid (PFOA)	**2.7**		1.9	0.82	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorononanoic acid (PFNA)	**0.79**	**J**	1.9	0.26	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorohexanesulfonic acid (PFHxS)	**0.54**	**J B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorooctanesulfonic acid (PFOS)	**3.6**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 13:38	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 13:38	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 13:38	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:38	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:38	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C5 PFPeA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C2 PFHxA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C4-PFHpA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C5 PFNA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C2 PFDA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C2 PFUnA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C2 PFDoA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C2-PFTeDA	*141*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C3-PFBS	*93*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
18O2 PFHxS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C4 PFOS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
13C8 FOSA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
d5-NEtFOSAA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
M2-6:2FTS	*133*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*
M2-8:2FTS	*122*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:38*	*1*

Client Sample ID: VP-2 (45-50)

Date Collected: 01/30/18 13:30
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-6

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	8.6		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluoropentanoic acid (PFPeA)	20		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorohexanoic acid (PFHxA)	18		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluoroheptanoic acid (PFHpA)	15		1.9	0.23	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorooctanoic acid (PFOA)	15		1.9	0.79	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorononanoic acid (PFNA)	13		1.9	0.25	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorodecanoic acid (PFDA)	2.4		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluoroundecanoic acid (PFUnA)	1.4	J	1.9	1.0	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorobutanesulfonic acid (PFBS)	1.5	J	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorohexanesulfonic acid (PFHxS)	8.5	B	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluoroheptanesulfonic Acid (PFHpS)	0.30	J	1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorooctanesulfonic acid (PFOS)	65		1.9	0.50	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:46	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:46	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 13:46	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:46	1
6:2FTS	5.3	J	19	1.9	ng/L		02/07/18 08:45	02/19/18 13:46	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*89*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C5 PFPeA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C2 PFHxA	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C4-PFHpA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C4 PFOA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C5 PFNA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C2 PFDA	*113*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C2 PFUnA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C2 PFDoA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C2-PFTeDA	*126*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C3-PFBS	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
18O2 PFHxS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C4 PFOS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
13C8 FOSA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
d3-NMeFOSAA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
d5-NEtFOSAA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
M2-6:2FTS	*145*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*
M2-8:2FTS	*132*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:46*	*1*

Client Sample ID: VP-3 (85-90)

Date Collected: 02/02/18 09:30
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-7
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.34**	**J**	1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluoropentanoic acid (PFPeA)	**0.50**	**J**	1.9	0.46	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluoroheptanoic acid (PFHpA)	**0.33**	**J**	1.9	0.24	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorononanoic acid (PFNA)	**0.43**	**J**	1.9	0.25	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorobutanesulfonic acid (PFBS)	**2.8**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorohexanesulfonic acid (PFHxS)	**3.5**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorooctanesulfonic acid (PFOS)	**3.8**		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 13:53	1
Perfluorooctane Sulfonamide (FOSA)	**5.8**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 13:53	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 13:53	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 13:53	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 13:53	1
8:2FTS	**2.8**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 13:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C5 PFPeA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C2 PFHxA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C4-PFHpA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C5 PFNA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C2 PFDA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C2 PFUnA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C2 PFDoA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C2-PFTeDA	*114*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C3-PFBS	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
18O2 PFHxS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C4 PFOS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
13C8 FOSA	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
d5-NEtFOSAA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
M2-6:2FTS	*123*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*
M2-8:2FTS	*117*		*25 - 150*	*02/07/18 08:45*	*02/19/18 13:53*	*1*

Client Sample ID: VP-3 (65-70)

Date Collected: 02/02/18 10:00
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-8

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.9**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluoropentanoic acid (PFPeA)	**6.2**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorohexanoic acid (PFHxA)	**5.4**		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluoroheptanoic acid (PFHpA)	**3.4**		1.9	0.23	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorooctanoic acid (PFOA)	**9.5**		1.9	0.79	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorononanoic acid (PFNA)	**11**		1.9	0.25	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorodecanoic acid (PFDA)	**0.89**	**J**	1.9	0.29	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorobutanesulfonic acid (PFBS)	**17**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorohexanesulfonic acid (PFHxS)	**8.0**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.64**	**J**	1.9	0.18	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorooctanesulfonic acid (PFOS)	**35**		1.9	0.50	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 14:01	1
Perfluorooctane Sulfonamide (FOSA)	**2.9**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 14:01	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 14:01	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 14:01	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:01	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C5 PFPeA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C2 PFHxA	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C4-PFHpA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C4 PFOA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C5 PFNA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C2 PFDA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C2 PFUnA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C2 PFDoA	*93*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C2-PFTeDA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C3-PFBS	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
18O2 PFHxS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C4 PFOS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
13C8 FOSA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
d3-NMeFOSAA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
d5-NEtFOSAA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
M2-6:2FTS	*123*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*
M2-8:2FTS	*114*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:01*	*1*

