Source Test Report

The Chemours Company, FC, LLC
Fayetteville Works
22828 Highway 87W
Fayetteville, NC 28306

Source Tested: Polymer Process Aid (PPA) Carbon Bed
Test Date: September 12, 2023

Project No. AST-2023-3974

Prepared By
Alliance Technical Group, LLC
6515A Basile Rowe
East Syracuse, NY 13057

Regulatory Information

Permit No. North Carolina Department of Air Quality (NCDAQ) Title V Air Permit No. 03735T48

Source Information

Source Name	*Target Parameter*
PPA Carbon Bed (Inlet / Outlet)	HFPO-DA

Contact Information

Test Location
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Fayetteville Works
22828 Highway 87W
Fayetteville, North Carolina

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Alliance Technical Group, LLC (Alliance) has completed the source testing as described in this report. Results apply only to the source(s) tested and operating condition(s) for the specific test date(s) and time(s) identified within this report. All results are intended to be considered in their entirety, and Alliance is not responsible for use of less than the complete test report without written consent. This report shall not be reproduced in full or in part without written approval from the customer.

To the best of my knowledge and abilities, all information, facts and test data are correct. Data presented in this report has been checked for completeness and is accurate, error-free and legible. Onsite testing was conducted in accordance with approved internal Standard Operating Procedures. Any deviations or problems are detailed in the relevant sections in the test report.

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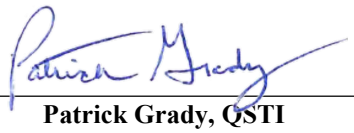

Patrick Grady, QSTI
Project Manager
Alliance Technical Group, LLC

10/27/2023
Date

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Introduction

1.0 Introduction

Alliance Technical Group, LLC (Alliance) was retained by The Chemours Company (Chemours) to conduct compliance testing at the Fayetteville Works facility in Fayetteville, North Carolina. The facility operates under North Carolina Department of Air Quality (NCDAQ) Title V Air Permit No. 03735T48. Source emissions testing were conducted at the inlet and outlet of the Polymer Process Aid (PPA) carbon bed. The testing was conducted to evaluate emissions of hexafluoro-propylene oxide-dimer acid (HFPO-DA). HFPO-DA, hexafluoro-propylene oxide dimer acid fluoride (HFPO-DAF) and hexafluoro-propylene oxide dimer acid ammonium salt are captured and reported together as HFPO-DA.

1.1 Source and Control System Descriptions

The PPA facility produces surfactants used to produce fluoropolymer products, such as Teflon® at other Chemours facilities, as well as sales to outside producers of fluoropolymers. Process streams are vented to a caustic wet scrubber (ACD-A1), a carbon bed and exhausted through a process stack (AEP-A1). The process inside the building is under negative pressure and the building air is vented to the carbon bed and the process stack (AEP-A1).

1.2 Project Team

Personnel involved in this project are identified in the following table.

Table 1-1: Project Team

Facility Personnel	Eddie Vega Christel Compton
Regulatory Personnel	Gary Saunders
Alliance Personnel	Patrick Grady Antonio Andersen Jacob Cavallo Jeff Sheldon Lucas Chisser

Summary of Results

2.0 Summary of Results

Alliance conducted compliance testing at the Fayetteville Works Facility in Fayetteville, NC on September 12, 2023. Testing consisted of determining the emission rates of HFPO-DA at the inlet and outlet of the PPA carbon bed.

Table 2-1 provides a summary of the emission testing results. Any difference between the summary results listed in the following tables and the detailed results contained in appendices is due to rounding for presentation.

Table 2-1: Summary of Results

Run Number	Run 1	Run 2	Run 3	Average
Date	**9/12/23**	**9/12/23**	**9/12/23**	**--**
HFPO-DA Data				
Outlet Emission Rate, lb/hr	8.4E-06	9.6E-06	1.1E-05	9.8E-06
Inlet Emission Rate, lb/hr	5.7E-03	6.3E-03	1.2E-02	7.8E-03
Reduction Efficiency, %	99.9	99.8	99.9	99.9

Testing Methodology

3.0 Testing Methodology

The emission testing program was conducted in accordance with the test methods listed in Table 3-1. Method descriptions are provided below while quality assurance/quality control data is provided in Appendix D.

