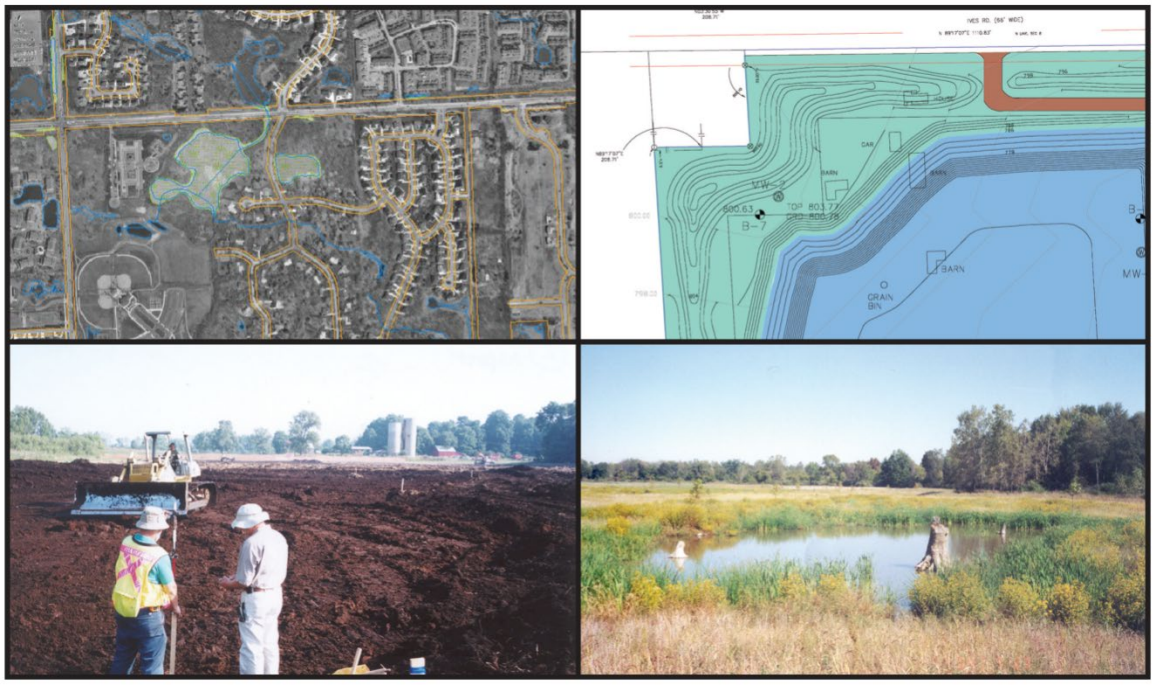
PFAS Groundwater Sampling Report

The Oakland County International Airport
Waterford Township, Michigan

Oakland County Office of Corporate Council

June 11, 2021

ASTI ENVIRONMENTAL



ASTI ENVIRONMENTAL

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The Oakland County International Airport
Waterford Township, Michigan

June 11, 2021

Prepared For:

Oakland County International Airport
Oakland County Office of Corporate Council
1200 North Telegraph Road
Dept. 419
Pontiac, MI 48341

Report Prepared By:

ASTI Environmental
10448 Citation Drive, Suite 100
Brighton, Michigan 48116
(810) 225-2800

ASTI Project No. 1-11259

Report Prepared by:

Brian J. Earl, EP, CP
Hydrogeologist

Report Reviewed by:

Jeremy Efros, EP, CPG
Environmental Geologist

ASTI ENVIRONMENTAL

TABLE OF CONTENTS

1.0 INTRODUCTION

ASTI Environmental (ASTI) was retained by The Oakland County International Airport (OCIA) to complete groundwater sampling as part of a grant from the Michigan Department of Environment, Great Lakes, and Energy (EGLE) and the Michigan Department of Transportation (MDOT) under a Michigan PFAS Action Response Team (MPART) grant provided under Section 401(1) and (2) of EGLE's fiscal year (FY) 2020 budget (the "Grant").

2.0 PURPOSE AND SUBJECT PROPERTY HISTORY AND INFORMATION

2.1 Site History

The OCIA began in November 1928 with the purchase of approximately 160-acres by the City of Pontiac. On February 11, 1930 the airport became the first in the nation to win an A-1-A rating from the U.S. Department of Commerce. Oakland County acquired the airport from the City of Pontiac in 1967 in exchange for the Old Masonic Temple building in downtown Pontiac.

In 2017 Oakland County International Airport ranked as the 99th busiest airport in the nation with 131,294 annual take-offs and landings. Full time U.S. Customs service became available beginning January 2, 1996. The number of international flights has more than tripled since full-time customs service began at the airport with an average of 180 international flights per month in 2000.

Oakland County International Airport provides a 24-hour on site Aircraft Rescue and Fire Fighting (ARFF) department. In 1965, the department received its first ARFF foam truck, which was equipped with 400 gallons of *3M Lightwater 3%* Aircraft Fire Fighting Foam (AFFF). In 1991, the department received a new Oshkosh T-1500 (R2) ARRF vehicle equipped with 200-gallons of *3M Lightwater 3%*. Between approximately 2010 and 2013, the AFFF was refilled as needed with *Buckeye 3% AFFF*. In 2014, the AFFF was replaced with *Chemguard 3%* AFFF. In 2005, the department added a second ARRF vehicle (an Oshkosh TI-1500(R-1)) with 200-gallon AFFF capacity equipped with *Ansulite 3%* AFFF. Between 2010 and 2013 this truck was also refilled with *Buckeye 3%* AFFF as needed. Since 2014, the truck has been refilled with *Chemguard 3%* AFFF as needed. Refer to Attachment A for the Material Safety Data Sheets for the AFFF products utilized at OCIA.

Between 1965 and 1996, an unknown quantity of AFFF was utilized on the Subject Property as records from this period were lost. Between 1996 and 2019, AFFF was known to have been used in seven incidents on OCIA property. On March 3, 2020 during nozzle certification testing utilizing a 'crash foam cart', approximately 40 to 50 gallons of *Chemguard* AFFF liquid diluted to 3% was released to a storm sewer. Results of a storm water system sample collected the next day identified PFAS compounds exceeding 9,000 nanograms per liter (ng/L)

in the storm water from a nearby catch basin. The OCIA has never used AFFF for training purposes.

2.2 Objective and Purpose

The objective of this sampling is to identify and respond appropriately to PFAS contamination in the groundwater on the Subject Property. Identification of PFAS is critical to OCIA for the following reasons:

- The OCIA is located less than 0.25-mile of two large lakes along with several streams and or rivers. The lakes include Williams Lake to the north and Pontiac Lake to the west.
- Numerous wells exist within a one-mile radius of the property. In addition, portions of the OCIA property are within four different wellhead protection areas (WHPAs). Of these, two are Type 1 traditional WHPAs, one is a Type 1 Provisional WHPA, and the one is a Type 2 Provisional WHPA.
- Between 1996 and 2019, seven incidents involving the use of AFFF have occurred on the OCIA property.
- On August 21, 2019 OCIA received a "Compliance Communication Regarding the Use of Per- and Poly-fluoroalkyl Substances (PFAS) at Oakland County International Airport, Waterford, Michigan". In October 2019, OCIA submitted a Draft Workplan to EGLE to address these concerns raised in the August 2019 letter. On October 18, 2019, the OCIA received a letter from EGLE dated October 14, 2019 regarding the "National Pollutant Discharge Elimination System (NPDES) Storm Water General Permit No.: 110228". In November 2019, OCIA submitted a Short Term Storm Water Characterization Study (STSWCS). OCIA continues to work with EGLE on both of these issues.

3.0 PERMENANT MONITORING WELL INSTALLATIONS

On May 3 and 4, 2021, ASTI supervised the installation of eight (8) permenant monitoring wells (MW-1 through MW-6, MW-8, and MW-9) at the Subject Property using a hollow stem auger drill rig turning 4¼-inch inside diameter augers. The wells were constructed with 2-inch inside diameter schedule 40-PVC riser and 5-foot long #10 slot screens. Sand pack was placed from approximately 1 foot below the screen to approximately two feet above the screen in each well. The remainder of the borehole annulus was filled with hydrated bentonite chips to surface. The wells were completed with steel, bolt-down, flush mount protective covers. The well screens were set such that approximately 4 feet of the screen were below the water table with one foot above. A Monitor Well Location Map is provided as Figure 1. Monitoring Well IDs, locations, and depths were as follows:

Well ID	Monitoring Well Location	Depth of Screen
MW-1	Near the middle of the northern runway in the area of the January 1996 incident	7.5-12.5 feet
MW-2	West of the northern runway in the area of the January 2006 incident	10-15 feet
MW-3	Near the Pentastar Aviation ramp in the area of the 2009 engine fire	15-20 feet
MW-4	Near the northeast corner of the airfield in the area of a former hanger that burned down in 2011	12-17 feet
MW-5	East of the northern runway in the Area of the June 2013 incident	11-16 feet
MW-6	Near the engine run-up building in the area of the October 2018 engine fire	11-16 feet
MW-7	Well was not installed	
MW-8	West of the airport maintenance and fire building in the area of the March 2020 testing cart leak	10-15 feet
MW-9	East of the airport maintenance and fire building in the area historically used for fire nozzle clean-out and testing	7-12 feet

Monitoring well MW-7 was not installed as the portion of the OCIA on which the incident occurred had been leased since the Grant application and access was not granted by the leasee. In addition, the incident involved the smallest potential quantity of AFFF used and it was contained on paved areas serviced by storm drains.

Based on information received from site personnel while staking well locations, the location of MW-8 was moved from the area east of the maintenance/fire building to an area southwest of the building. This adjustment was made to keep MW-8 in the area of the testing cart release from March 2020, which occurred in this new location. An additional well (MW-9) was added in the original location of MW-8 as this is the location where fire nozzle clean-out and testing have historically occurred.

Once installed, the monitoring wells were developed utilizing a surge and pump technique. The development was continued until the water pumped from the well immediately following a surge cycle was below 40 nephelometric turbidity units (NTU).

Following well development, the locations of all of the monitoring wells were surveyed. The survey included the ground surface elevation and the top of casing elevations of all eight wells. The horizontal positions of the monitoring wells were surveyed to within ±0.1 foot and referenced to Michigan State Plan 1983. The ground surface elevation was surveyed to ±0.1 feet while top of casing elevations were surveyed to ±0.01 foot referenced to NAD 1984. Refer to Table 1 for the location and elevation data for all eight wells.

4.0 LITHOLOGY AND HYDROGEOLOGY

The following sections describe the encountered soil and groundwater conditions during the investigation.

4.1 Soil

The general subsurface stratigraphy encountered in the soil borings underlying surface cover (topsoil) comprised a well graded very fine to medium grained sand or silty sand extending to the explored depth of the borings with the maximum explored depth of 20 feet bgs in MW-3 and MW-4. No staining, odors, or PID readings were noted in the soil borings. Refer to the soil boring logs provided as Attachment A for further details on the encountered stratigraphy.

4.2 Groundwater

Groundwater was encountered in the borings at depths between approximately 9 and 17 feet bgs. Groundwater depths from the top of the casings were obtained from all monitoring wells prior to collection of samples. Based on an analysis of the depths to groundwater, groundwater flow on the Subject Property is to the south/southeast. Refer to Table 1 for a summary of the groundwater elevations. Figure 2 presents a groundwater surface contour map.

5.0 SAMPLE COLLECTION PROCEDURES

On May 5, 2021, ASTI returned to the Subject Property to sample the monitoring wells. Each well was sampled using low-flow sampling protocols utilizing a peristaltic pump and dedicated polyethylene and silicone tubing. To assure formation water was being pumped, the inlet of the tubing was set within the approximate lower two feet of the screen interval, and the pumping rate was adjusted so that the static water level readings eventually stabilize with less than 0.3 feet of total draw-down.

While purging, the following water quality parameters were monitored for stabilization:

- Temperature;
- Specific conductivity;
- pH;
- RED/OX potential; and
- Turbidity.

Readings of these parameters were collected at 5-minute intervals utilizing a flow-through cell. At the point when these parameters were observed to be stable across three five-minute readings, samples were collected. Samples were collected by disconnecting the flow-through cell and directing the pump discharge directly into laboratory provided sample containers. Flow rate, static water level readings, and stabilization parameter readings collected during the purging were recorded on a field data sheets provided in Attachment B.

Prior to collecting the samples, the ASTI field sampler donned a PFAS free cover-all suit and a new pair of PFAS free nitrile gloves. ASTI collected a single groundwater sample from each monitoring well. The samples were collected into two laboratory certified clean, unpreserved 250-ml capacity high density polyethylene (HDPE) wide-mouth bottles. Following collection, the sample bottles were placed in a dedicated plastic zipper bag, placed on ice, and submitted to Eurofins/Test America laboratories (Eurofins) in Canton, Ohio under standard chain-of-custody procedures.

A duplicate sample (Dup-1gw) was collected from MW-3 for quality assurance/quality control (QA/QC) purposes. In addition, an equipment blank and a field blank were also collected.

The field blank was collected by pouring laboratory provided PFAS free water into a sample bottle and leaving it open adjacent to the monitoring well during sampling. This blank was used to determine if sampling procedures caused cross-contamination of the samples. The equipment blank was collected by utilizing a section of polyethylene and silicone tubing to pump laboratory provided PFAS free water into sample bottles. This blank was utilized to determine if sampling equipment caused cross-contamination of the samples. In addition, a laboratory provided trip blank samples was maintained with the samples during sampling and transport.

The groundwater and QA/QC samples were analyzed for the EGLE Minimum PFAS Analyte list by U.S.EPA method 537 MOD.

6.0 ANALYTICAL RESULTS

Table 2 presents the laboratory analytical results for the groundwater and QA/QC samples in comparison to the EGLE maximum contaminant levels (MCLs) for drinking water.

The laboratory analytical results reported detectable concentrations of one or more PFAS compound in seven of the eight monitoring well samples. The sample and duplicate collected from MW-3 and the equipment, field, and trip blanks were all non-detect for all PFAS compounds analyzed.

Perfluorononanoic acid (PFNA) was identified in the sample from MW-9 at concentration of 1,100 ng/L exceeding the MCL of 6 ng/L. PFNA was not detected in any other sample.

Perfluorooctanoic acid (PFOA) was identified in the samples from MW-5, MW-6, MW-8, and MW-9 at concentrations exceeding the MCL of 8 ng/L. PFOA was also detected in the samples from MW-2 and MW-4 but at concentrations below the MCL.