Client Sample ID: VP-3 (45-50)
Date Collected: 02/02/18 10:25
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-9
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluoropentanoic acid (PFPeA)	**45**		1.9	0.47	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorohexanoic acid (PFHxA)	**37**		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluoroheptanoic acid (PFHpA)	**12**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorooctanoic acid (PFOA)	**56**		1.9	0.82	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorononanoic acid (PFNA)	**21**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorodecanoic acid (PFDA)	**3.3**		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorobutanesulfonic acid (PFBS)	**19**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorohexanesulfonic acid (PFHxS)	**17**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluoroheptanesulfonic Acid (PFHpS)	**2.0**		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorooctanesulfonic acid (PFOS)	**200**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 14:17	1
Perfluorooctane Sulfonamide (FOSA)	**150**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:17	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 14:17	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 14:17	1
6:2FTS	**5.9**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 14:17	1
8:2FTS	**210**		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*85*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C5 PFPeA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C2 PFHxA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C4-PFHpA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C4 PFOA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C5 PFNA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C2 PFDA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C2 PFUnA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C2 PFDoA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C2-PFTeDA	*127*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C3-PFBS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
18O2 PFHxS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C4 PFOS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
13C8 FOSA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
d3-NMeFOSAA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
d5-NEtFOSAA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
M2-6:2FTS	*143*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*
M2-8:2FTS	*121*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:17*	*1*

Client Sample ID: DUP-01
Date Collected: 02/02/18 00:00
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-10
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**14**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluoropentanoic acid (PFPeA)	**47**		1.9	0.48	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorohexanoic acid (PFHxA)	**38**		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluoroheptanoic acid (PFHpA)	**11**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorooctanoic acid (PFOA)	**53**		1.9	0.83	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorononanoic acid (PFNA)	**20**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorodecanoic acid (PFDA)	**3.4**		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorobutanesulfonic acid (PFBS)	**18**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorohexanesulfonic acid (PFHxS)	**15**	**B**	1.9	0.17	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluoroheptanesulfonic Acid (PFHpS)	**2.1**		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorooctanesulfonic acid (PFOS)	**210**		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 14:25	1
Perfluorooctane Sulfonamide (FOSA)	**150**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:25	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 14:25	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 14:25	1
6:2FTS	**6.3**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 14:25	1
8:2FTS	**200**		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*83*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C5 PFPeA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C2 PFHxA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C4-PFHpA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C4 PFOA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C5 PFNA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C2 PFDA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C2 PFUnA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C2 PFDoA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C2-PFTeDA	*136*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C3-PFBS	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
18O2 PFHxS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C4 PFOS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
13C8 FOSA	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
d5-NEtFOSAA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
M2-6:2FTS	*136*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*
M2-8:2FTS	*119*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:25*	*1*

Client Sample ID: VP-4 (90-95)
Date Collected: 02/02/18 11:00
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-11
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	1.8	J	1.9	0.33	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluoropentanoic acid (PFPeA)	2.6		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorohexanoic acid (PFHxA)	2.4		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluoroheptanoic acid (PFHpA)	1.7	J	1.9	0.23	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorooctanoic acid (PFOA)	3.8		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorononanoic acid (PFNA)	0.61	J	1.9	0.25	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorohexanesulfonic acid (PFHxS)	2.0	B U	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorooctanesulfonic acid (PFOS)	2.2		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 14:33	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 14:33	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 14:33	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 14:33	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:33	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	91		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C5 PFPeA	104		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C2 PFHxA	98		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C4-PFHpA	101		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C4 PFOA	108		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C5 PFNA	106		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C2 PFDA	109		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C2 PFUnA	101		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C2 PFDoA	94		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C2-PFTeDA	126		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C3-PFBS	100		25 - 150	02/07/18 08:45	02/19/18 14:33	1
18O2 PFHxS	105		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C4 PFOS	102		25 - 150	02/07/18 08:45	02/19/18 14:33	1
13C8 FOSA	94		25 - 150	02/07/18 08:45	02/19/18 14:33	1
d3-NMeFOSAA	99		25 - 150	02/07/18 08:45	02/19/18 14:33	1
d5-NEtFOSAA	103		25 - 150	02/07/18 08:45	02/19/18 14:33	1
M2-6:2FTS	131		25 - 150	02/07/18 08:45	02/19/18 14:33	1
M2-8:2FTS	121		25 - 150	02/07/18 08:45	02/19/18 14:33	1

Client Sample ID: VP-4 (70-75)
Date Collected: 02/02/18 11:27
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-12
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**0.97**	**J**	1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluoropentanoic acid (PFPeA)	**1.4**	**J**	1.9	0.47	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluoroheptanoic acid (PFHpA)	**0.86**	**J**	1.9	0.24	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorooctanoic acid (PFOA)	**8.0**		1.9	0.81	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorononanoic acid (PFNA)	**0.60**	**J**	1.9	0.26	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorobutanesulfonic acid (PFBS)	**1.1**	**J**	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorohexanesulfonic acid (PFHxS)	**1.6**	**J B J**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorooctanesulfonic acid (PFOS)	**3.5**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 14:56	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 14:56	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 14:56	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 14:56	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:56	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 14:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*87*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C5 PFPeA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C2 PFHxA	*94*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C4-PFHpA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C4 PFOA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C5 PFNA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C2 PFDA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C2 PFUnA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C2 PFDoA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C2-PFTeDA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C3-PFBS	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
18O2 PFHxS	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C4 PFOS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
13C8 FOSA	*95*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
d3-NMeFOSAA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
d5-NEtFOSAA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
M2-6:2FTS	*134*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*
M2-8:2FTS	*118*		*25 - 150*	*02/07/18 08:45*	*02/19/18 14:56*	*1*