Table 3-1: Source Testing Methodology

Parameter	U.S. EPA Reference Test Methods	Notes/Remarks
Volumetric Flow Rate	1 & 2	Full Velocity Traverses
Moisture Content	4	Gravimetric Analysis
Hexafluoro-Propylene Oxide-Dimer Acid	Modified Method 0010	Isokinetic Sampling

3.1 U.S. EPA Reference Test Methods 1 and 2 – Sampling/Traverse Points and Volumetric Flow Rate

The sampling location and number of traverse (sampling) points were selected in accordance with U.S. EPA Reference Test Method 1. To determine the minimum number of traverse points, the upstream and downstream distances were equated into equivalent diameters and compared to Figure 1-1 in U.S. EPA Reference Test Method 1.

Full velocity traverses were conducted in accordance with U.S. EPA Reference Test Method 2 to determine the average stack gas velocity pressure, static pressure and temperature. The velocity and static pressure measurement system consisted of a pitot tube and inclined manometer. The stack gas temperature was measured with a K-type thermocouple and pyrometer.

3.2 U.S. EPA Reference Test Method 4 – Moisture Content

The stack gas moisture content was determined in accordance with U.S. EPA Reference Test Method 4. The gas conditioning train consisted of a series of chilled impingers. Prior to testing, each impinger was filled with a known quantity of water or silica gel. Each impinger was analyzed gravimetrically before and after each test run on the same balance to determine the amount of moisture condensed.

3.3 Modified Method 0010 – Hexafluoro-Propylene Oxide-Dimer Acid

HFPO-DA emissions were evaluated in accordance with Modified Method 0010. Testing followed the submitted protocol in the execution of our onsite sampling and analysis activities. Modified Method 0010 procedure was followed as outlined in the protocol submitted to NC Division of Air Quality. Modified Method 0010 sampling and analysis procedures performed for this project are consistent with OTM-45, which was released by EPA in January 2021, subsequent to Chemours submittal of plans to DAQ.

The sample train consisted of a borosilicate glass nozzle attached directly to a heated borosilicate glass-lined probe. The probe was connected directly to a heated borosilicate glass filter holder containing a solvent-extracted glass fiber filter. In order to minimize possible thermal degradation of the HFPO-DA, the probe and particulate filter were heated to just above stack temperature to minimize water vapor condensation before the filter. The filter holder exit was connected to a water-cooled coil condenser followed by a water-cooled sorbent module containing approximately 40 grams of XAD-2 resin. The XAD-2 inlet temperature was monitored to ensure that the module is maintained at a temperature below 20°C.

The XAD-2 resin trap was followed by a condensate knockout impinger and a series of three impingers each containing 100-ml of high purity deionized water. The water impingers were followed by another condensate knockout impinger equipped with a second XAD-2 resin trap to account for any sample breakthrough. The final impinger contained approximately 250 grams of dry pre-weighed silica gel. The water impingers and condensate impingers were submerged in an ice bath through the duration of the testing. The water in the ice bath was also used to circulate around the coil condenser and the XAD-2 resin traps.

Exhaust gases were extracted from the sample locations isokinetically using a metering console equipped with a vacuum pump, a calibrated orifice, oil manometer and probe/filter heat controllers.

3.4 HFPO-DA Sample Train and Equipment Preparation

Prior to conducting the field work the following procedures were conducted to prepare the field sampling glassware and sample recovery tools.