Perfluorohexanoic acid (PFHxA) was identified in the samples from MW-2, MW-4, MW-5, MW-6, MW-8, and MW-9 at concentrations below the MCL of 400,000 ng/L.

Perfluorooctanesulfonic acid (PFOS) was identified in the samples from MW-2, MW-5, MW-8, and MW-9 at concentrations exceeding the MCL of 16 ng/L. In addition, PFOS was detected in the samples from MW-4 and MW-6 at concentrations below the MCL.

Perfluorohexanesulfonic acid (PFHxS) was identified at concentrations exceeding the MCL of 51 ng/L in the samples from MW-2, MW-4, MW-5, MW-6, MW-8, and MW-9. It was also identified in the sample from MW-1 at a concentration below the MCL.

Perfluorobutanesulfonic acid (PFBS) was identified in the sample from MW-8 at a concentration exceeding the MCL of 420 ng/L. It was also detected in the samples from MW-2, MW-4, MW-5, MW-6, and MW-9 but at concentrations below the MCL.

Additional PFAS compounds for which Michigan has not developed MCLs were detected in the samples from MW-1, MW-2, MW-4, MW-5, MW-6, MW-8, and MW-9.

The Laboratory Analytical Reports and Chain-of-Custody documentation for this sampling are provided as Attachment C.

7.0 CONCLUSIONS

The laboratory analytical results for the groundwater samples collected at the OCIA indicate that PFAS compounds are present in the groundwater beneath the OCIA property at concentrations exceeding the EGLE MCLs.

FIGURES

Service Layer Credits: Oakland County 2017 Aerial:

Oakland County Airport

Oakland County, MI

0 250 500 1,000 Feet

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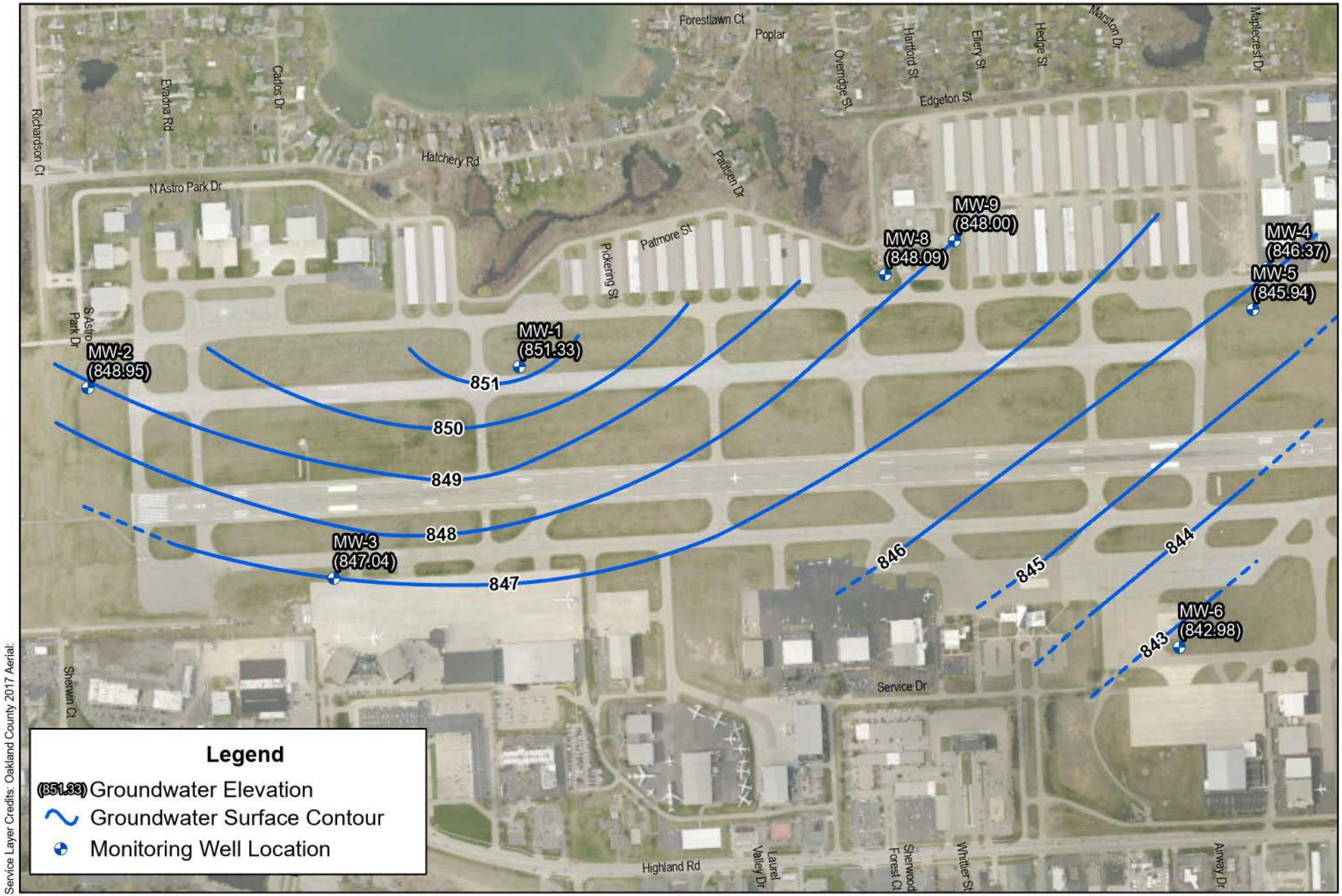
ASTI Environmental

Created for: Oakland County Airport
Created by: RMH, June 3, 2021, ASTI Proposal 3-11259

Figure 1 - Monitor Well Locations



Service Layer Credits: Oakland County 2017 Aerial:

Oakland County Airport

Oakland County, MI

0 250 500 1,000 Feet

N

ASTI Environmental

Created for: Oakland County Airport
Created by: RMH, June 3, 2021, ASTI Proposal 1-11259

Figure 2 - Groundwater Surface Elevation Map

TABLES

Table 1 Summary of Groundwater Elevations
Oakland County International Airport
ASTI File No. 1-11259

					5/5/2021	
	Well Location		Ground Surface Elevation	Top of Riser Elevation	Depth to Water	Groundwater Elevation
Well ID	Northing*	Easting*	(ft. AMSL)	(ft. AMSL)	(ft. btor.)	(ft. AMSL)
MW-1	426557.353	13376136.28	861.4	860.98	9.65	851.33
MW-2	426446.973	13373868.80	861.5	860.92	11.97	848.95
MW-3	425445.489	13375161.50	864.6	864.05	17.01	847.04
MW-4	427078.592	13380070.81	861.4	860.89	14.52	846.37
MW-5	426858.847	13379995.59	859.3	858.92	12.98	845.94
MW-6	425081.882	13379610.39	857.3	856.62	13.64	842.98
MW-8	427042.424	13378063.02	857.9	857.36	9.27	848.09
MW-9	427221.519	13378428.23	860.9	860.36	12.36	848.00

Notes:

* - Michigan state plane coordinate system of 1983

ft. AMSL - Feet above mean sea level based on NAD 1983

ft. btor - Feet below the top of the well riser

Table 2 Summary of Groundwater Sample Analytical Results
Oakland County International Airport
ASTI File No. 1-11259

	Michigan Maximum Contaminent Levels* ng/L	MW-1 5/5/2021 ng/L	MW-2 5/5/2021 ng/L	MW-3 5/5/2021 ng/L	Dup-1GW MW-3 5/5/2021 ng/L	MW-4 5/5/2021 ng/L	MW-5 5/5/2021 ng/L	MW-6 5/5/2021 ng/L	MW-8 5/5/2021 ng/L	MW-9 5/5/2021 ng/L	Equipment Blank 5/5/2021 ng/L	Field Blank 5/5/2021 ng/L	Trip Blank 5/5/2021 ng/L
4:2 FTS	NA	<1.7	<1.7	<1.7	<1.7	<1.7	6.6	<1.7	1.9	<1.7	<1.7	<1.7	<1.7
6:2 FTS	NA	<4.4	<1.7	<1.7	<1.7	<1.7	130	750	140	22	<1.7	<1.7	<1.7
8:2 FTS	NA	<1.7	<1.7	<1.7	<1.7	<1.7	18	<1.7	<1.7	12	<1.7	<1.7	<1.7
HFPO-DA (GenX)	370	<3.3	<3.3	<3.4	<3.4	<3.4	<3.6	<3.4	<3.6	<3.4	<3.4	<3.4	<3.4
Perfluorobutanesulfonic acid (PFBS)	**420**	<1.7	2.7	<1.7	<1.7	4.6	280	25	**540**	14	<1.7	<1.7	<1.7
Perfluorobutanoic acid (PFBA)	NA	5.6	<4.4	<4.4	<4.4	4.5	160	640	480	28	<4.4	<4.4	<4.4
Perfluorodecanoic acid (PFDA)	NA	<1.7	<1.7	<1.7	<1.7	<1.7	<1.8	<1.7	<1.7	16	<1.7	<1.7	<1.7
Perfluoroheptanesulfonic Acid (PFHpS)	NA	<1.7	5.3	<1.7	<1.7	<1.7	7.8	<1.7	2.5	48	<1.7	<1.7	<1.7
Perfluoroheptanoic acid (PFHpA)	NA	<1.7	<1.7	<1.7	<1.7	<1.7	29	33	94	27	<1.7	<1.7	<1.7
Perfluorohexanesulfonic acid (PFHxS)	**51**	12	**92**	<1.7	<1.7	**52**	**350**	**180**	**2,700**	**440**	<1.7	<1.7	<1.7
Perfluorohexanoic acid (PFHxA)	400,000	<1.7	5.6	<1.7	<1.7	8.7	470	890	2,100	73	<1.7	<1.7	<1.7
Perfluorononanoic acid (PFNA)	**6**	<1.7	<1.7	<1.7	<1.7	<1.7	<1.8	<1.7	<1.8	**1,100**	<1.7	<1.7	<1.7
Perfluorooctanesulfonamide (FOSA)	NA	<1.7	<1.7	<1.7	<1.7	<1.7	2.8	<1.7	<1.7	<1.7	<1.7	<1.7	<1.7
Perfluorooctanesulfonic acid (PFOS)	**16**	<1.7	**18**	<1.7	<1.7	2.3	**500**	2.5	**38**	**4,800**	<1.7	<1.7	<1.7
Perfluorooctanoic acid (PFOA)	**8**	<1.7	3.8	<1.7	<1.7	7.0	**34**	**9.2**	**52**	**36**	<1.7	<1.7	<1.7
Perfluoropentanesulfonic acid (PFPeS)	NA	<1.7	<1.7	<1.7	<1.7	3.1	200	18	220	20	<1.7	<1.7	<1.7
Perfluoropentanoic acid (PFPeA)	NA	<1.7	<1.7	<1.7	<1.7	5.0	490	2,400	1,300	59	<1.7	<1.7	<1.7
Perfluoroundecanoic acid (PFUnA)	NA	<1.7	<1.7	<1.7	<1.7	<1.7	<1.8	<1.7	<1.7	5.9	<1.7	<1.7	<1.7

Notes:
* Michigan PFAS MCLs adopted August 3, 2020
NA - Aot Applicable
ng/L = Nanograms per liter

ATTACHMENTS

Attachment A

Boring Logs

ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**MW-1**
Total Depth:	15' bgs

Proj. Name:	Oakland County Airport
Proj. Number:	11259
Site Address:	6500 Highland Road
	Waterford Township, MI
Drilled by:	Fibertec
Method:	Direct push probe
Geologist:	Mitchel Dykla

Date Completed:	4/28/2021

MW Data	
Size:	4"
Type:	PVC
Screen Length:	7.5'-12.5' bgs
Well Depth:	15' bgs
GW Depth (▼):	9.5' bgs

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	4"	Topsoil, fine to medium grained sand, trace silt, gravel, and vegetation, dark brown, moist, loose (topsoil)	0.0	
4"	5'	SAND, fine to medium grained, trace very fine grained sand and gravel, brown, moist, loose (sand)	0.0	
5'	7'	SILTY fine to medium SAND, trace gravel, brown, moist, medium dense (sandy loam)	0.0	
7'	9.5'	SAND, medium to coarse grained, trace very fine to fine grained sand and gravel, brown, moist, loose (sand)	0.0	
9.5'	10'	SAND, medium to coarse grained, trace very fine to fine grained sand and gravel, brown, moist, loose (sand)	0.0	
10'	15'	SAND, coarse to very coarse grained, trace very fine to medium grained sand, silt, and gravel, brown, wet, loose (sand)	0.0	
		End of Boring		

ppm = parts per million
MW = monitoring well
bgs = below ground surface
( ) = USDA soil texture

ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**MW-2**
Total Depth:	15' bgs

Proj. Name:	Oakland County Airport
Proj. Number:	11259
Site Address:	6500 Highland Road
	Waterford Township, MI
Drilled by:	Fibertec
Method:	Direct push probe
Geologist:	Mitchel Dykla

Date Completed:	4/28/2021

MW Data	
Size:	4"
Type:	PVC
Screen Length:	10-15' bgs
Well Depth:	15' bgs
GW Depth (▼):	12' bgs

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	4"	Topsoil, fine to medium grained sand, trace silt, gravel, and vegetation, dark brown, moist, loose (topsoil)	0.0	
4"	4'	SAND, medium to coarse grained, trace very fine to fine grained sand and gravel, brown, moist, loose (sand)	0.0	
4'	5'	SILTY fine to medium SAND, trace gravel, brown, moist, medium dense (sandy loam)	0.0	
5'	12'	SAND, medium to coarse grained, trace very fine to fine grained sand and gravel, brown, moist, loose (sand)	0.0	
12'	15'	SAND, coarse to very coarse grained, trace very fine to medium grained sand and gravel, brown, wet, loose (sand)	0.0	
		End of Boring		

ppm = parts per million
MW = monitoring well
bgs = below ground surface
( ) = USDA soil texture

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10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**MW-3**
Total Depth:	20' bgs

Proj. Name:	Oakland County Airport
Proj. Number:	11259
Site Address:	6500 Highland Road
	Waterford Township, MI
Drilled by:	Fibertec
Method:	Direct push probe
Geologist:	Mitchel Dykla