Client Sample ID: VP-4 (50-55)
Date Collected: 02/02/18 11:46
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-13
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**6.2**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluoropentanoic acid (PFPeA)	**4.2**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorohexanoic acid (PFHxA)	**6.8**		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluoroheptanoic acid (PFHpA)	**3.8**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorooctanoic acid (PFOA)	**4.6**		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorononanoic acid (PFNA)	**1.0**	**J**	1.9	0.25	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorobutanesulfonic acid (PFBS)	**4.9**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorohexanesulfonic acid (PFHxS)	**8.5**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorooctanesulfonic acid (PFOS)	**4.8**		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 15:04	1
Perfluorooctane Sulfonamide (FOSA)	**0.54**	**J**	1.9	0.33	ng/L		02/07/18 08:45	02/19/18 15:04	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 15:04	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 15:04	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:04	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:04	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*82*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C5 PFPeA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C2 PFHxA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C4-PFHpA	*91*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C4 PFOA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C5 PFNA	*106*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C2 PFDA	*111*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C2 PFUnA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C2 PFDoA	*90*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C2-PFTeDA	*118*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C3-PFBS	*93*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
18O2 PFHxS	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C4 PFOS	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
13C8 FOSA	*92*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
d3-NMeFOSAA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
d5-NEtFOSAA	*97*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
M2-6:2FTS	*143*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*
M2-8:2FTS	*130*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:04*	*1*

Client Sample ID: VP-5 (90-95)

Date Collected: 02/01/18 13:15
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-14
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**1.8**	**J**	1.9	0.34	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluoropentanoic acid (PFPeA)	**3.2**		1.9	0.47	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorohexanoic acid (PFHxA)	**5.1**		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluoroheptanoic acid (PFHpA)	**4.7**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorooctanoic acid (PFOA)	**78**		1.9	0.82	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorononanoic acid (PFNA)	**7.0**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorobutanesulfonic acid (PFBS)	**0.89**	**J**	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorohexanesulfonic acid (PFHxS)	**13**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.49**	**J**	1.9	0.18	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorooctanesulfonic acid (PFOS)	**69**		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 15:12	1
Perfluorooctane Sulfonamide (FOSA)	**9.9**		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 15:12	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 15:12	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 15:12	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:12	1
8:2FTS	**11**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 15:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*90*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C5 PFPeA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C2 PFHxA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C4-PFHpA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C4 PFOA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C5 PFNA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C2 PFDA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C2 PFUnA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C2 PFDoA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C2-PFTeDA	*140*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C3-PFBS	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
18O2 PFHxS	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C4 PFOS	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
13C8 FOSA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
d3-NMeFOSAA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
d5-NEtFOSAA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
M2-6:2FTS	*135*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*
M2-8:2FTS	*129*		*25 - 150*	*02/07/18 08:45*	*02/19/18 15:12*	*1*

Client Sample ID: VP-5 (70-75)

Date Collected: 02/01/18 13:50
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-15
Matrix: Water

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	93		25 - 150	02/07/18 08:45	02/17/18 06:12	5

Client Sample ID: VP-5 (50-55)

Date Collected: 02/01/18 17:50
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-16
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**7.1**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluoropentanoic acid (PFPeA)	**11**		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorohexanoic acid (PFHxA)	**17**		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluoroheptanoic acid (PFHpA)	**46**		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorooctanoic acid (PFOA)	**230**		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorononanoic acid (PFNA)	**21**		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.29	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorobutanesulfonic acid (PFBS)	**8.5**		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorohexanesulfonic acid (PFHxS)	**61**	**B**	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluoroheptanesulfonic Acid (PFHpS)	**8.3**		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 15:35	1
Perfluorooctane Sulfonamide (FOSA)	**2.3**		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 15:35	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 15:35	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 15:35	1
6:2FTS	**45**		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:35	1
8:2FTS	**3.1**	**J**	19	1.9	ng/L		02/07/18 08:45	02/19/18 15:35	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	85		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C5 PFPeA	109		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C2 PFHxA	98		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C4-PFHpA	104		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C4 PFOA	107		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C5 PFNA	88		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C2 PFDA	116		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C2 PFUnA	106		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C2 PFDoA	107		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C2-PFTeDA	137		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C3-PFBS	99		25 - 150	02/07/18 08:45	02/19/18 15:35	1
18O2 PFHxS	107		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C4 PFOS	91		25 - 150	02/07/18 08:45	02/19/18 15:35	1
13C8 FOSA	103		25 - 150	02/07/18 08:45	02/19/18 15:35	1
d3-NMeFOSAA	100		25 - 150	02/07/18 08:45	02/19/18 15:35	1
d5-NEtFOSAA	101		25 - 150	02/07/18 08:45	02/19/18 15:35	1
M2-6:2FTS	138		25 - 150	02/07/18 08:45	02/19/18 15:35	1

Client Sample ID: VP-5 (50-55)

Lab Sample ID: 320-35698-16

Date Collected: 02/01/18 17:50
Date Received: 02/03/18 09:05

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2FTS	127		25 - 150	02/07/18 08:45	02/19/18 15:35	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanesulfonic acid (PFOS)	2400		19	5.1	ng/L		02/07/18 08:45	02/17/18 06:20	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOS	95		25 - 150	02/07/18 08:45	02/17/18 06:20	10

Client Sample ID: VP-6 (90-95)

Lab Sample ID: 320-35698-17

Date Collected: 02/02/18 08:10
Date Received: 02/03/18 09:05

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	4.0		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluoropentanoic acid (PFPeA)	5.9		1.9	0.47	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorohexanoic acid (PFHxA)	5.2		1.9	0.56	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluoroheptanoic acid (PFHpA)	6.7		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorooctanoic acid (PFOA)	52		1.9	0.81	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorononanoic acid (PFNA)	17		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorodecanoic acid (PFDA)	2.2		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorobutanesulfonic acid (PFBS)	1.6	J	1.9	0.19	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorohexanesulfonic acid (PFHxS)	31	B	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluoroheptanesulfonic Acid (PFHpS)	1.8	J	1.9	0.18	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorooctanesulfonic acid (PFOS)	76		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 15:59	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 15:59	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 15:59	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 15:59	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:59	1
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 15:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	92		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C5 PFPeA	103		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C2 PFHxA	93		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C4-PFHpA	101		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C4 PFOA	101		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C5 PFNA	104		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C2 PFDA	105		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C2 PFUnA	93		25 - 150	02/07/18 08:45	02/19/18 15:59	1