1. Wash all glassware, brushes, and ancillary tools with low residue soap and hot water.
2. Rinse all glassware, brushes, and ancillary tools three (3) times with D.I. H_20.
3. Bake glassware (with the exception of probe liners) at 450˚C for approximately 2 hours, (XAD-2 resin tube glassware is cleaned by Eurofins/TestAmerica by this same procedure).
4. Solvent rinse three (3) times all glassware, brushes, and ancillary tools with the following sequence of solvents: acetone, methylene chloride, hexane, and methanol.
5. Clean glassware and tools will be sealed in plastic bags or aluminum foil for transport to the sampling site.
6. Squirt bottles will be new dedicated bottles of known history and dedicated to the D.I. Water and methanol/ammonium hydroxide (MeOH/ 5% NH_4OH) solvent contents. Squirt bottles will be labelled with the solvent content it contains.

3.5 HFPO-DA Sample Train Recovery

Following completion of each test run, the sample probe, nozzle and front-half of the filter holder were brushed and rinsed three times each with the MeOH/ 5% NH_4OH solution (Container #1). The glass fiber filter was removed from its housing and transferred to a polyethylene bottle (Container #2). Any particulate matter and filter fibers which adhered to the filter holder and gasket were also placed in Container #2. The XAD-2 resin trap was sealed, labelled and placed in an iced sample cooler. The back-half of the filter holder, coil condenser condensate trap and connecting glassware were rinsed with the same MeOH/ 5% NH_4OH solution and placed in Container #3.

The volume of water collected in all impingers was measured for moisture determinations and then placed in Container #4. All impingers and connecting glassware were then rinsed with the MeOH/ 5% NH_4OH solution and placed in Container #5. The second (breakthrough) XAD-2 resin trap was sealed, labelled and placed in an iced sample cooler. The contents of the fifth impinger were placed in its original container and weighed for moisture determinations.

Containers were sealed and labeled with the appropriate sample information. Samples remained chilled until analysis. HFPO-DA analysis was conducted using liquid chromatography/dual mass spectrometry (LC/MS/MS).

Appendix A

Location: Chemours Company - Fayetteville Works Facility, NC
Source: PPA Carbon Bed Inlet
Project No.: AST-2023-3974
Run No.: 1
Parameter: HFPO-DA

Meter Pressure (Pm), in. Hg

$$Pm = Pb + \frac{\Delta H}{13.6}$$

where,

Pb	30.04	= barometric pressure, in. Hg
ΔH	1.692	= pressure differential of orifice, in H_2O
Pm	30.16	= in. Hg

Absolute Stack Gas Pressure (Ps), in. Hg

$$Ps = Pb + \frac{Pg}{13.6}$$

where,

Pb	30.04	= barometric pressure, in. Hg
Pg	-1.20	= static pressure, in. H_2O
Ps	29.95	= in. Hg

Standard Meter Volume (Vmstd), dscf

$$Vmstd = \frac{17.636 \times Y \times Vm \times Pm}{Tm}$$

where,

Y	1.007	= meter correction factor
Vm	74.324	= meter volume, cf
Pm	30.16	= absolute meter pressure, in. Hg
Tm	539.7	= absolute meter temperature, °R
Vmstd	73.772	= dscf

Standard Wet Volume (Vwstd), scf

$$Vwstd = 0.04716 \times Vlc$$

where,

Vlc	64.1	= volume of H_2O collected, ml
Vwstd	3.023	= scf

Moisture Fraction (BWSsat), dimensionless (theoretical at saturated conditions)

$$BWSsat = \frac{10^{6.37-\left(\frac{2,827}{Ts+365}\right)}}{Ps}$$

where,

Ts	79.1	= stack temperature, °F
Ps	29.95	= absolute stack gas pressure, in. Hg
BWSsat	0.033	= dimensionless

Moisture Fraction (BWS), dimensionless (measured)

$$BWS = \frac{Vwstd}{(Vwstd + Vmstd)}$$

where,

Vwstd	3.023	= standard wet volume, scf
Vmstd	73.772	= standard meter volume, dscf
BWS	0.039	= dimensionless