Date Completed:	4/29/2021

MW Data	
Size:	4"
Type:	PVC
Screen Length:	15-20' bgs
Well Depth:	20' bgs
GW Depth (▼):	17' bgs

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	4"	Topsoil, fine to medium grained sand, trace silt, gravel, and vegetation, dark brown, moist, loose (topsoil)	0.0	
4"	5.25'	SAND, fine to medium grained, trace very fine grained sand, gravel, and silt, brown, moist, loose (sand)	0.0	
5.25'	17'	SILTY fine to medium SAND, trace gravel, brown, moist, medium dense (sandy loam)	0.0	
17'	20'	SAND, medium to coarse grained, trace very fine to fine and very coarse grained sand and gravel, brown, wet, loose (sand)	0.0	
		End of Boring		

ppm = parts per million
MW = monitoring well
bgs = below ground surface
( ) = USDA soil texture

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10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**MW-4**
Total Depth:	20' bgs

Proj. Name:	Oakland County Airport
Proj. Number:	11259
Site Address:	6500 Highland Road
	Waterford Township, MI
Drilled by:	Fibertec
Method:	Direct push probe
Geologist:	Mitchel Dykla

Date Completed:	4/28/2021

MW Data	
Size:	4"
Type:	PVC
Screen Length:	12-17' bgs
Well Depth:	20' bgs
GW Depth (▼):	14.5' bgs

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	4"	Topsoil, fine to medium grained sand, trace silt, gravel, and vegetation, dark brown, moist, loose (topsoil)	0.0	
4"	5'	SAND, fine to medium grained, trace very fine grained sand, gravel, and silt, brown, moist, loose (sand)	0.0	
5'	14.5'	SAND, medium to coarse grained, trace very fine to fine and very coarse grained sand and gravel, light brown, moist, loose (sand)	0.0	
14.5'	20'	SAND, medium to coarse grained, trace very fine to fine and very coarse grained sand and gravel, light brown, wet, loose (sand)	0.0	
		End of Boring		

ppm = parts per million
MW = monitoring well
bgs = below ground surface
( ) = USDA soil texture

ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**MW-5**
Total Depth:	16' bgs

Proj. Name:	Oakland County Airport
Proj. Number:	11259
Site Address:	6500 Highland Road
	Waterford Township, MI
Drilled by:	Fibertec
Method:	Direct push probe
Geologist:	Mitchel Dykla

Date Completed:	4/28/2021

MW Data	
Size:	4"
Type:	PVC
Screen Length:	11-16' bgs
Well Depth:	16' bgs
GW Depth (▼):	13' bgs

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	4"	Topsoil, fine to medium grained sand, trace silt, gravel, and vegetation, dark brown, moist, loose (topsoil)	0.0	
4"	4'	SAND, fine to medium grained, trace very fine grained sand, gravel, and silt, brown, moist, loose (sand)	0.0	
4'	13'	SAND, medium to coarse grained, trace very fine to fine and very coarse grained sand and gravel, brown, moist, loose (sand)	0.0	
13'	16'	SAND, medium to coarse grained, trace very fine to fine and very coarse grained sand and gravel, brown, wet, loose (sand)	0.0	
		End of Boring		

ppm = parts per million
MW = monitoring well
bgs = below ground surface
( ) = USDA soil texture

ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**MW-6**
Total Depth:	16' bgs

Proj. Name:	Oakland County Airport
Proj. Number:	11259
Site Address:	6500 Highland Road
	Waterford Township, MI
Drilled by:	Fibertec
Method:	Direct push probe
Geologist:	Mitchel Dykla

Date Completed:	4/29/2021

MW Data	
Size:	4"
Type:	PVC
Screen Length:	11-16' bgs
Well Depth:	16' bgs
GW Depth (▼):	13' bgs

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	4"	Topsoil, fine to medium grained sand, trace silt, gravel, and vegetation, dark brown, moist, loose (topsoil)	0.0	
4"	5'	SAND, fine to medium grained, trace very fine grained sand, gravel, and silt, brown, moist, loose (sand)	0.0	
5'	13'	SAND, medium to coarse grained, trace very fine to fine and very coarse grained sand and gravel, brown, moist, loose (sand)	0.0	
13'	16'	SAND, medium to coarse grained, trace very fine to fine and very coarse grained sand and gravel, brown, wet, loose (sand)	0.0	
		End of Boring		

ppm = parts per million
MW = monitoring well
bgs = below ground surface
( ) = USDA soil texture

ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**MW-8**
Total Depth:	15' bgs

Proj. Name:	Oakland County Airport
Proj. Number:	11259
Site Address:	6500 Highland Road
	Waterford Township, MI
Drilled by:	Fibertec
Method:	Direct push probe
Geologist:	Mitchel Dykla

Date Completed:	4/28/2021

MW Data	
Size:	4"
Type:	PVC
Screen Length:	10-15' bgs
Well Depth:	15' bgs
GW Depth (▼):	12' bgs

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	4"	Topsoil, fine to medium grained sand, trace silt, gravel, and vegetation, dark brown, moist, loose (topsoil)	0.0	
4"	5'	SAND, fine to medium grained, trace very fine grained sand, silt, and gravel, brown, moist, loose (sand)	0.0	
5'	12'	SAND, medium to coarse grained, trace very fine to fine and very coarse grained sand and gravel, light brown, moist, loose (sand)	0.0	
13'	16'	SAND, medium to coarse grained, trace very fine to fine and very coarse grained sand and gravel, light brown, wet, loose (sand)	0.0	
		End of Boring		

ppm = parts per million
MW = monitoring well
bgs = below ground surface
( ) = USDA soil texture

ASTI Environmental
10448 Citation Dr., Suite 100
Brighton, MI 48116

SOIL BORING LOG

Boring Data	
Boring ID:	**MW-9**
Total Depth:	12' bgs

Proj. Name:	Oakland County Airport
Proj. Number:	11259
Site Address:	6500 Highland Road
	Waterford Township, MI
Drilled by:	Fibertec
Method:	Direct push probe
Geologist:	Mitchel Dykla

Date Completed:	4/29/2021

MW Data	
Size:	4"
Type:	PVC
Screen Length:	7-12' bgs
Well Depth:	12' bgs
GW Depth (▼):	9' bgs

Depth From	Depth To	Description	PID (ppm)	Sample Depth
0	4"	Topsoil, fine to medium grained sand, trace silt, gravel, and vegetation, dark brown, moist, loose (topsoil)	0.0	
4"	9'	SILTY very fine to fine SAND, trace gravel, brown, moist, medium dense (sandy loam)	0.0	
9'	12'	SAND, coarse to very coarse grained, trace very fine to medium grained sand and gravel, brown, wet, loose (sand)	0.0	
		End of Boring		

ppm = parts per million
MW = monitoring well
bgs = below ground surface
( ) = USDA soil texture

Attachment B

Groundwater Sample Field Data Sheets

mid field Rw
.45

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE LOCATION: **Oakland Co. Airport**

Date: 5/5/21 Well Number: MW-1

Personnel Present: B.Earl

Parameters to be Analyzed: PFAS

WELL DATA:

Well Secure Upon Arrival: (X) Yes ( ) No Secure Upon Departure: (x) Yes ( ) No

Screen Length: 5' Total Depth of Well: 15' Static Water Level: 9.65

PURGING DATA: Depth to Water (ft): Depth to Water(w/pump):

Drawdown (ft) 0 to 9.65 **Flow Rate (mL/minute):** ~ 300 mL/min

Time	pH (sU) (±0.1)	Temp (°C) (±3%)	Cond.(uS) (± 3%)	DO (mg/L) (± 10%)	Turb.(NTU) (± 10%)	ORP (mV) (±10)	Notes
1025							
1035	6.50	8.72	444	–	11.7	58.5	
1045	6.49	8.81	438	–	35.3	60.8	
1050	6.49	8.85	436	–	3.17	60.9	
1055	6.50	8.83	435	–	3.09	60.8	
Parameters Stable (Y/N)							

Sample Time: 1100

Weather Conditions: Cloudy, Breezey

Equipment Used: Peristaltic Pump

Comments And Observations:

Equipment Rinse Before

Modified June 26, 2006

Notes: 2in = 617 ml/ft, 4in = 2470 ml/ft: Vol. cyl. = $\pi r^2 h$, Vol. sphere = $4/3\pi r^3$

.59

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE LOCATION: **Oakland Co. Airport**

Date: 5/5/21 Well Number: MW-2

Personnel Present: B. Earl

Parameters to be Analyzed: PFAS

WELL DATA:

Well Secure Upon Arrival: (X) Yes ( ) No Secure Upon Departure: (x) Yes ( ) No

Screen Length: 5' Total Depth of Well: 14.8' Static Water Level: 11.97

PURGING DATA: Depth to Water (ft): Depth to Water(w/pump):

Drawdown (ft) 0 to 11.97 **Flow Rate (mL/minute):** ~ 300 mL

Time	pH (sU) (±0.1)	Temp (°C) (±3%)	Cond.(uS) (± 3%)	DO (mg/L) (± 10%)	Turb.(NTU) (± 10%)	ORP (mV) (±10)	Notes
0915							
0925	7.02	9.27	674	—	94.2	25.2	
0935	6.80	9.17	633	—	43.0	37.0	
0940	6.70	9.19	623	—	26.1	42.6	
0945	6.80	9.16	622	—		42.4	
Parameters Stable (Y/N)							

Sample Time: 0950

Weather Conditions: Cloudy, Breezy, ~45°F

Equipment Used: Peristaltic

Comments And Observations:

Modified June 26, 2006

Notes: 2in = 617 ml/ft, 4in = 2470 ml/ft: Vol. cyl. = $\pi r^2 h$, Vol. sphere = $4/3\pi r^3$

Pentostar
0.59

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE LOCATION: **Oakland Co. Airport**

Date: 5/5/21 Well Number: MW-3

Personnel Present: B. Earl

Parameters to be Analyzed: PFAS

WELL DATA:

Well Secure Upon Arrival: (✓) Yes ( ) No Secure Upon Departure: (x) Yes ( ) No

Screen Length: 5' Total Depth of Well: 19.9' Static Water Level: 17.01

PURGING DATA: Depth to Water (ft): Depth to Water(w/pump):

Drawdown (ft) Ø to 17.01 **Flow Rate (mL/minute):** ~300

Time	pH (sU) (±0.1)	Temp (°C) (±3%)	Cond.(uS) (± 3%)	DO (mg/L) (± 10%)	Turb.(NTU) (± 10%)	ORP (mV) (±10)	Notes
1455							
1505	7.11	10.22	655	—	10.7	36.8	
1515	7.09	10.38	656	—	7.86	37.1	
1520	7.10	10.37	657	—	5.23	34.6	
1525	7.10	10.35	657	—	3.99	33.9	
Parameters Stable (Y/N)							

Sample Time: 1530

Weather Conditions: P.Cloudy, Breezey, ~50°F

Equipment Used: Peristaltic

Comments And Observations:

Duplicate Dup-1gw Collected

Modified June 26, 2006

Notes: 2in = 617 ml/ft, 4in = 2470 ml/ft: Vol. cyl. = $\pi r^2 h$, Vol. sphere = $4/3\pi r^3$

Hanger
0.53

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE LOCATION: **Oakland Co. Airport**

Date: 5/5/21 Well Number: MW-4

Personnel Present: B. Earl

Parameters to be Analyzed: PFAS

WELL DATA:

Well Secure Upon Arrival: (Y) Yes ( ) No Secure Upon Departure: (x) Yes ( ) No

Screen Length: 5' Total Depth of Well: 20' Static Water Level: 14.52

PURGING DATA: Depth to Water (ft): Depth to Water(w/pump):

Drawdown (ft) Ø to 14.52 **Flow Rate (mL/minute):** ~300

Time	pH (sU) (±0.1)	Temp (°C) (±3%)	Cond.(uS) (± 3%)	DO (mg/L) (± 10%)	Turb.(NTU) (± 10%)	ORP (mV) (±10)	Notes
1330							
1340	7.28	10.48	817	—	26.2	19.9	
1345	7.21	10.46	821	—	14.3	25.9	
1350	7.19	10.45	819	—	11.7	26.7	
1355	7.18	10.46	817	—	10.5	26.8	
Parameters Stable (Y/N)							

Sample Time: 1400

Weather Conditions: Cloudy, Breezey, ~50°F

Equipment Used: Peristaltic

Comments And Observations:

Modified June 26, 2006

Notes: 2in = 617 ml/ft, 4in = 2470 ml/ft: Vol. cyl. = $\pi r^2 h$, Vol. sphere = $4/3\pi r^3$

E of RW
0.38

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE LOCATION: **Oakland Co. Airport**

Date: 5/5/21 Well Number: MW-5

Personnel Present: B. Earl

Parameters to be Analyzed: PFAS

WELL DATA:

Well Secure Upon Arrival: ( ) Yes ( ) No Secure Upon Departure: (x) Yes ( ) No

Screen Length: 5 Total Depth of Well: 16' Static Water Level: 12.98

PURGING DATA: Depth to Water (ft): Depth to Water(w/pump):

Drawdown (ft) Ø to 12.98 **Flow Rate (mL/minute):** ~300

Time	pH (sU) (±0.1)	Temp (°C) (±3%)	Cond.(uS) (± 3%)	DO (mg/L) (± 10%)	Turb.(NTU) (± 10%)	ORP (mV) (±10)	Notes
1105							
1115	6.92	9.87	533	—	31.5	47.4	
1120	6.96	9.85	534	—	15.4	45.5	
1125	6.98	9.82	534	—	12.0	44.9	
1130	6.99	9.83	534	—	10.8	43.9	
Parameters Stable (Y/N)							

Sample Time: 1135

Weather Conditions: Cloudy, Breezey, ~50°F

Equipment Used: Peristaltic

Comments And Observations:

Modified June 26, 2006

Notes: 2in = 617 ml/ft, 4in = 2470 ml/ft: Vol. cyl. = $\pi r^2 h$, Vol. sphere = $4/3\pi r^3$

ERU
0.68

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE LOCATION: **Oakland Co. Airport**

Date: 5/5/21 Well Number: MW-6

Personnel Present: B. Earl

Parameters to be Analyzed: PFAS

WELL DATA:

Well Secure Upon Arrival: (x) Yes ( ) No Secure Upon Departure: (x) Yes ( ) No

Screen Length: 5 Total Depth of Well: 15.4 Static Water Level: 13.64

PURGING DATA: Depth to Water (ft): Depth to Water(w/pump):