Client Sample ID: VP-6 (90-95)

Lab Sample ID: 320-35698-17

Date Collected: 02/02/18 08:10
Date Received: 02/03/18 09:05

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C2 PFDoA	94		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C2-PFTeDA	109		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C3-PFBS	93		25 - 150	02/07/18 08:45	02/19/18 15:59	1
18O2 PFHxS	99		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C4 PFOS	99		25 - 150	02/07/18 08:45	02/19/18 15:59	1
13C8 FOSA	89		25 - 150	02/07/18 08:45	02/19/18 15:59	1
d3-NMeFOSAA	97		25 - 150	02/07/18 08:45	02/19/18 15:59	1
d5-NEtFOSAA	95		25 - 150	02/07/18 08:45	02/19/18 15:59	1
M2-6:2FTS	121		25 - 150	02/07/18 08:45	02/19/18 15:59	1
M2-8:2FTS	117		25 - 150	02/07/18 08:45	02/19/18 15:59	1

Client Sample ID: VP-6 (70-75)

Lab Sample ID: 320-35698-18

Date Collected: 02/02/18 08:48
Date Received: 02/03/18 09:05

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	19		1.9	0.33	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluoropentanoic acid (PFPeA)	48		1.9	0.46	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorohexanoic acid (PFHxA)	12		1.9	0.55	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluoroheptanoic acid (PFHpA)	8.1		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorooctanoic acid (PFOA)	96		1.9	0.80	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorononanoic acid (PFNA)	9.3		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorodecanoic acid (PFDA)	0.89	J	1.9	0.29	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.0	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.52	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.2	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.27	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorobutanesulfonic acid (PFBS)	2.2		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorohexanesulfonic acid (PFHxS)	37	B	1.9	0.16	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluoroheptanesulfonic Acid (PFHpS)	2.3		1.9	0.18	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorooctanesulfonic acid (PFOS)	78		1.9	0.51	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 16:07	1
Perfluorooctane Sulfonamide (FOSA)	0.67	J	1.9	0.33	ng/L		02/07/18 08:45	02/19/18 16:07	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	2.9	ng/L		02/07/18 08:45	02/19/18 16:07	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.8	ng/L		02/07/18 08:45	02/19/18 16:07	1
6:2FTS	6.5	J	19	1.9	ng/L		02/07/18 08:45	02/19/18 16:07	1
8:2FTS	6.6	J	19	1.9	ng/L		02/07/18 08:45	02/19/18 16:07	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	88		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C5 PFPeA	101		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C2 PFHxA	91		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C4-PFHpA	99		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C4 PFOA	102		25 - 150	02/07/18 08:45	02/19/18 16:07	1

Client Sample ID: VP-6 (70-75)

Lab Sample ID: 320-35698-18

Date Collected: 02/02/18 08:48
Matrix: Water
Date Received: 02/03/18 09:05

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C5 PFNA	105		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C2 PFDA	102		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C2 PFUnA	96		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C2 PFDoA	92		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C2-PFTeDA	120		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C3-PFBS	92		25 - 150	02/07/18 08:45	02/19/18 16:07	1
18O2 PFHxS	98		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C4 PFOS	97		25 - 150	02/07/18 08:45	02/19/18 16:07	1
13C8 FOSA	92		25 - 150	02/07/18 08:45	02/19/18 16:07	1
d3-NMeFOSAA	100		25 - 150	02/07/18 08:45	02/19/18 16:07	1
d5-NEtFOSAA	93		25 - 150	02/07/18 08:45	02/19/18 16:07	1
M2-6:2FTS	130		25 - 150	02/07/18 08:45	02/19/18 16:07	1
M2-8:2FTS	113		25 - 150	02/07/18 08:45	02/19/18 16:07	1

Client Sample ID: VP-6 (50-55)

Lab Sample ID: 320-35698-19

Date Collected: 02/02/18 09:10
Matrix: Water
Date Received: 02/03/18 09:05

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**37**		2.0	0.35	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluoropentanoic acid (PFPeA)	**110**		2.0	0.49	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorohexanoic acid (PFHxA)	**96**		2.0	0.58	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluoroheptanoic acid (PFHpA)	**120**		2.0	0.25	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorooctanoic acid (PFOA)	**25**		2.0	0.85	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorononanoic acid (PFNA)	**1.2**	J	2.0	0.27	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorodecanoic acid (PFDA)	ND		2.0	0.31	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluoroundecanoic acid (PFUnA)	ND		2.0	1.1	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorododecanoic acid (PFDoA)	ND		2.0	0.55	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorotridecanoic Acid (PFTriA)	ND		2.0	1.3	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorotetradecanoic acid (PFTeA)	ND		2.0	0.29	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorobutanesulfonic acid (PFBS)	**4.3**		2.0	0.20	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluoroheptanesulfonic Acid (PFHpS)	**0.37**	J	2.0	0.19	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorooctanesulfonic acid (PFOS)	**5.7**		2.0	0.54	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorodecanesulfonic acid (PFDS)	ND		2.0	0.32	ng/L		02/07/18 08:45	02/19/18 16:14	1
Perfluorooctane Sulfonamide (FOSA)	**0.53**	J	2.0	0.35	ng/L		02/07/18 08:45	02/19/18 16:14	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		20	3.1	ng/L		02/07/18 08:45	02/19/18 16:14	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		20	1.9	ng/L		02/07/18 08:45	02/19/18 16:14	1
6:2FTS	ND		20	2.0	ng/L		02/07/18 08:45	02/19/18 16:14	1
8:2FTS	ND		20	2.0	ng/L		02/07/18 08:45	02/19/18 16:14	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFBA	82		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C5 PFPeA	101		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C2 PFHxA	92		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C4-PFHpA	97		25 - 150	02/07/18 08:45	02/19/18 16:14	1