Moisture Fraction (BWS), dimensionless

$$BWS = BWSmsd \text{ unless } BWSsat < BWSmsd$$

where,

BWSsat	0.033	= moisture fraction (theoretical at saturated conditions)
BWSmsd	0.039	= moisture fraction (measured)
BWS	0.033	

Molecular Weight (DRY) (Md), lb/lb-mole

$$Md = (0.44 \times \%CO_2) + (0.32 \times \%O2) + (0.28\,(100 - \%CO_2 - \%O2))$$

where,

CO_2	0.1	= carbon dioxide concentration, %
O_2	20.9	= oxygen concentration, %
Md	28.85	= lb/lb mol

Molecular Weight (WET) (Ms), lb/lb-mole

$$Ms = Md\,(1 - BWS) + 18.015\,(BWS)$$

where,

Md	28.85	= molecular weight (DRY), lb/lb mol
BWS	0.033	= moisture fraction, dimensionless
Ms	28.49	= lb/lb mol

Average Velocity (Vs), ft/sec

$$Vs = 85.49 \times Cp \times (\Delta P^{1/2})\,avg \times \sqrt{\frac{Ts}{Ps \times Ms}}$$

where,

Cp	0.840	= pitot tube coefficient
$\Delta P^{1/2}$	0.532	= velocity head of stack gas, $(in.\ H_2O)^{1/2}$
Ts	538.8	= absolute stack temperature, °R
Ps	29.95	= absolute stack gas pressure, in. Hg
Ms	28.49	= molecular weight of stack gas, lb/lb mol
Vs	30.3	= ft/sec

Location: Chemours Company - Fayetteville Works Facility, NC
Source: PPA Carbon Bed Inlet
Project No.: AST-2023-3974
Run No.: 1
Parameter: HFPO-DA

Average Stack Gas Flow at Stack Conditions (Qa), acfm

$$Qa = 60 \times Vs \times As$$

where,

Vs	30.3	= stack gas velocity, ft/sec
As	6.31	= cross-sectional area of stack, ft^2
Qa	11,481	= acfm

Average Stack Gas Flow at Standard Conditions (Qs), dscfm

$$Qs = 17.636 \times Qa \times (1 - BWS) \times \frac{Ps}{Ts}$$

where,

Qa	11,481	= average stack gas flow at stack conditions, acfm
BWS	0.033	= moisture fraction, dimensionless
Ps	29.95	= absolute stack gas pressure, in. Hg
Ts	538.8	= absolute stack temperature, °R
Qs	10,884	= dscfm

Dry Gas Meter Calibration Check (Yqa), dimensionless

$$Yqa = \frac{Y - \left(\frac{\Theta}{Vm} \sqrt{\frac{0.0319 \times Tm \times 29}{\Delta H@ \times \left(Pb + \frac{\Delta Havg.}{13.6}\right) \times Md}} \sqrt{\Delta H}\ avg.\right)}{v} \times 100$$

where,

Y	1.007	= meter correction factor, dimensionless
Θ	96	= run time, min.
Vm	74.324	= total meter volume, dcf
Tm	539.7	= absolute meter temperature, °R
ΔH@	1.561	= orifice meter calibration coefficient, in. H_2O
Pb	30.04	= barometric pressure, in. Hg
ΔH avg	1.692	= average pressure differential of orifice, in H_2O
Md	28.85	= molecular weight (DRY), lb/lb mol
$(\Delta H)^{1/2}$	1.296	= average squareroot pressure differential of orifice, $(in. H2O)^{1/2}$
Yqa	-0.8	= percent

Volume of Nozzle (Vn), ft^3

$$Vn = \frac{Ts}{Ps}\left(0.002669 \times Vlc + \frac{Vm \times Pm \times Y}{Tm}\right)$$

where,

Ts	538.8	= absolute stack temperature, °R
Ps	29.95	= absolute stack gas pressure, in. Hg
Vlc	64.1	= volume of H_2O collected, ml
Vm	74.324	= meter volume, cf
Pm	30.16	= absolute meter pressure, in. Hg
Y	1.007	= meter correction factor, unitless
Tm	539.7	= absolute meter temperature, °R
Vn	78.319	= volume of nozzle, ft^3