Drawdown (ft) 0 to 13.64 **Flow Rate (mL/minute):** ~300

Time	pH (sU) (±0.1)	Temp (°C) (±3%)	Cond.(uS) (± 3%)	DO (mg/L) (± 10%)	Turb.(NTU) (± 10%)	ORP (mV) (±10)	Notes
1405							
1415	7.16	10.15	694	—	10.9	29.9	
1420	7.06	10.08	676	—	4.97	36.7	
1430	7.04	10.16	650	—	3.49	39.6	
1435	7.03	10.12	646	—	2.50	39.5	
1440	7.03	10.15	644	—	2.00	39.7	
Parameters Stable (Y/N)							

Sample Time: 1445

Weather Conditions: Cloudy, Breezey, ~50°F

Equipment Used: Peristaltic

Comments And Observations:

Modified June 26, 2006

Notes: 2in = 617 ml/ft, 4in = 2470 ml/ft: Vol. cyl. = $\pi r^2 h$, Vol. sphere = $4/3\pi r^3$

0.57

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE LOCATION: **Oakland Co. Airport**

Date: 5/5/21 Well Number: MW-8

Personnel Present: B. Earl

Parameters to be Analyzed: PFAS

WELL DATA:

Well Secure Upon Arrival: (✓) Yes ( ) No Secure Upon Departure: (x) Yes ( ) No

Screen Length: 5' Total Depth of Well: 12' Static Water Level: 9.27

PURGING DATA: Depth to Water (ft): Depth to Water(w/pump):

Drawdown (ft) 0 to 9.27 **Flow Rate (mL/minute):** ~300

Time	pH (sU) (±0.1)	Temp (°C) (±3%)	Cond.(uS) (± 3%)	DO (mg/L) (± 10%)	Turb.(NTU) (± 10%)	ORP (mV) (±10)	Notes
1250							
1300	6.54	10.06	2,172	—	12.2	54.2	
1310	6.57	~~10~~ 9.84	2,104	—	5.96	50.2	
1315	6.56	9.86	2,102	—	4.70	49.8	
Parameters Stable (Y/N)							

Sample Time: 1320

Weather Conditions: Cloudy, Breezy, ~50°F

Equipment Used: Peristaltic

Comments And Observations:

Modified June 26, 2006

Notes: 2in = 617 ml/ft, 4in = 2470 ml/ft: Vol. cyl. = $\pi r^2 h$, Vol. sphere = $4/3\pi r^3$

O-52
East of FD

GROUNDWATER SAMPLING FIELD DATA SHEET

SITE LOCATION: **Oakland Co. Airport**

Date: 5/5/21 Well Number: MW-9

Personnel Present: B. Earl

Parameters to be Analyzed: PFAS

WELL DATA:

Well Secure Upon Arrival: (x) Yes ( ) No Secure Upon Departure: (x) Yes ( ) No

Screen Length: 5 Total Depth of Well: 15 Static Water Level: 12.36

PURGING DATA: Depth to Water (ft): Depth to Water(w/pump):

Drawdown (ft) 0 to 12.36 **Flow Rate (mL/minute):** ~300

Time	pH (sU) (±0.1)	Temp (°C) (±3%)	Cond.(uS) (± 3%)	DO (mg/L) (±10%)	Turb.(NTU) (±10%)	ORP (mV) (±10)	Notes
1215	~	~	~	~	~	~	
1225	7.82	10.02	762	—	4.06	18.2	
1230	7.24	10.16	757	—	2.54	19.6	
1235	7.24	10.17	756	—	2.05	19.3	
1240	7.25	10.19	756	—	1.63	19.2	
Parameters Stable (Y/N)							

Sample Time: 1245

Weather Conditions: cloudy, breezy ~50°F

Equipment Used: Peristaltic

Comments And Observations:

Modified June 26, 2006

Notes: 2in = 617 ml/ft, 4in = 2470 ml/ft: Vol. cyl. = $\pi r^2 h$, Vol. sphere = $4/3\pi r^3$

Attachment C

Laboratory Analytical Reports and Chain-of-Custody Documentation

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Tel: (330)497-9396

Laboratory Job ID: 240-148966-1
Client Project/Site: OCIA-1-11259

For:
ASTI Environmental
PO BOX 2160
Brighton, Michigan 48116

Attn: Brian Earl

Authorized for release by:
5/25/2021 3:02:45 PM

Michael DelMonico, Project Manager I
(330)497-9396
Michael.DelMonico@Eurofinset.com

Table of Contents

Definitions/Glossary

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*5-	Isotope dilution analyte is outside acceptance limits, low biased.
E	Result exceeded calibration range.

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
CFU	Colony Forming Unit
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)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
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)
TNTC	Too Numerous To Count

Job ID: 240-148966-1

Laboratory: Eurofins TestAmerica, Canton

Narrative

Job Narrative
240-148966-1

Comments
The SOP WS-OC-0025 Perfluorinated Hydrocarbons analysis was performed at the Eurofins TestAmerica Sacramento laboratory.

Receipt
The samples were received on 5/7/2021 8:00 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.6º C.

LCMS
Method 537 (modified): The Isotope Dilution Analyte (IDA) recovery associated with the following sample is below the method recommended limit for 13C4 PFBA: MW-8 (240-148966-5). 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 537 (modified): The concentration of several analytes associated with the following samples exceeded the instrument calibration range: MW-5 (240-148966-3), MW-9 (240-148966-4), MW-8 (240-148966-5) and MW-6 (240-148966-7). These analytes have been qualified; however, the peaks did not saturate the instrument detector. Historical data indicate that for the isotope dilution method, dilution and re-analysis will not produce significantly different results from those reported above the calibration range.

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

Organic Prep
Method 3535: The following samples were gray prior to extraction: MW-8 (240-148966-5).

3535_PFC
Aqueous
preparation batch 320-488332

Method 3535: The following sample was yellow after extraction/final volume: MW-8 (240-148966-5).

3535_PFC
Aqueous
preparation batch 320-488332

Method 3535: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 320-488332.

3535_PFC
Aqueous

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

Method Summary

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL SAC
3535	Solid-Phase Extraction (SPE)	SW846	TAL SAC

Protocol References:

EPA = US Environmental Protection Agency

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

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

Sample Summary

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset ID
240-148966-1	MW-2	Water	05/05/21 09:50	05/07/21 08:00	
240-148966-2	MW-1	Water	05/05/21 11:00	05/07/21 08:00	
240-148966-3	MW-5	Water	05/05/21 11:35	05/07/21 08:00	
240-148966-4	MW-9	Water	05/05/21 12:45	05/07/21 08:00	
240-148966-5	MW-8	Water	05/05/21 13:20	05/07/21 08:00	
240-148966-6	MW-4	Water	05/05/21 14:00	05/07/21 08:00	
240-148966-7	MW-6	Water	05/05/21 14:45	05/07/21 08:00	
240-148966-8	MW-3	Water	05/05/21 15:30	05/07/21 08:00	
240-148966-9	DUP-1GW	Water	05/05/21 00:00	05/07/21 08:00	
240-148966-10	EQUIPMENT BLANK	Water	05/05/21 10:20	05/07/21 08:00	
240-148966-11	FIELD BLANK	Water	05/05/21 13:25	05/07/21 08:00	
240-148966-12	TRIP BLANK	Water	05/05/21 00:00	05/07/21 08:00	

Detection Summary

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-2 — Lab Sample ID: 240-148966-1

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorohexanoic acid (PFHxA)	5.6		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	3.8		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	2.7		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	92		1.7		ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	5.3		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	18		1.7		ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-1 — Lab Sample ID: 240-148966-2

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	5.6		4.4		ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	12		1.7		ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-5 — Lab Sample ID: 240-148966-3

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	160		4.5		ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	490	E	1.8		ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	470	E	1.8		ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	29		1.8		ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	34		1.8		ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	280		1.8		ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	200		1.8		ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	350	E	1.8		ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	7.8		1.8		ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	500	E	1.8		ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonamide (FOSA)	2.8		1.8		ng/L	1		537 (modified)	Total/NA
4:2 FTS	6.6		1.8		ng/L	1		537 (modified)	Total/NA
6:2 FTS	130		4.5		ng/L	1		537 (modified)	Total/NA
8:2 FTS	18		1.8		ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-9 — Lab Sample ID: 240-148966-4

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	28		4.2		ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	59		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	73		1.7		ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	27		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	36		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorononanoic acid (PFNA)	1100	E	1.7		ng/L	1		537 (modified)	Total/NA
Perfluorodecanoic acid (PFDA)	16		1.7		ng/L	1		537 (modified)	Total/NA
Perfluoroundecanoic acid (PFUnA)	5.9		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	14		1.7		ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	20		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	440	E	1.7		ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	48		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	4800	E	1.7		ng/L	1		537 (modified)	Total/NA
6:2 FTS	22		4.2		ng/L	1		537 (modified)	Total/NA
8:2 FTS	12		1.7		ng/L	1		537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Detection Summary

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-8 — Lab Sample ID: 240-148966-5

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	480	E	4.3		ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	1300	E	1.7		ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	2100	E	1.7		ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	94		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	52		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	540	E	1.7		ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	220		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	2700	E	1.7		ng/L	1		537 (modified)	Total/NA
Perfluoroheptanesulfonic Acid (PFHpS)	2.5		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	38		1.7		ng/L	1		537 (modified)	Total/NA
4:2 FTS	1.9		1.7		ng/L	1		537 (modified)	Total/NA
6:2 FTS	140		4.3		ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-4 — Lab Sample ID: 240-148966-6

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	4.5		4.3		ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	5.0		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	8.7		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	7.0		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	4.6		1.7		ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	3.1		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	52		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.3		1.7		ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-6 — Lab Sample ID: 240-148966-7

Analyte	Result	Qualifier	RL		Unit	Dil Fac	D	Method	Prep Type
Perfluorobutanoic acid (PFBA)	640	E	4.2		ng/L	1		537 (modified)	Total/NA
Perfluoropentanoic acid (PFPeA)	2400	E	1.7		ng/L	1		537 (modified)	Total/NA
Perfluorohexanoic acid (PFHxA)	890	E	1.7		ng/L	1		537 (modified)	Total/NA
Perfluoroheptanoic acid (PFHpA)	33		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorooctanoic acid (PFOA)	9.2		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorobutanesulfonic acid (PFBS)	25		1.7		ng/L	1		537 (modified)	Total/NA
Perfluoropentanesulfonic acid (PFPeS)	18		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	180		1.7		ng/L	1		537 (modified)	Total/NA
Perfluorooctanesulfonic acid (PFOS)	2.5		1.7		ng/L	1		537 (modified)	Total/NA
6:2 FTS	750	E	4.2		ng/L	1		537 (modified)	Total/NA

Client Sample ID: MW-3 — Lab Sample ID: 240-148966-8

No Detections.

Client Sample ID: DUP-1GW — Lab Sample ID: 240-148966-9

No Detections.

Client Sample ID: EQUIPMENT BLANK — Lab Sample ID: 240-148966-10

No Detections.

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Canton

Detection Summary

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: FIELD BLANK — Lab Sample ID: 240-148966-11

No Detections.

Client Sample ID: TRIP BLANK — Lab Sample ID: 240-148966-12

No Detections.

This Detection Summary does not include radiochemical test results.

Client Sample ID: MW-2

Date Collected: 05/05/21 09:50
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-1

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluoropentanoic acid (PFPeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorohexanoic acid (PFHxA)	**5.6**		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluoroheptanoic acid (PFHpA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorooctanoic acid (PFOA)	**3.8**		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorononanoic acid (PFNA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorobutanesulfonic acid (PFBS)	**2.7**		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluoropentanesulfonic acid (PFPeS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorohexanesulfonic acid (PFHxS)	**92**		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluoroheptanesulfonic Acid (PFHpS)	**5.3**		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorooctanesulfonic acid (PFOS)	**18**		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 15:34	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 15:34	1
4:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
6:2 FTS	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 15:34	1
8:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
HFPO-DA (GenX)	<3.3		3.3		ng/L		05/12/21 12:23	05/13/21 15:34	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C5 PFPeA	*77*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C2 PFHxA	*73*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C4 PFHpA	*79*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C4 PFOA	*78*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C5 PFNA	*79*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C2 PFDA	*74*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C2 PFUnA	*82*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C2 PFDoA	*74*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C2 PFTeDA	*66*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
18O2 PFHxS	*76*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C4 PFOS	*78*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
13C8 FOSA	*78*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*
d3-NMeFOSAA	*77*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:34*	*1*

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-2
Date Collected: 05/05/21 09:50
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-1
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	83		25 - 150	05/12/21 12:23	05/13/21 15:34	1
M2-6:2 FTS	90		25 - 150	05/12/21 12:23	05/13/21 15:34	1
M2-8:2 FTS	95		25 - 150	05/12/21 12:23	05/13/21 15:34	1
M2-4:2 FTS	94		25 - 150	05/12/21 12:23	05/13/21 15:34	1
13C3 HFPO-DA	74		25 - 150	05/12/21 12:23	05/13/21 15:34	1
13C3 PFBS	74		25 - 150	05/12/21 12:23	05/13/21 15:34	1

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-1
Date Collected: 05/05/21 11:00
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-2
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**5.6**		4.4		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluoropentanoic acid (PFPeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorohexanoic acid (PFHxA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluoroheptanoic acid (PFHpA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorooctanoic acid (PFOA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorononanoic acid (PFNA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorobutanesulfonic acid (PFBS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluoropentanesulfonic acid (PFPeS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorohexanesulfonic acid (PFHxS)	**12**		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorooctanesulfonic acid (PFOS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.4		4.4		ng/L		05/12/21 12:23	05/13/21 15:44	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.4		4.4		ng/L		05/12/21 12:23	05/13/21 15:44	1
4:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
6:2 FTS	<4.4		4.4		ng/L		05/12/21 12:23	05/13/21 15:44	1
8:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
HFPO-DA (GenX)	<3.5		3.5		ng/L		05/12/21 12:23	05/13/21 15:44	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 15:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*81*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C5 PFPeA	*85*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C2 PFHxA	*87*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C4 PFHpA	*90*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C4 PFOA	*95*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C5 PFNA	*90*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C2 PFDA	*90*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C2 PFUnA	*95*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C2 PFDoA	*86*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C2 PFTeDA	*80*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
18O2 PFHxS	*90*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C4 PFOS	*91*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
13C8 FOSA	*93*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
d3-NMeFOSAA	*92*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
d5-NEtFOSAA	*99*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*
M2-6:2 FTS	*122*		*25 - 150*	*05/12/21 12:23*	*05/13/21 15:44*	*1*