Client Sample ID: VP-6 (50-55)

Date Collected: 02/02/18 09:10
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-19
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C4 PFOA	105		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C5 PFNA	110		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C2 PFDA	104		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C2 PFUnA	97		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C2 PFDoA	97		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C2-PFTeDA	115		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C3-PFBS	101		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C4 PFOS	100		25 - 150	02/07/18 08:45	02/19/18 16:14	1
13C8 FOSA	97		25 - 150	02/07/18 08:45	02/19/18 16:14	1
d3-NMeFOSAA	102		25 - 150	02/07/18 08:45	02/19/18 16:14	1
d5-NEtFOSAA	97		25 - 150	02/07/18 08:45	02/19/18 16:14	1
M2-6:2FTS	138		25 - 150	02/07/18 08:45	02/19/18 16:14	1
M2-8:2FTS	120		25 - 150	02/07/18 08:45	02/19/18 16:14	1

Method: 537 (modified) - Fluorinated Alkyl Substances - DL

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorohexanesulfonic acid (PFHxS)	470	B	10	0.85	ng/L		02/07/18 08:45	02/17/18 06:28	5

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
18O2 PFHxS	105		25 - 150	02/07/18 08:45	02/17/18 06:28	5

Client Sample ID: Equipment Blank

Date Collected: 02/02/18 12:10
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-20
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluoropentanoic acid (PFPeA)	ND		1.9	0.48	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorohexanoic acid (PFHxA)	ND		1.9	0.57	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluoroheptanoic acid (PFHpA)	ND		1.9	0.24	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorooctanoic acid (PFOA)	ND		1.9	0.83	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorononanoic acid (PFNA)	ND		1.9	0.26	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorodecanoic acid (PFDA)	ND		1.9	0.30	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluoroundecanoic acid (PFUnA)	ND		1.9	1.1	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorododecanoic acid (PFDoA)	ND		1.9	0.54	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorotridecanoic Acid (PFTriA)	ND		1.9	1.3	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorotetradecanoic acid (PFTeA)	ND		1.9	0.28	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorohexanesulfonic acid (PFHxS)	0.26	J B	1.9	0.17	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	ND		1.9	0.19	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.9	0.53	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorodecanesulfonic acid (PFDS)	ND		1.9	0.31	ng/L		02/07/18 08:45	02/19/18 16:38	1
Perfluorooctane Sulfonamide (FOSA)	ND		1.9	0.34	ng/L		02/07/18 08:45	02/19/18 16:38	1
N-methyl perfluorooctane sulfonamidoacetic acid (NMeFOSAA)	ND		19	3.0	ng/L		02/07/18 08:45	02/19/18 16:38	1
N-ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 16:38	1
6:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 16:38	1

Client Sample ID: Equipment Blank
Date Collected: 02/02/18 12:10
Date Received: 02/03/18 09:05

Lab Sample ID: 320-35698-20
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
8:2FTS	ND		19	1.9	ng/L		02/07/18 08:45	02/19/18 16:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*100*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C5 PFPeA	*102*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C2 PFHxA	*108*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C4-PFHpA	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C4 PFOA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C5 PFNA	*107*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C2 PFDA	*109*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C2 PFUnA	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C2 PFDoA	*101*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C2-PFTeDA	*110*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C3-PFBS	*96*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
18O2 PFHxS	*105*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C4 PFOS	*104*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
13C8 FOSA	*98*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
d3-NMeFOSAA	*103*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
d5-NEtFOSAA	*99*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
M2-6:2FTS	*122*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*
M2-8:2FTS	*117*		*25 - 150*	*02/07/18 08:45*	*02/19/18 16:38*	*1*

APPENDIX C

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

SAC

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed) Daniel DiAray	Site/Project Identification HBFD
Company ZEB Environmental Solutions	P. O. #	State (Location of site): NJ: ☐ NY: ☒ Other:
		Regulatory Program:
Address 184 W. Montauk Hwy	Analysis Turnaround Time: Standard ☑	
City Hampton Bays State NY 11946	Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	
Phone (631)594-5300 Fax		

ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST): PFC IDA-PFCs Standard List (21 Analytes)

LAB USE ONLY: Project No: Job No: Sample Numbers

Sample Identification	Date	Time	Matrix	No. of Cont.	PFC IDA-PFCs Standard List (21 Analytes)
VP-1 (~~90-95~~) (85-90)	1/30	952	L	2	X
VP-1 (65-70)	1/31	947	L	2	X
VP-1 (45-50)	1/31	1030	L	2	X
VP-2 (90-95)	1/30	1128	L	2	X
VP-2 (70-75)	1/30	1258	L	2	X
VP-2 (45-50)	1/30	1330	L	2	X
VP-3 (85-90)	2/2	930	L	2	X
VP-3 (65-70)	2/2	1000	L	2	X
VP-3 (45-50)	2/2	1025	L	2	X
DUP-01	2/2		L	2	X