Isokinetic Sampling Rate (I), %

$$I = \left(\frac{Vn}{\theta \times 60 \times An \times Vs}\right) \times 100$$

where, *

Vn	78.319	= nozzle volume, ft3
θ	96.0	= run time, minutes
An	0.00044	= area of nozzle, ft^2
Vs	30.3	= average velocity, ft/sec
I	100.5	= %

HFPO-DA Concentration (C), ug/dscm

$$C = \frac{M \times 35.3147}{Vmstd}$$

where,

M	293	= HFPO-DA mass, ug
Vmstd	73.772	= standard meter volume, dscf
C_{NH3}	140.22	= ug/dscm

HFPO-DA Emission Rate (ER), lb/hr

$$ER = \frac{M \times Qs \times 60}{Vmstd \times 4.54E + 11}$$

where,

M	293	= HFPO-DA mass, ug
Qs	10,884	= average stack gas flow at standard conditions, dscfm
Vmstd	73.772	= standard meter volume, dscf
ER	0.0057	= lb/hr

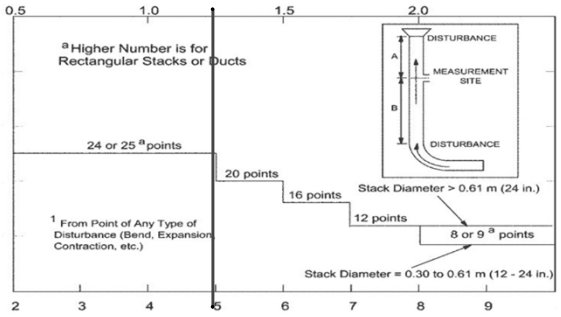
Appendix B

Method 1 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Inlet
Project No. AST-2023-3974
Date: 09/11/23

Stack Parameters

Duct Orientation:	Vertical	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	47.50	in
Nipple Length:	13.50	in
Depth of Duct:	34.00	in
Cross Sectional Area of Duct:	6.31	ft^2
No. of Test Ports:	2	
Distance A:	3.5	ft
Distance A Duct Diameters:	1.2	**(must be > 0.5)**
Distance B:	5.0	ft
Distance B Duct Diameters:	1.8	**(must be > 2)**
Minimum Number of Traverse Points:	24	
Actual Number of Traverse Points:	24	
Number of Readings per Point:	1	
Measurer (Initial and Date):	JS 9/11/23	
Reviewer (Initial and Date):	AA 9/11/23	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

Number of traverse points on a diameter

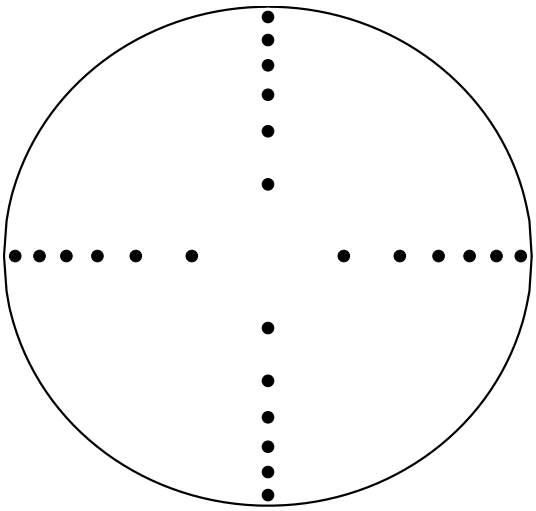
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--	--	--	89.5	--	77.4	--	64.4
8	--	--	--	--	--	--	96.8	--	85.4	--	75.0
9	--	--	--	--	--	--	--	--	91.8	--	82.3
10	--	--	--	--	--	--	--	--	97.4	--	88.2
11	--	--	--	--	--	--	--	--	--	--	93.3
12	--	--	--	--	--	--	--	--	--	--	97.9