Client Sample ID: MW-1
Date Collected: 05/05/21 11:00
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-2
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	115		25 - 150	05/12/21 12:23	05/13/21 15:44	1
M2-4:2 FTS	128		25 - 150	05/12/21 12:23	05/13/21 15:44	1
13C3 HFPO-DA	84		25 - 150	05/12/21 12:23	05/13/21 15:44	1
13C3 PFBS	83		25 - 150	05/12/21 12:23	05/13/21 15:44	1

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-5
Date Collected: 05/05/21 11:35
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-3
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**160**		4.5		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluoropentanoic acid (PFPeA)	**490**	**E**	1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorohexanoic acid (PFHxA)	**470**	**E**	1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluoroheptanoic acid (PFHpA)	**29**		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorooctanoic acid (PFOA)	**34**		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorononanoic acid (PFNA)	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorodecanoic acid (PFDA)	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluoroundecanoic acid (PFUnA)	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorododecanoic acid (PFDoA)	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorotridecanoic acid (PFTriA)	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorotetradecanoic acid (PFTeA)	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorobutanesulfonic acid (PFBS)	**280**		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluoropentanesulfonic acid (PFPeS)	**200**		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorohexanesulfonic acid (PFHxS)	**350**	**E**	1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluoroheptanesulfonic Acid (PFHpS)	**7.8**		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorooctanesulfonic acid (PFOS)	**500**	**E**	1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorononanesulfonic acid (PFNS)	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorodecanesulfonic acid (PFDS)	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
Perfluorooctanesulfonamide (FOSA)	**2.8**		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.5		4.5		ng/L		05/12/21 12:23	05/13/21 16:11	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.5		4.5		ng/L		05/12/21 12:23	05/13/21 16:11	1
4:2 FTS	**6.6**		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
6:2 FTS	**130**		4.5		ng/L		05/12/21 12:23	05/13/21 16:11	1
8:2 FTS	**18**		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
HFPO-DA (GenX)	<3.6		3.6		ng/L		05/12/21 12:23	05/13/21 16:11	1
F-53B Major	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1
F-53B Minor	<1.8		1.8		ng/L		05/12/21 12:23	05/13/21 16:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*52*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C5 PFPeA	*55*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C2 PFHxA	*55*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C4 PFHpA	*59*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C4 PFOA	*61*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C5 PFNA	*64*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C2 PFDA	*61*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C2 PFUnA	*70*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C2 PFDoA	*60*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C2 PFTeDA	*57*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
18O2 PFHxS	*62*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C4 PFOS	*62*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*
13C8 FOSA	*67*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:11*	*1*

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-5
Date Collected: 05/05/21 11:35
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-3
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	69		25 - 150	05/12/21 12:23	05/13/21 16:11	1
d5-NEtFOSAA	73		25 - 150	05/12/21 12:23	05/13/21 16:11	1
M2-6:2 FTS	72		25 - 150	05/12/21 12:23	05/13/21 16:11	1
M2-8:2 FTS	76		25 - 150	05/12/21 12:23	05/13/21 16:11	1
M2-4:2 FTS	67		25 - 150	05/12/21 12:23	05/13/21 16:11	1
13C3 HFPO-DA	56		25 - 150	05/12/21 12:23	05/13/21 16:11	1
13C3 PFBS	57		25 - 150	05/12/21 12:23	05/13/21 16:11	1

Client Sample ID: MW-9
Date Collected: 05/05/21 12:45
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-4
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**28**		4.2		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluoropentanoic acid (PFPeA)	**59**		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorohexanoic acid (PFHxA)	**73**		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluoroheptanoic acid (PFHpA)	**27**		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorooctanoic acid (PFOA)	**36**		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorononanoic acid (PFNA)	**1100**	**E**	1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorodecanoic acid (PFDA)	**16**		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluoroundecanoic acid (PFUnA)	**5.9**		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorobutanesulfonic acid (PFBS)	**14**		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluoropentanesulfonic acid (PFPeS)	**20**		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorohexanesulfonic acid (PFHxS)	**440**	**E**	1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluoroheptanesulfonic Acid (PFHpS)	**48**		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorooctanesulfonic acid (PFOS)	**4800**	**E**	1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 16:20	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 16:20	1
4:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
6:2 FTS	**22**		4.2		ng/L		05/12/21 12:23	05/13/21 16:20	1
8:2 FTS	**12**		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
HFPO-DA (GenX)	<3.4		3.4		ng/L		05/12/21 12:23	05/13/21 16:20	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:20	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*53*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C5 PFPeA	*59*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C2 PFHxA	*57*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C4 PFHpA	*56*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C4 PFOA	*57*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C5 PFNA	*39*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C2 PFDA	*58*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C2 PFUnA	*70*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C2 PFDoA	*63*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C2 PFTeDA	*58*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
18O2 PFHxS	*61*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C4 PFOS	*39*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*
13C8 FOSA	*65*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:20*	*1*

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-9
Date Collected: 05/05/21 12:45
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-4
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d3-NMeFOSAA	63		25 - 150	05/12/21 12:23	05/13/21 16:20	1
d5-NEtFOSAA	74		25 - 150	05/12/21 12:23	05/13/21 16:20	1
M2-6:2 FTS	69		25 - 150	05/12/21 12:23	05/13/21 16:20	1
M2-8:2 FTS	77		25 - 150	05/12/21 12:23	05/13/21 16:20	1
M2-4:2 FTS	75		25 - 150	05/12/21 12:23	05/13/21 16:20	1
13C3 HFPO-DA	56		25 - 150	05/12/21 12:23	05/13/21 16:20	1
13C3 PFBS	59		25 - 150	05/12/21 12:23	05/13/21 16:20	1

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-8
Date Collected: 05/05/21 13:20
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-5
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**480**	**E**	4.3		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluoropentanoic acid (PFPeA)	**1300**	**E**	1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorohexanoic acid (PFHxA)	**2100**	**E**	1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluoroheptanoic acid (PFHpA)	**94**		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorooctanoic acid (PFOA)	**52**		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorononanoic acid (PFNA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorobutanesulfonic acid (PFBS)	**540**	**E**	1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluoropentanesulfonic acid (PFPeS)	**220**		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorohexanesulfonic acid (PFHxS)	**2700**	**E**	1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluoroheptanesulfonic Acid (PFHpS)	**2.5**		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorooctanesulfonic acid (PFOS)	**38**		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 16:29	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 16:29	1
4:2 FTS	**1.9**		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
6:2 FTS	**140**		4.3		ng/L		05/12/21 12:23	05/13/21 16:29	1
8:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
HFPO-DA (GenX)	<3.5		3.5		ng/L		05/12/21 12:23	05/13/21 16:29	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*13*	**5-*	*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C5 PFPeA	*29*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C2 PFHxA	*43*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C4 PFHpA	*45*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C4 PFOA	*64*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C5 PFNA	*66*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C2 PFDA	*69*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C2 PFUnA	*73*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C2 PFDoA	*55*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C2 PFTeDA	*27*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
18O2 PFHxS	*57*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C4 PFOS	*71*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
13C8 FOSA	*65*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*
d3-NMeFOSAA	*68*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:29*	*1*

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-8
Date Collected: 05/05/21 13:20
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-5
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	70		25 - 150	05/12/21 12:23	05/13/21 16:29	1
M2-6:2 FTS	139		25 - 150	05/12/21 12:23	05/13/21 16:29	1
M2-8:2 FTS	90		25 - 150	05/12/21 12:23	05/13/21 16:29	1
M2-4:2 FTS	99		25 - 150	05/12/21 12:23	05/13/21 16:29	1
13C3 HFPO-DA	50		25 - 150	05/12/21 12:23	05/13/21 16:29	1
13C3 PFBS	70		25 - 150	05/12/21 12:23	05/13/21 16:29	1

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-4
Date Collected: 05/05/21 14:00
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-6
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**4.5**		4.3		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluoropentanoic acid (PFPeA)	**5.0**		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorohexanoic acid (PFHxA)	**8.7**		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluoroheptanoic acid (PFHpA)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorooctanoic acid (PFOA)	**7.0**		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorononanoic acid (PFNA)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorobutanesulfonic acid (PFBS)	**4.6**		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluoropentanesulfonic acid (PFPeS)	**3.1**		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorohexanesulfonic acid (PFHxS)	**52**		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorooctanesulfonic acid (PFOS)	**2.3**		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.3		4.3		ng/L		05/12/21 12:23	05/17/21 20:38	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.3		4.3		ng/L		05/12/21 12:23	05/17/21 20:38	1
4:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
6:2 FTS	<4.3		4.3		ng/L		05/12/21 12:23	05/17/21 20:38	1
8:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
HFPO-DA (GenX)	<3.4		3.4		ng/L		05/12/21 12:23	05/17/21 20:38	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/17/21 20:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*50*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C5 PFPeA	*59*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C2 PFHxA	*66*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C4 PFHpA	*71*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C4 PFOA	*75*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C5 PFNA	*80*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C2 PFDA	*68*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C2 PFUnA	*70*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C2 PFDoA	*65*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C2 PFTeDA	*65*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
18O2 PFHxS	*68*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C4 PFOS	*60*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
13C8 FOSA	*67*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*
d3-NMeFOSAA	*55*		*25 - 150*	*05/12/21 12:23*	*05/17/21 20:38*	*1*

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-4
Date Collected: 05/05/21 14:00
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-6
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	56		25 - 150	05/12/21 12:23	05/17/21 20:38	1
M2-6:2 FTS	99		25 - 150	05/12/21 12:23	05/17/21 20:38	1
M2-8:2 FTS	74		25 - 150	05/12/21 12:23	05/17/21 20:38	1
M2-4:2 FTS	104		25 - 150	05/12/21 12:23	05/17/21 20:38	1
13C3 HFPO-DA	67		25 - 150	05/12/21 12:23	05/17/21 20:38	1
13C3 PFBS	62		25 - 150	05/12/21 12:23	05/17/21 20:38	1

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-6

Date Collected: 05/05/21 14:45
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-7

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	**640**	**E**	4.2		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluoropentanoic acid (PFPeA)	**2400**	**E**	1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorohexanoic acid (PFHxA)	**890**	**E**	1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluoroheptanoic acid (PFHpA)	**33**		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorooctanoic acid (PFOA)	**9.2**		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorononanoic acid (PFNA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorobutanesulfonic acid (PFBS)	**25**		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluoropentanesulfonic acid (PFPeS)	**18**		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorohexanesulfonic acid (PFHxS)	**180**		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorooctanesulfonic acid (PFOS)	**2.5**		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 16:47	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 16:47	1
4:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
6:2 FTS	**750**	**E**	4.2		ng/L		05/12/21 12:23	05/13/21 16:47	1
8:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
HFPO-DA (GenX)	<3.4		3.4		ng/L		05/12/21 12:23	05/13/21 16:47	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*51*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C5 PFPeA	*49*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C2 PFHxA	*60*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C4 PFHpA	*66*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C4 PFOA	*64*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C5 PFNA	*71*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C2 PFDA	*67*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C2 PFUnA	*74*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C2 PFDoA	*68*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C2 PFTeDA	*66*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
18O2 PFHxS	*71*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C4 PFOS	*70*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
13C8 FOSA	*77*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*
d3-NMeFOSAA	*75*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:47*	*1*

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-6
Date Collected: 05/05/21 14:45
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-7
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
d5-NEtFOSAA	77		25 - 150	05/12/21 12:23	05/13/21 16:47	1
M2-6:2 FTS	67		25 - 150	05/12/21 12:23	05/13/21 16:47	1
M2-8:2 FTS	78		25 - 150	05/12/21 12:23	05/13/21 16:47	1
M2-4:2 FTS	75		25 - 150	05/12/21 12:23	05/13/21 16:47	1
13C3 HFPO-DA	60		25 - 150	05/12/21 12:23	05/13/21 16:47	1
13C3 PFBS	65		25 - 150	05/12/21 12:23	05/13/21 16:47	1

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-3
Date Collected: 05/05/21 15:30
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-8
Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluoropentanoic acid (PFPeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorohexanoic acid (PFHxA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluoroheptanoic acid (PFHpA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorooctanoic acid (PFOA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorononanoic acid (PFNA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorobutanesulfonic acid (PFBS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluoropentanesulfonic acid (PFPeS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorohexanesulfonic acid (PFHxS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorooctanesulfonic acid (PFOS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 16:56	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 16:56	1
4:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
6:2 FTS	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 16:56	1
8:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
HFPO-DA (GenX)	<3.4		3.4		ng/L		05/12/21 12:23	05/13/21 16:56	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 16:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*61*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C5 PFPeA	*76*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C2 PFHxA	*76*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C4 PFHpA	*76*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C4 PFOA	*81*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C5 PFNA	*82*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C2 PFDA	*76*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C2 PFUnA	*84*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C2 PFDoA	*70*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C2 PFTeDA	*73*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
18O2 PFHxS	*85*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C4 PFOS	*82*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
13C8 FOSA	*80*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
d3-NMeFOSAA	*86*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
d5-NEtFOSAA	*90*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*
M2-6:2 FTS	*103*		*25 - 150*	*05/12/21 12:23*	*05/13/21 16:56*	*1*

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-3
Date Collected: 05/05/21 15:30
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-8
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	97		25 - 150	05/12/21 12:23	05/13/21 16:56	1
M2-4:2 FTS	100		25 - 150	05/12/21 12:23	05/13/21 16:56	1
13C3 HFPO-DA	70		25 - 150	05/12/21 12:23	05/13/21 16:56	1
13C3 PFBS	77		25 - 150	05/12/21 12:23	05/13/21 16:56	1

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: DUP-1GW

Date Collected: 05/05/21 00:00
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-9