320-35698 Chain of Custody

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH Soil:

6 = Other ________, 7 = Other ________ Water:

Special Instructions

Water Metals Filtered (Yes/No)? ________

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	ZEB	2/2 1415	1) [signature]	TA
2) [signature]	[illegible]	2/2/18 1700	2) [signature] TA-SAC	02/03/18 905 0.9°C
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132). Massachusetts (M-NJ312), North Carolina (No. 578)

TAL-0016 (0814)

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

TestAmerica
THE LEADER IN ENVIRONMENTAL TESTING

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed)	Site/Project Identification: HBFD
Company: ZEB Environmental Solutions	P.O. #	State (Location of site): NJ: [ ] NY: [X] Other:
		Regulatory Program:
Address: 188 W Montauk Hwy	Analysis Turnaround Time: Standard [✓]; Rush Charges Authorized For: 2 Week [ ] 1 Week [ ] Other [ ]	ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST): 8260 TCL + 1,4 Standard List
City: Hampton Bays State: NY		LAB USE ONLY — Project No: ; Job No:
Phone: (631) 594-5300 Fax		

Sample Identification	Date	Time	Matrix	No. of Cont.	8260 TCL + 1,4 Standard List											Sample Numbers
VP-4 (90-95)	2/2	1100	L		X											
VP-4 (90-95) (MS/MSD)	2/2	1100	L		X											
VP-4 (70-75)	2/2	1127	L		X											
VP-4 (50-55)	2/2	1146	L		X											
VP-5 (90-95)	2/1	1315	L		X											
VP-5 (70-75)	2/1	1350	L		X											
VP-5 (50-55)	2/1	1750	L		X											
VP-6 (90-95)	2/2	810	L		X											
VP-6 (70-75)	2/2	848	L		X											
VP-6 (50-55)	2/2	910	L		X											

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil:
6 = Other ______, 7 = Other ______ — Water:

Special Instructions ______ Water Metals Filtered (Yes/No)? ______

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	ZEB	2/2 1415	1) [signature]	[signature]
2) [signature]	T.A	2/2/18 17:20	2) [signature] TA-SAC →	02/03/18 905 0.9°C
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578)

TAL-0016 (0814)

TestAmerica

THE LEADER IN ENVIRONMENTAL TESTING

SGAC

777 New Durham Road
Edison, New Jersey 08817
Phone: (732) 549-3900 Fax: (732) 549-3679

CHAIN OF CUSTODY / ANALYSIS REQUEST

Name (for report and invoice)	Samplers Name (Printed) Daniel Ditty	Site/Project Identification HBFD
Company ZEB Environmental Solutions	P.O. #	State (Location of site): NJ: ☐ NY: ☒ Other: / Regulatory Program:
Address 188 W Montauk Hwy / City Hampton Bays State NY / Phone (631) 594-5300 Fax	Analysis Turnaround Time: Standard ☑; Rush Charges Authorized For: 2 Week ☐ 1 Week ☐ Other ☐	LAB USE ONLY: Project No: / Job No:

ANALYSIS REQUESTED (ENTER 'X' BELOW TO INDICATE REQUEST)

Sample Identification	Date	Time	Matrix	No. of Cont.	PFC 537 Standard List (21 cmpds)										Sample Numbers
* Equipment Blank	2/2	1210	L		X										
* labeled Field Blank AA	02/03/18														

Preservation Used: 1 = ICE, 2 = HCl, 3 = H_2SO_4, 4 = HNO_3, 5 = NaOH — Soil:
6 = Other ________, 7 = Other ________ — Water:

Special Instructions

Water Metals Filtered (Yes/No)? ________

Relinquished by	Company	Date / Time	Received by	Company
1) [signature]	ZEB	2/21 1415	1) [signature]	VTA
2) [signature]	[signature]	2/2/18 1700	2) [signature] 02/03/18 905	TA-SAC 0.9°C
3)			3)	
4)			4)	

Laboratory Certifications: New Jersey (12028), New York (11452), Pennsylvania (68-522), Connecticut (PH-0200), Rhode Island (132), Massachusetts (M-NJ312), North Carolina (No. 578)

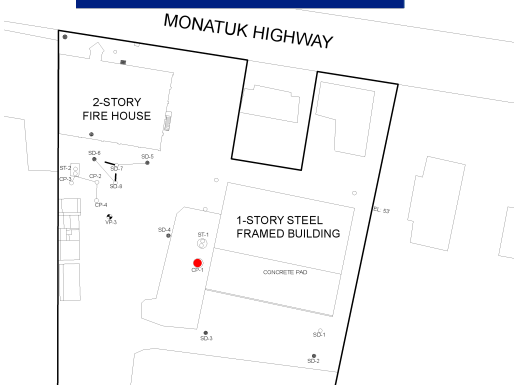
TAL-0016 (0814)

02/22/2018

APPENDIX E:

SOIL SAMPLING LOGS

ENVIRONMENTAL SOLUTIONS, INC.

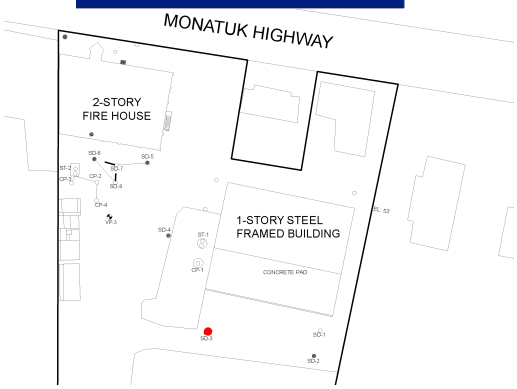


Location # **CP-1**		Page 1	of 7
PROJECT: 69 West Montauk Hwy, Hampton Bays, NY 11946			
JOB #: HBF-1801			
LOGGED BY: DD		PRJ. MNGR.: ZY	
DRILLING CONTRACTOR: N/A			
DRILL METHOD: Hand			
DRILLER: Daniel D'Arcy			
Borehole diameter/drill bit type: Stainless Steel Hand Auger		Total Depth	
		Elevation	N / A
HAMMER WT: N / A		DROP: N / A	
START TIME: 13:40		DATE: 01/29/18	
COMPLETION TIME: 13:45		DATE: 01/29/18	
BACKFILL TIME: N / A		DATE: 01/29/18	

Sample Depth	Recovered (ft)	Soil Description: Unified Soil Classification System	Notes	Casing depth:	NA
				Screen depth:	NA
Bottom of Structure	0.8	coarse grain, dry, clean, well sorted SAND			

Collected CP-1 and MS/MSD samples @ 13:45

ENVIRONMENTAL SOLUTIONS, INC.

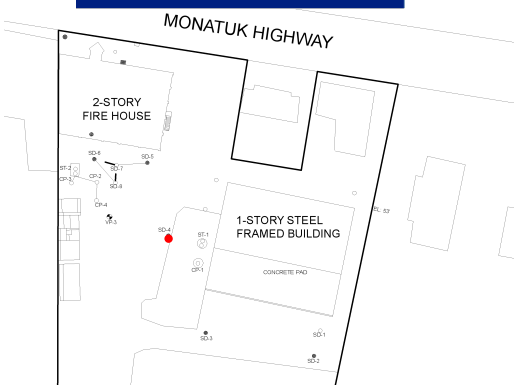


Location # **SD-3**		Page 2	of 7
PROJECT: 69 West Montauk Hwy, Hampton Bays, NY 11946			
JOB #: HBF-1801			
LOGGED BY: DD		PRJ. MNGR.: ZY	
DRILLING CONTRACTOR: N/A			
DRILL METHOD: Hand			
DRILLER: Daniel D'Arcy			
Borehole diameter/drill bit type:		Total Depth	
Stainless Steel Hand Auger		Elevation	N / A
HAMMER WT: N / A		DROP: N / A	
START TIME: 13:55		DATE: 01/29/18	
COMPLETION TIME: 14:00		DATE: 01/29/18	
BACKFILL TIME: N / A		DATE: 01/29/18	

Sample Depth	Recovered (ft)	Soil Description: Unified Soil Classification System	Notes	Casing depth:	NA
				Screen depth:	NA
Bottom of Structure	0.8	Coarse grain,dirty, poorly sorted, SAND			

Collected SD-3 SAMPLE @ 14:00

ENVIRONMENTAL SOLUTIONS, INC.

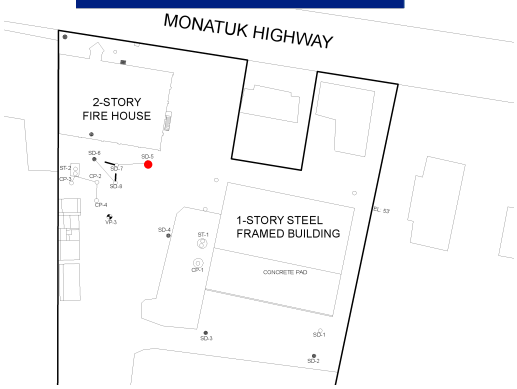


Location # **SD-4**		Page 3	of 7
PROJECT: 69 West Montauk Hwy, Hampton Bays, NY 11946			
JOB #: HBF-1801			
LOGGED BY: DD		PRJ. MNGR.: ZY	
DRILLING CONTRACTOR: N/A			
DRILL METHOD: Hand			
DRILLER: Daniel D'Arcy			
Borehole diameter/drill bit type: Stainless Steel Hand Auger		Total Depth	
		Elevation	N / A
HAMMER WT: N / A		DROP: N / A	
START TIME: 14:05		DATE: 01/29/18	
COMPLETION TIME: 14:10		DATE: 01/29/18	
BACKFILL TIME: N / A		DATE: 01/29/18	

Sample Depth	Recovered (ft)	Soil Description: Unified Soil Classification System	Notes	Casing depth:	NA
				Screen depth:	NA
Bottom of Structure	0.8	Coarse grain, wet, clean, well sorted, SAND			

Collected SD-4 Sample @ 14:10

ENVIRONMENTAL SOLUTIONS, INC.