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluoropentanoic acid (PFPeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorohexanoic acid (PFHxA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluoroheptanoic acid (PFHpA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorooctanoic acid (PFOA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorononanoic acid (PFNA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorobutanesulfonic acid (PFBS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluoropentanesulfonic acid (PFPeS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorohexanesulfonic acid (PFHxS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorooctanesulfonic acid (PFOS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 17:06	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 17:06	1
4:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
6:2 FTS	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 17:06	1
8:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
HFPO-DA (GenX)	<3.4		3.4		ng/L		05/12/21 12:23	05/13/21 17:06	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:06	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*64*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C5 PFPeA	*75*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C2 PFHxA	*76*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C4 PFHpA	*79*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C4 PFOA	*81*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C5 PFNA	*82*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C2 PFDA	*79*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C2 PFUnA	*89*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C2 PFDoA	*83*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C2 PFTeDA	*75*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
18O2 PFHxS	*86*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C4 PFOS	*81*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
13C8 FOSA	*82*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
d3-NMeFOSAA	*85*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
d5-NEtFOSAA	*89*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*
M2-6:2 FTS	*110*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:06*	*1*

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: DUP-1GW
Date Collected: 05/05/21 00:00
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-9
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	103		25 - 150	05/12/21 12:23	05/13/21 17:06	1
M2-4:2 FTS	101		25 - 150	05/12/21 12:23	05/13/21 17:06	1
13C3 HFPO-DA	74		25 - 150	05/12/21 12:23	05/13/21 17:06	1
13C3 PFBS	80		25 - 150	05/12/21 12:23	05/13/21 17:06	1

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: EQUIPMENT BLANK

Date Collected: 05/05/21 10:20
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-10

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluoropentanoic acid (PFPeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorohexanoic acid (PFHxA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluoroheptanoic acid (PFHpA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorooctanoic acid (PFOA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorononanoic acid (PFNA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorobutanesulfonic acid (PFBS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluoropentanesulfonic acid (PFPeS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorohexanesulfonic acid (PFHxS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorooctanesulfonic acid (PFOS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 17:15	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 17:15	1
4:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
6:2 FTS	<4.2		4.2		ng/L		05/12/21 12:23	05/13/21 17:15	1
8:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
HFPO-DA (GenX)	<3.3		3.3		ng/L		05/12/21 12:23	05/13/21 17:15	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:15	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*53*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C5 PFPeA	*71*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C2 PFHxA	*66*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C4 PFHpA	*74*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C4 PFOA	*69*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C5 PFNA	*72*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C2 PFDA	*69*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C2 PFUnA	*77*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C2 PFDoA	*66*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C2 PFTeDA	*66*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
18O2 PFHxS	*71*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C4 PFOS	*72*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
13C8 FOSA	*69*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
d3-NMeFOSAA	*75*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
d5-NEtFOSAA	*78*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*
M2-6:2 FTS	*89*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:15*	*1*

Client Sample ID: EQUIPMENT BLANK
Date Collected: 05/05/21 10:20
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-10
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	79		25 - 150	05/12/21 12:23	05/13/21 17:15	1
M2-4:2 FTS	80		25 - 150	05/12/21 12:23	05/13/21 17:15	1
13C3 HFPO-DA	65		25 - 150	05/12/21 12:23	05/13/21 17:15	1
13C3 PFBS	66		25 - 150	05/12/21 12:23	05/13/21 17:15	1

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: FIELD BLANK

Date Collected: 05/05/21 13:25
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-11

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluoropentanoic acid (PFPeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorohexanoic acid (PFHxA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluoroheptanoic acid (PFHpA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorooctanoic acid (PFOA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorononanoic acid (PFNA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorobutanesulfonic acid (PFBS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluoropentanesulfonic acid (PFPeS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorohexanesulfonic acid (PFHxS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorooctanesulfonic acid (PFOS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 17:24	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 17:24	1
4:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
6:2 FTS	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 17:24	1
8:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
HFPO-DA (GenX)	<3.5		3.5		ng/L		05/12/21 12:23	05/13/21 17:24	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*62*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C5 PFPeA	*69*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C2 PFHxA	*65*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C4 PFHpA	*68*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C4 PFOA	*70*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C5 PFNA	*70*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C2 PFDA	*69*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C2 PFUnA	*75*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C2 PFDoA	*64*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C2 PFTeDA	*58*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
18O2 PFHxS	*72*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C4 PFOS	*65*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
13C8 FOSA	*68*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
d3-NMeFOSAA	*71*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
d5-NEtFOSAA	*73*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*
M2-6:2 FTS	*82*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:24*	*1*

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: FIELD BLANK
Date Collected: 05/05/21 13:25
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-11
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	80		25 - 150	05/12/21 12:23	05/13/21 17:24	1
M2-4:2 FTS	75		25 - 150	05/12/21 12:23	05/13/21 17:24	1
13C3 HFPO-DA	61		25 - 150	05/12/21 12:23	05/13/21 17:24	1
13C3 PFBS	63		25 - 150	05/12/21 12:23	05/13/21 17:24	1

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: TRIP BLANK

Date Collected: 05/05/21 00:00
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-12

Matrix: Water

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluoropentanoic acid (PFPeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorohexanoic acid (PFHxA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluoroheptanoic acid (PFHpA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorooctanoic acid (PFOA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorononanoic acid (PFNA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorodecanoic acid (PFDA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluoroundecanoic acid (PFUnA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorododecanoic acid (PFDoA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorotridecanoic acid (PFTriA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorotetradecanoic acid (PFTeA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorobutanesulfonic acid (PFBS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluoropentanesulfonic acid (PFPeS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorohexanesulfonic acid (PFHxS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluoroheptanesulfonic Acid (PFHpS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorooctanesulfonic acid (PFOS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorononanesulfonic acid (PFNS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorodecanesulfonic acid (PFDS)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
Perfluorooctanesulfonamide (FOSA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 17:33	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 17:33	1
4:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
6:2 FTS	<4.3		4.3		ng/L		05/12/21 12:23	05/13/21 17:33	1
8:2 FTS	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
HFPO-DA (GenX)	<3.5		3.5		ng/L		05/12/21 12:23	05/13/21 17:33	1
F-53B Major	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1
F-53B Minor	<1.7		1.7		ng/L		05/12/21 12:23	05/13/21 17:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*74*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C5 PFPeA	*78*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C2 PFHxA	*78*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C4 PFHpA	*83*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C4 PFOA	*83*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C5 PFNA	*86*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C2 PFDA	*80*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C2 PFUnA	*90*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C2 PFDoA	*73*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C2 PFTeDA	*76*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
18O2 PFHxS	*85*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C4 PFOS	*84*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
13C8 FOSA	*85*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
d3-NMeFOSAA	*87*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
d5-NEtFOSAA	*97*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*
M2-6:2 FTS	*105*		*25 - 150*	*05/12/21 12:23*	*05/13/21 17:33*	*1*

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: TRIP BLANK
Date Collected: 05/05/21 00:00
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-12
Matrix: Water

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

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-8:2 FTS	99		25 - 150	05/12/21 12:23	05/13/21 17:33	1
M2-4:2 FTS	85		25 - 150	05/12/21 12:23	05/13/21 17:33	1
13C3 HFPO-DA	78		25 - 150	05/12/21 12:23	05/13/21 17:33	1
13C3 PFBS	78		25 - 150	05/12/21 12:23	05/13/21 17:33	1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 320-488332/1-A
Matrix: Water
Analysis Batch: 488690

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 488332

Analyte	MB Result	MB Qualifier	RL		Unit	D	Prepared	Analyzed	Dil Fac
Perfluorobutanoic acid (PFBA)	<5.0		5.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluoropentanoic acid (PFPeA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorohexanoic acid (PFHxA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluoroheptanoic acid (PFHpA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorooctanoic acid (PFOA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorononanoic acid (PFNA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorodecanoic acid (PFDA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluoroundecanoic acid (PFUnA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorododecanoic acid (PFDoA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorotridecanoic acid (PFTriA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorotetradecanoic acid (PFTeA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorobutanesulfonic acid (PFBS)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluoropentanesulfonic acid (PFPeS)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorohexanesulfonic acid (PFHxS)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluoroheptanesulfonic Acid (PFHpS)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorooctanesulfonic acid (PFOS)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorononanesulfonic acid (PFNS)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorodecanesulfonic acid (PFDS)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
Perfluorooctanesulfonamide (FOSA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	<5.0		5.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	<5.0		5.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
4:2 FTS	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
6:2 FTS	<5.0		5.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
8:2 FTS	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
HFPO-DA (GenX)	<4.0		4.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
F-53B Major	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1
F-53B Minor	<2.0		2.0		ng/L		05/12/21 12:23	05/13/21 14:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C4 PFBA	*59*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C5 PFPeA	*61*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C2 PFHxA	*56*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C4 PFHpA	*64*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C4 PFOA	*64*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C5 PFNA	*71*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C2 PFDA	*66*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C2 PFUnA	*73*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C2 PFDoA	*60*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C2 PFTeDA	*62*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
18O2 PFHxS	*66*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C4 PFOS	*66*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
13C8 FOSA	*64*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
d3-NMeFOSAA	*68*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*
d5-NEtFOSAA	*74*		*25 - 150*	*05/12/21 12:23*	*05/13/21 14:21*	*1*

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

Lab Sample ID: MB 320-488332/1-A
Matrix: Water
Analysis Batch: 488690

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 488332

Isotope Dilution	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
M2-6:2 FTS	77		25 - 150	05/12/21 12:23	05/13/21 14:21	1
M2-8:2 FTS	76		25 - 150	05/12/21 12:23	05/13/21 14:21	1
M2-4:2 FTS	65		25 - 150	05/12/21 12:23	05/13/21 14:21	1
13C3 HFPO-DA	59		25 - 150	05/12/21 12:23	05/13/21 14:21	1
13C3 PFBS	65		25 - 150	05/12/21 12:23	05/13/21 14:21	1

Lab Sample ID: LCS 320-488332/2-A
Matrix: Water
Analysis Batch: 488690

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 488332

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits
Perfluorobutanoic acid (PFBA)	40.0	39.7		ng/L		99	76 - 136
Perfluoropentanoic acid (PFPeA)	40.0	42.5		ng/L		106	71 - 131
Perfluorohexanoic acid (PFHxA)	40.0	44.6		ng/L		112	73 - 133
Perfluoroheptanoic acid (PFHpA)	40.0	43.3		ng/L		108	72 - 132
Perfluorooctanoic acid (PFOA)	40.0	41.9		ng/L		105	70 - 130
Perfluorononanoic acid (PFNA)	40.0	44.1		ng/L		110	75 - 135
Perfluorodecanoic acid (PFDA)	40.0	38.0		ng/L		95	76 - 136
Perfluoroundecanoic acid (PFUnA)	40.0	35.2		ng/L		88	68 - 128
Perfluorododecanoic acid (PFDoA)	40.0	41.4		ng/L		103	71 - 131
Perfluorotridecanoic acid (PFTriA)	40.0	39.0		ng/L		98	71 - 131
Perfluorotetradecanoic acid (PFTeA)	40.0	42.9		ng/L		107	70 - 130
Perfluorobutanesulfonic acid (PFBS)	35.4	37.5		ng/L		106	67 - 127
Perfluoropentanesulfonic acid (PFPeS)	37.5	44.5		ng/L		119	66 - 126
Perfluorohexanesulfonic acid (PFHxS)	36.4	37.1		ng/L		102	59 - 119
Perfluoroheptanesulfonic Acid (PFHpS)	38.1	39.9		ng/L		105	76 - 136
Perfluorooctanesulfonic acid (PFOS)	37.1	38.5		ng/L		104	70 - 130
Perfluorononanesulfonic acid (PFNS)	38.4	38.1		ng/L		99	75 - 135
Perfluorodecanesulfonic acid (PFDS)	38.6	39.1		ng/L		101	71 - 131
Perfluorooctanesulfonamide (FOSA)	40.0	44.5		ng/L		111	73 - 133
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)	40.0	44.5		ng/L		111	76 - 136
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)	40.0	37.1		ng/L		93	76 - 136
4:2 FTS	37.4	36.5		ng/L		98	79 - 139
6:2 FTS	37.9	36.5		ng/L		96	59 - 175
8:2 FTS	38.3	41.3		ng/L		108	75 - 135
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)	37.7	37.2		ng/L		99	79 - 139
HFPO-DA (GenX)	40.0	45.2		ng/L		113	51 - 173
F-53B Major	37.3	36.3		ng/L		97	75 - 135

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

Lab Sample ID: LCS 320-488332/2-A
Matrix: Water
Analysis Batch: 488690

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 488332

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec. Limits		
F-53B Minor			37.7	37.8		ng/L		100	54 - 114		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C4 PFBA	*66*		*25 - 150*
13C5 PFPeA	*67*		*25 - 150*
13C2 PFHxA	*64*		*25 - 150*
13C4 PFHpA	*71*		*25 - 150*
13C4 PFOA	*68*		*25 - 150*
13C5 PFNA	*71*		*25 - 150*
13C2 PFDA	*70*		*25 - 150*
13C2 PFUnA	*74*		*25 - 150*
13C2 PFDoA	*72*		*25 - 150*
13C2 PFTeDA	*62*		*25 - 150*
18O2 PFHxS	*70*		*25 - 150*
13C4 PFOS	*72*		*25 - 150*
13C8 FOSA	*69*		*25 - 150*
d3-NMeFOSAA	*73*		*25 - 150*
d5-NEtFOSAA	*73*		*25 - 150*
M2-6:2 FTS	*80*		*25 - 150*
M2-8:2 FTS	*76*		*25 - 150*
M2-4:2 FTS	*72*		*25 - 150*
13C3 HFPO-DA	*65*		*25 - 150*
13C3 PFBS	*66*		*25 - 150*

Lab Sample ID: LCSD 320-488332/3-A
Matrix: Water
Analysis Batch: 488690

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 488332

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluorobutanoic acid (PFBA)			40.0	43.0		ng/L		108	76 - 136	8	30
Perfluoropentanoic acid (PFPeA)			40.0	44.2		ng/L		111	71 - 131	4	30
Perfluorohexanoic acid (PFHxA)			40.0	45.6		ng/L		114	73 - 133	2	30
Perfluoroheptanoic acid (PFHpA)			40.0	46.2		ng/L		116	72 - 132	6	30
Perfluorooctanoic acid (PFOA)			40.0	43.2		ng/L		108	70 - 130	3	30
Perfluorononanoic acid (PFNA)			40.0	43.1		ng/L		108	75 - 135	2	30
Perfluorodecanoic acid (PFDA)			40.0	39.6		ng/L		99	76 - 136	4	30
Perfluoroundecanoic acid (PFUnA)			40.0	34.8		ng/L		87	68 - 128	1	30
Perfluorododecanoic acid (PFDoA)			40.0	45.9		ng/L		115	71 - 131	10	30
Perfluorotridecanoic acid (PFTriA)			40.0	41.0		ng/L		103	71 - 131	5	30
Perfluorotetradecanoic acid (PFTeA)			40.0	39.9		ng/L		100	70 - 130	7	30
Perfluorobutanesulfonic acid (PFBS)			35.4	37.5		ng/L		106	67 - 127	0	30
Perfluoropentanesulfonic acid (PFPeS)			37.5	45.6		ng/L		122	66 - 126	2	30
Perfluorohexanesulfonic acid (PFHxS)			36.4	34.7		ng/L		95	59 - 119	7	30