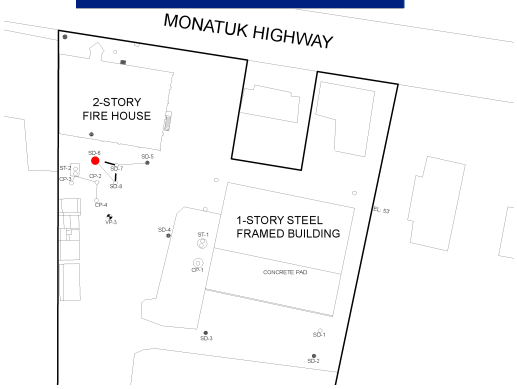


Location # **SD-5**		Page 4	of 7
PROJECT: 69 West Montauk Hwy, Hampton Bays, NY 11946			
JOB #: HBF-1801			
LOGGED BY: DD		PRJ. MNGR.: ZY	
DRILLING CONTRACTOR: N/A			
DRILL METHOD: Hand			
DRILLER: Daniel D'Arcy			
Borehole diameter/drill bit type:		Total Depth	
Stainless Steel Hand Auger		Elevation	N / A
HAMMER WT: N / A		DROP: N / A	
START TIME: 14:12		DATE: 01/29/18	
COMPLETION TIME: 14:17		DATE: 01/29/18	
BACKFILL TIME: N / A		DATE: 01/29/18	

Sample Depth	Recovered (ft)	Soil Description: Unified Soil Classification System	Notes	Casing depth:	NA
				Screen depth:	NA
Bottom of Structure	0.8	Coarse grain, dry, clean, well sorted, SAND			

Collected SD-5 Sample @ 14:17

ENVIRONMENTAL SOLUTIONS, INC.

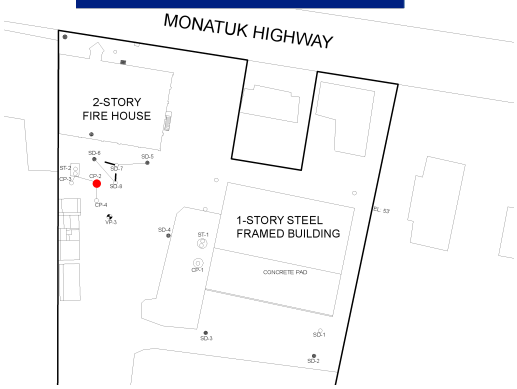


Location # **SD-6**		Page 5	of 7
PROJECT: 69 West Montauk Hwy, Hampton Bays, NY 11946			
JOB #: HBF-1801			
LOGGED BY: DD		PRJ. MNGR.: ZY	
DRILLING CONTRACTOR: N/A			
DRILL METHOD: Hand			
DRILLER: Daniel D'Arcy			
Borehole diameter/drill bit type:		Total Depth	
Stainless Steel Hand Auger		Elevation	N / A
HAMMER WT: N / A		DROP: N / A	
START TIME: 14:35		DATE: 01/29/18	
COMPLETION TIME: 14:40		DATE: 01/29/18	
BACKFILL TIME: N / A		DATE: 01/29/18	

Sample Depth	Recovered (ft)	Soil Description: Unified Soil Classification System	Notes	Casing depth:	NA
				Screen depth:	NA
Bottom of Structure	0.8	Coarse grain, wet, dirty, poorly sorted, SAND			

Collected SD-6 Sample @ 14:40

ENVIRONMENTAL SOLUTIONS, INC.

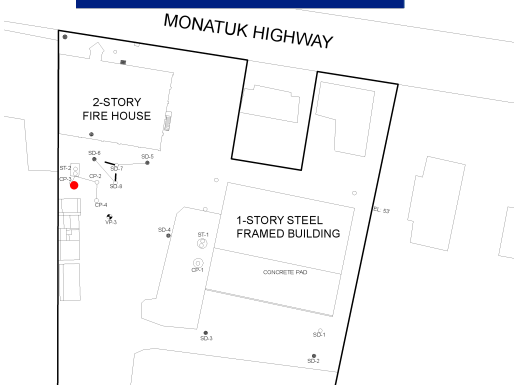


Location # **CP-2**		Page 6	of 7
PROJECT: 69 West Montauk Hwy, Hampton Bays, NY 11946			
JOB #: HBF-1801			
LOGGED BY: DD		PRJ. MNGR.: ZY	
DRILLING CONTRACTOR: N/A			
DRILL METHOD: Hand			
DRILLER: Daniel D'Arcy			
Borehole diameter/drill bit type: Stainless Steel Hand Auger		Total Depth	
		Elevation	N / A
HAMMER WT: N / A		DROP: N / A	
START TIME: 15:05		DATE: 01/29/18	
COMPLETION TIME: 15:10		DATE: 01/29/18	
BACKFILL TIME: N / A		DATE: 01/29/18	

Sample Depth	Recovered (ft)	Soil Description: Unified Soil Classification System	Notes	Casing depth:	NA
				Screen depth:	NA
Bottom of Structure	0.8	Coarse grain, wet, dirty, poorly sorted, SAND and septic sludge			

Collected CP-2 and DUP-01 Sample @ 15:10

ENVIRONMENTAL SOLUTIONS, INC.



Location # **CP-3**		Page 7	of 7
PROJECT: 69 West Montauk Hwy, Hampton Bays, NY 11946			
JOB #: HBF-1801			
LOGGED BY: DD		PRJ. MNGR.: ZY	
DRILLING CONTRACTOR: N/A			
DRILL METHOD: Hand			
DRILLER: Daniel D'Arcy			
Borehole diameter/drill bit type: Stainless Steel Hand Auger		Total Depth	
		Elevation	N / A
HAMMER WT: N / A		DROP: N / A	
START TIME: 15:30		DATE: 01/29/18	
COMPLETION TIME: 15:35		DATE: 01/29/18	
BACKFILL TIME: N / A		DATE: 01/29/18	

Sample Depth	Recovered (ft)	Soil Description: Unified Soil Classification System	Notes	Casing depth:	NA
				Screen depth:	NA
Bottom of Structure	0.8	Coarse grain, very wet, dirty, poorly sorted, SAND and septic sludge			

Collected CP-3 Sample @ 15:35