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

Lab Sample ID: LCSD 320-488332/3-A
Matrix: Water
Analysis Batch: 488690

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 488332

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec. Limits	RPD	RPD Limit
Perfluoroheptanesulfonic Acid (PFHpS)			38.1	40.1		ng/L		105	76 - 136	0	30
Perfluorooctanesulfonic acid (PFOS)			37.1	38.2		ng/L		103	70 - 130	1	30
Perfluorononanesulfonic acid (PFNS)			38.4	37.2		ng/L		97	75 - 135	2	30
Perfluorodecanesulfonic acid (PFDS)			38.6	38.8		ng/L		101	71 - 131	1	30
Perfluorooctanesulfonamide (FOSA)			40.0	41.9		ng/L		105	73 - 133	6	30
N-methylperfluorooctanesulfonamidoacetic acid (NMeFOSAA)			40.0	45.1		ng/L		113	76 - 136	1	30
N-ethylperfluorooctanesulfonamidoacetic acid (NEtFOSAA)			40.0	38.3		ng/L		96	76 - 136	3	30
4:2 FTS			37.4	36.0		ng/L		96	79 - 139	1	30
6:2 FTS			37.9	37.6		ng/L		99	59 - 175	3	30
8:2 FTS			38.3	38.7		ng/L		101	75 - 135	6	30
4,8-Dioxa-3H-perfluorononanoic acid (ADONA)			37.7	38.5		ng/L		102	79 - 139	3	30
HFPO-DA (GenX)			40.0	45.6		ng/L		114	51 - 173	1	30
F-53B Major			37.3	36.8		ng/L		99	75 - 135	1	30
F-53B Minor			37.7	35.5		ng/L		94	54 - 114	6	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C4 PFBA	*75*		*25 - 150*
13C5 PFPeA	*78*		*25 - 150*
13C2 PFHxA	*77*		*25 - 150*
13C4 PFHpA	*83*		*25 - 150*
13C4 PFOA	*84*		*25 - 150*
13C5 PFNA	*85*		*25 - 150*
13C2 PFDA	*80*		*25 - 150*
13C2 PFUnA	*95*		*25 - 150*
13C2 PFDoA	*84*		*25 - 150*
13C2 PFTeDA	*78*		*25 - 150*
18O2 PFHxS	*90*		*25 - 150*
13C4 PFOS	*87*		*25 - 150*
13C8 FOSA	*84*		*25 - 150*
d3-NMeFOSAA	*85*		*25 - 150*
d5-NEtFOSAA	*86*		*25 - 150*
M2-6:2 FTS	*89*		*25 - 150*
M2-8:2 FTS	*94*		*25 - 150*
M2-4:2 FTS	*85*		*25 - 150*
13C3 HFPO-DA	*76*		*25 - 150*
13C3 PFBS	*79*		*25 - 150*

LCMS

Prep Batch: 488332

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-148966-1	MW-2	Total/NA	Water	3535	
240-148966-2	MW-1	Total/NA	Water	3535	
240-148966-3	MW-5	Total/NA	Water	3535	
240-148966-4	MW-9	Total/NA	Water	3535	
240-148966-5	MW-8	Total/NA	Water	3535	
240-148966-6	MW-4	Total/NA	Water	3535	
240-148966-7	MW-6	Total/NA	Water	3535	
240-148966-8	MW-3	Total/NA	Water	3535	
240-148966-9	DUP-1GW	Total/NA	Water	3535	
240-148966-10	EQUIPMENT BLANK	Total/NA	Water	3535	
240-148966-11	FIELD BLANK	Total/NA	Water	3535	
240-148966-12	TRIP BLANK	Total/NA	Water	3535	
MB 320-488332/1-A	Method Blank	Total/NA	Water	3535	
LCS 320-488332/2-A	Lab Control Sample	Total/NA	Water	3535	
LCSD 320-488332/3-A	Lab Control Sample Dup	Total/NA	Water	3535	

Analysis Batch: 488690

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-148966-1	MW-2	Total/NA	Water	537 (modified)	488332
240-148966-2	MW-1	Total/NA	Water	537 (modified)	488332
240-148966-3	MW-5	Total/NA	Water	537 (modified)	488332
240-148966-4	MW-9	Total/NA	Water	537 (modified)	488332
240-148966-5	MW-8	Total/NA	Water	537 (modified)	488332
240-148966-7	MW-6	Total/NA	Water	537 (modified)	488332
240-148966-8	MW-3	Total/NA	Water	537 (modified)	488332
240-148966-9	DUP-1GW	Total/NA	Water	537 (modified)	488332
240-148966-10	EQUIPMENT BLANK	Total/NA	Water	537 (modified)	488332
240-148966-11	FIELD BLANK	Total/NA	Water	537 (modified)	488332
240-148966-12	TRIP BLANK	Total/NA	Water	537 (modified)	488332
MB 320-488332/1-A	Method Blank	Total/NA	Water	537 (modified)	488332
LCS 320-488332/2-A	Lab Control Sample	Total/NA	Water	537 (modified)	488332
LCSD 320-488332/3-A	Lab Control Sample Dup	Total/NA	Water	537 (modified)	488332

Analysis Batch: 489859

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-148966-6	MW-4	Total/NA	Water	537 (modified)	488332

Lab Chronicle

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-2
Date Collected: 05/05/21 09:50
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-1
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 15:34	K1S	TAL SAC

Client Sample ID: MW-1
Date Collected: 05/05/21 11:00
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-2
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 15:44	K1S	TAL SAC

Client Sample ID: MW-5
Date Collected: 05/05/21 11:35
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-3
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 16:11	K1S	TAL SAC

Client Sample ID: MW-9
Date Collected: 05/05/21 12:45
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-4
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 16:20	K1S	TAL SAC

Client Sample ID: MW-8
Date Collected: 05/05/21 13:20
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-5
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 16:29	K1S	TAL SAC

Client Sample ID: MW-4
Date Collected: 05/05/21 14:00
Date Received: 05/07/21 08:00

Lab Sample ID: 240-148966-6
Matrix: Water

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	489859	05/17/21 20:38	D1R	TAL SAC

Lab Chronicle

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Client Sample ID: MW-6
Lab Sample ID: 240-148966-7
Date Collected: 05/05/21 14:45
Matrix: Water
Date Received: 05/07/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 16:47	K1S	TAL SAC

Client Sample ID: MW-3
Lab Sample ID: 240-148966-8
Date Collected: 05/05/21 15:30
Matrix: Water
Date Received: 05/07/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 16:56	K1S	TAL SAC

Client Sample ID: DUP-1GW
Lab Sample ID: 240-148966-9
Date Collected: 05/05/21 00:00
Matrix: Water
Date Received: 05/07/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 17:06	K1S	TAL SAC

Client Sample ID: EQUIPMENT BLANK
Lab Sample ID: 240-148966-10
Date Collected: 05/05/21 10:20
Matrix: Water
Date Received: 05/07/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 17:15	K1S	TAL SAC

Client Sample ID: FIELD BLANK
Lab Sample ID: 240-148966-11
Date Collected: 05/05/21 13:25
Matrix: Water
Date Received: 05/07/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 17:24	K1S	TAL SAC

Client Sample ID: TRIP BLANK
Lab Sample ID: 240-148966-12
Date Collected: 05/05/21 00:00
Matrix: Water
Date Received: 05/07/21 08:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	3535			488332	05/12/21 12:23	LN	TAL SAC
Total/NA	Analysis	537 (modified)		1	488690	05/13/21 17:33	K1S	TAL SAC

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

Accreditation/Certification Summary

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

Laboratory: Eurofins TestAmerica, Sacramento

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

Authority	Program	Identification Number	Expiration Date
Oregon	NELAP	4040	01-30-23

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

1.5/1.6

Chain of Custody Record

MICHIGAN 190 eurofins Environment Testing America

Client Information	Sampler: B. Earl	Lab PM: DelMonico, Michael	Carrier Tracking No(s):	COC No: 240-81521-31723.2
Client Contact: Brian Earl	Phone: 810-599-8012	E-Mail: Michael.DelMonico@Eurofinset.com	State of Origin:	Page: Page 1 of 2
Company: ASTI Environmental	PWSID:			Job #:
Address: PO BOX 2160	Due Date Requested:			
City: Brighton	TAT Requested (days): Standard			
State, Zip: MI, 48116	Compliance Project: Δ Yes Δ No			
Phone: 810-225-2800	PO #: Purchase Order not required			
Email: bearl@asti-env.com	WO #:			
Project Name: PFAS Samples	Project #: 24025698			
Site: OCIA - 1-11259	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (28 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
MW-2	5/5/21	0950	G	Water	N	N	X		
MW-1		1100	G	water		N	X		
MW-5		1135	G			N	X		
MW-9		1245	G			N	X		
MW-8		1320	G			N	X		
MW-4		1400	G			N	X		
MW-6		1445	G			Y	X		
MW-3		1530	G			N	X		
Dup-1gw		—	G			N	X		
Equipment Blank		1020	G			N	X		
Field Blank		1325	G			N	X		

240-148966 Chain of Custody

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For _____ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by: | Date: | Time: | Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[illegible]	5/5/21 - 1945	ASTI	ASTI Cold Storage	5/5/21	ASTI
ASTI Cold Storage	5/6/21 - 1130	ASTI	Jeremy Eftos	5/6/21 1130	ASTI
Jeremy Eftos	5/6/21 - 1132	ASTI	[illegible]	5/6/2021 1133	ETA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

[illegible] ETA 5/6/2021 @ 1223 — 5-7-21 0800 — Ver: 11/01/2020

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

MICHIGAN 190

eurofins | Environment Testing America

Client Information			
Client Contact: Brian Earl	Sampler: B. Earl	Lab PM: DelMonico, Michael	Carrier Tracking No(s):
	Phone: 810-599-8012	E-Mail: Michael.DelMonico@Eurofinset.com	State of Origin:
Company: ASTI Environmental	PWSID:		COC No: 240-81521-31723.1
Address: PO BOX 2160	Due Date Requested:		Page: Page 2 of 2
City: Brighton	TAT Requested (days): Standard		Job #:
State, Zip: MI, 48116	Compliance Project: Δ Yes Δ No		
Phone: 810-225-2800	PO #: Purchase Order not required		
Email: bearl@asti-env.com	WO #:		
Project Name: PFAS Samples	Project #: 24025698		
Site: OCIA - 1-11259	SSOW#:		

Analysis Requested

Sample Identification	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA - PFAS, Standard List (28 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:				N		
Trip Blank	—	—	G	Water	N	N	X		
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					
				Water					

Preservation Codes:
A - HCL, B - NaOH, C - Zn Acetate, D - Nitric Acid, E - NaHSO4, F - MeOH, G - Amchlor, H - Ascorbic Acid, I - Ice, J - DI Water, K - EDTA, L - EDA, M - Hexane, N - None, O - AsNaO2, P - Na2O4S, Q - Na2SO3, R - Na2S2O3, S - H2SO4, T - TSP Dodecahydrate, U - Acetone, V - MCAA, W - pH 4-5, Z - other (specify)
Other:

Possible Hazard Identification
☒ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison B ☐ Unknown ☐ Radiological

Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)
☐ Return To Client ☒ Disposal By Lab ☐ Archive For ______ Months

Deliverable Requested: I, II, III, IV, Other (specify)

Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:		
Relinquished by: [signature]	Date/Time: 5/5/21 - 1945	Company: ASTI	Received by: ASTI Cold Storage	Date/Time: 6/5/21	Company: ASTI
Relinquished by: ASTI Cold Storage	Date/Time: 5/6/21 1130	Company: ASTI	Received by: Jeremy Efros	Date/Time: 5/6/21 1130	Company: ASTI
Relinquished by: Jeremy Efros	Date/Time: 5/6/21 1132	Company: ASTI	Received by: [signature]	Date/Time: 5/6/2021 1133	Company: ETA

Custody Seals Intact: Δ Yes Δ No | Custody Seal No.: | Cooler Temperature(s) °C and Other Remarks:

[signature] ETA 5/6/2021 @ 1223

[signature] 5-7-21 800 FTA

Ver: 11/01/2020

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

Eurofins TestAmerica Canton Sample Receipt Form/Narrative **Login # :** 148966
Canton Facility

Client AST1 Site Name _____ Cooler unpacked by: Matt

Cooler Received on 5-7-21 Opened on 5-7-21

FedEx: 1st Grd Exp UPS FAS Clipper Client Drop Off TestAmerica Courier Other _____

Receipt After-hours: Drop-off Date/Time _____ Storage Location _____

TestAmerica Cooler # 10 Foam Box Client Cooler Box Other _____

Packing material used: ~~Bubble Wrap~~ Foam Plastic Bag None Other _____

COOLANT: ~~Wet Ice~~ Blue Ice Dry Ice Water None

1. Cooler temperature upon receipt ☐ See Multiple Cooler Form
   IR GUN# IR-11 (CF +0.1 °C) Observed Cooler Temp. 1.5 °C Corrected Cooler Temp. 1.6 °C
   IR GUN #IR-12 (CF +0.2°C) Observed Cooler Temp. _____ °C Corrected Cooler Temp. _____ °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1	(Yes)	No
-Were the seals on the outside of the cooler(s) signed & dated?	(Yes)	No NA
-Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/MeHg)?	Yes	(No)
-Were tamper/custody seals intact and uncompromised?	(Yes)	No NA
3. Shippers' packing slip attached to the cooler(s)?	(Yes)	No
4. Did custody papers accompany the sample(s)?	(Yes)	No
5. Were the custody papers relinquished & signed in the appropriate place?	(Yes)	No
6. Was/were the person(s) who collected the samples clearly identified on the COC?	(Yes)	No
7. Did all bottles arrive in good condition (Unbroken)?	(Yes)	No
8. Could all bottle labels (ID/Date/Time) be reconciled with the COC?	(Yes)	No
9. For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N) and sample type of grab/comp (Y/N)?		
10. Were correct bottle(s) used for the test(s) indicated?	(Yes)	No
11. Sufficient quantity received to perform indicated analyses?	(Yes)	No
12. Are these work share samples and all listed on the COC?	Yes	(No)
If yes, Questions 13-17 have been checked at the originating laboratory.		
13. Were all preserved sample(s) at the correct pH upon receipt?	Yes No	(NA) pH Strip Lot# **HC022887**
14. Were VOAs on the COC?	Yes	(No)
15. Were air bubbles >6 mm in any VOA vials? ● ⬅ Larger than this.	Yes No	(NA)
16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # _____	Yes	(No)
17. Was a LL Hg or Me Hg trip blank present? _____	Yes	(No)

Tests that are not checked for pH by Receiving:
VOAs
Oil and Grease
TOC

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other

Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES ☐ additional next page

Samples processed by:

19. SAMPLE CONDITION

Sample(s) _____ were received after the recommended holding time had expired.
Sample(s) _____ were received in a broken container.
Sample(s) _____ were received with bubble >6 mm in diameter. (Notify PM)

20. SAMPLE PRESERVATION

Sample(s) _____ were further preserved in the laboratory.
Time preserved: _____ Preservative(s) added/Lot number(s): _____

VOA Sample Preservation - Date/Time VOAs Frozen: _____

WI-NC-099

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: DelMonico, Michael	Carrier Tracking No(s):	COC No: 240-136331.1
Client Contact: Shipping/Receiving	Phone:	E-Mail: Michael.DelMonico@Eurofinset.com	State of Origin: Michigan	Page: Page 1 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon		Job #: 240-148966-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 6/13/2021			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Oakland County Sanitary Sewers	Project #: 24025698			
Site:	SSOW#:			

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Analysis Requested

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC PFAS, Standard List (28 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
MW-2 (240-148966-1)	5/5/21	09:50 Eastern		Water			X	2	
MW-1 (240-148966-2)	5/5/21	11:00 Eastern		Water			X	2	
MW-5 (240-148966-3)	5/5/21	11:35 Eastern		Water			X	2	
MW-9 (240-148966-4)	5/5/21	12:45 Eastern		Water			X	2	
MW-8 (240-148966-5)	5/5/21	13:20 Eastern		Water			X	2	
MW-4 (240-148966-6)	5/5/21	14:00 Eastern		Water			X	2	
MW-6 (240-148966-7)	5/5/21	14:45 Eastern		Water			X	2	
MW-3 (240-148966-8)	5/5/21	15:30 Eastern		Water			X	2	
DUP-1GW (240-148966-9)	5/5/21	Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	5-10-21 1700	ETA	[signature]	5-11-21 1102	ETASAC
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact:	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks:
Δ Yes Δ No [signature] 5-11-21		1.6, 1.0

Ver: 11/01/2020

Eurofins TestAmerica, Canton
4101 Shuffel Street NW
North Canton, OH 44720
Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record

eurofins | Environment Testing America

Client Information (Sub Contract Lab)	Sampler:	Lab PM: DelMonico, Michael	Carrier Tracking No(s):	COC No: 240-136331.2
Client Contact: Shipping/Receiving	Phone:	E-Mail: Michael.DelMonico@Eurofinset.com	State of Origin: Michigan	Page: Page 2 of 2
Company: TestAmerica Laboratories, Inc.		Accreditations Required (See note): NELAP - Oregon		Job #: 240-148966-1
Address: 880 Riverside Parkway, ,	Due Date Requested: 6/13/2021			
City: West Sacramento	TAT Requested (days):			
State, Zip: CA, 95605				
Phone: 916-373-5600(Tel) 916-372-1059(Fax)	PO #:			
Email:	WO #:			
Project Name: Oakland County Sanitary Sewers	Project #: 24025698			
Site:	SSOW#:			

Analysis Requested

Preservation Codes:

A - HCL	M - Hexane
B - NaOH	N - None
C - Zn Acetate	O - AsNaO2
D - Nitric Acid	P - Na2O4S
E - NaHSO4	Q - Na2SO3
F - MeOH	R - Na2S2O3
G - Amchlor	S - H2SO4
H - Ascorbic Acid	T - TSP Dodecahydrate
I - Ice	U - Acetone
J - DI Water	V - MCAA
K - EDTA	W - pH 4-5
L - EDA	Z - other (specify)

Other:

Sample Identification - Client ID (Lab ID)	Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, O=waste/oil, BT=Tissue, A=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/3535_PFC PFAS, Standard List (28 Analytes)	Total Number of containers	Special Instructions/Note:
			Preservation Code:						
EQUIPMENT BLANK (240-148966-10)	5/5/21	10:20 Eastern		Water			X	1	
FIELD BLANK (240-148966-11)	5/5/21	13:25 Eastern		Water			X	2	
TRIP BLANK (240-148966-12)	5/5/21	Eastern		Water			X	2	

Note: Since laboratory accreditations are subject to change, Eurofins TestAmerica places the ownership of method, analyte & accreditation compliance upon out subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins TestAmerica laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins TestAmerica attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said complicance to Eurofins TestAmerica.

Possible Hazard Identification	***Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)***
Unconfirmed	☐ *Return To Client* ☐ *Disposal By Lab* ☐ *Archive For* _____ *Months*
Deliverable Requested: I, II, III, IV, Other (specify) Primary Deliverable Rank: 2	Special Instructions/QC Requirements:

Empty Kit Relinquished by:	Date:	Time:	Method of Shipment:

Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
[signature]	5-10-21 1700	[illegible]	[signature]	5-11-21 / 10:10	ETAS
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company
Relinquished by:	Date/Time:	Company	Received by:	Date/Time:	Company

Custody Seals Intact: Δ Yes Δ No	Custody Seal No.:	Cooler Temperature(s) °C and Other Remarks: 1.6, 1.0

Ver: 11/01/2020

eurofins | Environment Testing TestAmerica

Sacramento
Sample Receiving Notes

Place Field Sheet Label Here

Tracking # : 9148 7504 0120

Job: _____

SO / (PO) / FO / SAT / 2-Day / Ground / UPS / CDO / Courier
GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations.
File in the job folder with the COC.

Therm. ID: L-06 Corr. Factor: (+ / -) N/A °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: —

Cooler ID: 2 of 2

Temp Observed: 1.0 °C Corrected: 1.0 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: NC Date: 5-11-21

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
Multiphasic samples are not present?	☑	☐	☐

Containers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

Initials: NC Date: 5-11-21

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☑	☐	☐

Initials: NC Date: 5-11-21

WR3 271

Login Sample Receipt Checklist

Client: ASTI Environmental

Job Number: 240-148966-1

Login Number: 148966
List Number: 2
Creator: Cahill, Nicholas P

List Source: Eurofins TestAmerica, Sacramento
List Creation: 05/11/21 06:05 PM

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	1.6c, 1.0c
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?	False	Received project as a subcontract.
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	

urofins | Environment Testing TestAmerica

Sacramento Sample Receiving Notes

240-148966 Field Sheet

Tracking # : 9148 7504 0119

Job: \

SO / PO / FO / SAT / 2-Day / Ground / UPS / CDO / Courier

GSO / OnTrac / Goldstreak / USPS / Other _____

Use this form to record Sample Custody Seal, Cooler Custody Seal, Temperature & corrected Temperature & other observations. File in the job folder with the COC.

Therm. ID: L-06 Corr. Factor: (+ / -) N/A °C

Ice ✓ Wet ✓ Gel _____ Other _____

Cooler Custody Seal: —

Cooler ID: 1 of 2

Temp Observed: 1.6 °C Corrected: 1.6 °C

From: Temp Blank ☐ Sample ☑

Opening/Processing The Shipment	Yes	No	NA
Cooler compromised/tampered with?	☐	☑	☐
Cooler Temperature is acceptable?	☑	☐	☐
Frozen samples show signs of thaw?	☐	☐	☑

Initials: NC Date: 5-11-21

Unpacking/Labeling The Samples	Yes	No	NA
CoC is complete w/o discrepancies?	☑	☐	☐
Samples compromised/tampered with?	☐	☑	☐
Sample containers have legible labels?	☑	☐	☐
Sample custody seal?	☐	☐	☑
Containers are not broken or leaking?	☑	☐	☐
Sample date/times are provided?	☑	☐	☐
Appropriate containers are used?	☑	☐	☐
Sample bottles are completely filled?	☑	☐	☐
Sample preservatives verified?	☐	☐	☑
Samples w/o discrepancies?	☑	☐	☐
Zero headspace?*	☐	☐	☑
Alkalinity has no headspace?	☐	☐	☑
Perchlorate has headspace? (Methods 314, 331, 6850)	☐	☐	☑
ultiphasic samples are not present?	☑	☐	☐

*tainers requiring zero headspace have no headspace, or bubble < 6 mm (1/4")

's: NC Date: 5-11-21

Notes: _____

Trizma Lot #(s): _____

Login Completion	Yes	No	NA
Receipt Temperature on COC?	☑	☐	☐
Samples received within hold time?	☑	☐	☐
NCM Filed?	☐	☐	☑
Log Release checked in TALS?	☐	☐	☐

Initials: NC Date: 5-11-21

WR3 27c

Isotope Dilution Summary

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

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)	C4PFHA (25-150)	PFOA (25-150)	PFNA (25-150)	PFDA (25-150)	PFUnA (25-150)
240-148966-1	MW-2	64	77	73	79	78	79	74	82
240-148966-2	MW-1	81	85	87	90	95	90	90	95
240-148966-3	MW-5	52	55	55	59	61	64	61	70
240-148966-4	MW-9	53	59	57	56	57	39	58	70
240-148966-5	MW-8	13 *5-	29	43	45	64	66	69	73
240-148966-6	MW-4	50	59	66	71	75	80	68	70
240-148966-7	MW-6	51	49	60	66	64	71	67	74
240-148966-8	MW-3	61	76	76	76	81	82	76	84
240-148966-9	DUP-1GW	64	75	76	79	81	82	79	89
240-148966-10	EQUIPMENT BLANK	53	71	66	74	69	72	69	77
240-148966-11	FIELD BLANK	62	69	65	68	70	70	69	75
240-148966-12	TRIP BLANK	74	78	78	83	83	86	80	90
LCS 320-488332/2-A	Lab Control Sample	66	67	64	71	68	71	70	74
LCSD 320-488332/3-A	Lab Control Sample Dup	75	78	77	83	84	85	80	95
MB 320-488332/1-A	Method Blank	59	61	56	64	64	71	66	73

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	PFDoA (25-150)	PFTDA (25-150)	PFHxS (25-150)	PFOS (25-150)	PFOSA (25-150)	d3NMFOS (25-150)	d5NEFOS (25-150)	M262FTS (25-150)
240-148966-1	MW-2	74	66	76	78	78	77	83	90
240-148966-2	MW-1	86	80	90	91	93	92	99	122
240-148966-3	MW-5	60	57	62	62	67	69	73	72
240-148966-4	MW-9	63	58	61	39	65	63	74	69
240-148966-5	MW-8	55	27	57	71	65	68	70	139
240-148966-6	MW-4	65	65	68	60	67	55	56	99
240-148966-7	MW-6	68	66	71	70	77	75	77	67
240-148966-8	MW-3	70	73	85	82	80	86	90	103
240-148966-9	DUP-1GW	83	75	86	81	82	85	89	110
240-148966-10	EQUIPMENT BLANK	66	66	71	72	69	75	78	89
240-148966-11	FIELD BLANK	64	58	72	65	68	71	73	82
240-148966-12	TRIP BLANK	73	76	85	84	85	87	97	105
LCS 320-488332/2-A	Lab Control Sample	72	62	70	72	69	73	73	80
LCSD 320-488332/3-A	Lab Control Sample Dup	84	78	90	87	84	85	86	89
MB 320-488332/1-A	Method Blank	60	62	66	66	64	68	74	77

		Percent Isotope Dilution Recovery (Acceptance Limits)							
Lab Sample ID	Client Sample ID	M282FTS (25-150)	M242FTS (25-150)	HFPODA (25-150)	C3PFBS (25-150)				
240-148966-1	MW-2	95	94	74	74				
240-148966-2	MW-1	115	128	84	83				
240-148966-3	MW-5	76	67	56	57				
240-148966-4	MW-9	77	75	56	59				
240-148966-5	MW-8	90	99	50	70				
240-148966-6	MW-4	74	104	67	62				
240-148966-7	MW-6	78	75	60	65				
240-148966-8	MW-3	97	100	70	77				
240-148966-9	DUP-1GW	103	101	74	80				
240-148966-10	EQUIPMENT BLANK	79	80	65	66				
240-148966-11	FIELD BLANK	80	75	61	63				
240-148966-12	TRIP BLANK	99	85	78	78				
LCS 320-488332/2-A	Lab Control Sample	76	72	65	66				

Isotope Dilution Summary

Client: ASTI Environmental
Project/Site: OCIA-1-11259

Job ID: 240-148966-1

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**	**M282FTS (25-150)**	**M242FTS (25-150)**	**HFPODA (25-150)**	**C3PFBS (25-150)**
LCSD 320-488332/3-A	Lab Control Sample Dup	94	85	76	79
MB 320-488332/1-A	Method Blank	76	65	59	65

Surrogate Legend

PFBA = 13C4 PFBA
PFPeA = 13C5 PFPeA
PFHxA = 13C2 PFHxA
C4PFHA = 13C4 PFHpA
PFOA = 13C4 PFOA
PFNA = 13C5 PFNA
PFDA = 13C2 PFDA
PFUnA = 13C2 PFUnA
PFDoA = 13C2 PFDoA
PFTDA = 13C2 PFTeDA
PFHxS = 18O2 PFHxS
PFOS = 13C4 PFOS
PFOSA = 13C8 FOSA
d3NMFOS = d3-NMeFOSAA
d5NEFOS = d5-NEtFOSAA
M262FTS = M2-6:2 FTS
M282FTS = M2-8:2 FTS
M242FTS = M2-4:2 FTS
HFPODA = 13C3 HFPO-DA
C3PFBS = 13C3 PFBS

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ASTI ENVIRONMENTAL
Detroit/Grand Rapids/Brighton

Phone: 1-800-395-2784
www.asti-env.com
Email: environmental@asti-env.com

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