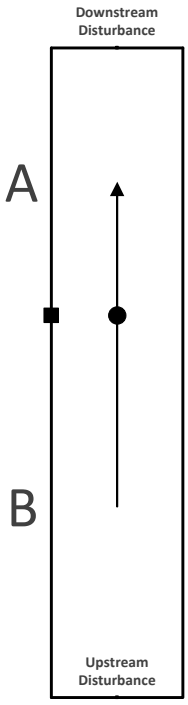
**Percent of stack diameter from inside wall to traverse point.*

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	2.1	1.00	14.50
2	6.7	2.28	15.78
3	11.8	4.01	17.51
4	17.7	6.02	19.52
5	25.0	8.50	22.00
6	35.6	12.10	25.60
7	64.4	21.90	35.40
8	75.0	25.50	39.00
9	82.3	27.98	41.48
10	88.2	29.99	43.49
11	93.3	31.72	45.22
12	97.9	33.00	46.50

Stack Diagram
A = 3.5 ft.
B = 5 ft.
Depth of Duct = 34 in.

Cross Sectional Area





Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Inlet
Project No. AST-2023-3974
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		9/12/23	9/12/23	9/12/23	--
Start Time		8:05	10:37	13:00	--
Stop Time		9:53	12:36	14:44	--
Run Time, min	(θ)	96.0	96.0	96.0	96.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	30.04	30.04	30.04	30.04
Meter Correction Factor	(Y)	1.007	1.007	1.007	1.007
Orifice Calibration Value	(ΔH @)	1.561	1.561	1.561	1.561
Meter Volume, ft^3	(Vm)	74.324	67.582	65.476	69.127
Meter Temperature, °F	(Tm)	80.0	92.5	97.9	90.1
Meter Temperature, °R	(Tm)	539.7	552.1	557.5	549.8
Meter Orifice Pressure, in. WC	(ΔH)	1.692	1.283	1.171	1.382
Volume H_2O Collected, mL	(Vlc)	64.1	59.7	53.4	59.1
Nozzle Diameter, in	(Dn)	0.285	0.285	0.285	0.285
Area of Nozzle, ft^2	(An)	0.0004	0.0004	0.0004	0.0004
FH HFPO-DA Mass, ug	$M_{(HFPODA)}$	175	216	361	250.7
BH HFPO-DA Mass, ug	$M_{(HFPODA)}$	108	111	187	135.3
Imp HFPO-DA Mass, ug	$M_{(HFPODA)}$	9.25	5.50	63.3	26.0
Breakthrough HFPO-DA Mass, ug	$M_{(HFPODA)}$	0.664	0.260	2.38	1.1
Total HFPO-DA Mass, ug	$M_{(HFPODA)}$	292.9	332.8	613.7	413.1
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	73.772	65.506	62.831	67.370
Standard Water Volume, ft^3	(Vwstd)	3.023	2.815	2.518	2.786
Moisture Fraction Measured	(BWSmsd)	0.039	0.041	0.039	0.040
Moisture Fraction @ Saturation	(BWSsat)	0.033	0.038	0.043	0.038
Moisture Fraction	(BWS)	0.033	0.038	0.039	0.037
Meter Pressure, in Hg	(Pm)	30.16	30.13	30.13	30.14
Volume at Nozzle, ft^3	(Vn)	78.319	70.259	67.605	72.06
Isokinetic Sampling Rate, (%)	(I)	100.5	103.9	104.6	103.0
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	-0.8	2.1	2.9	1.4
EMISSION CALCULATIONS					
HFPO-DA Concentration, ug/dscm	$C_{(HFPODA)}$	1.4E+02	1.8E+02	3.4E+02	221.5
HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	5.7E-03	6.3E-03	1.2E-02	7.8E-03

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Inlet
Project No. AST-2023-3974
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		9/12/23	9/12/23	9/12/23	--
Start Time		8:05	10:37	13:00	--
Stop Time		9:53	12:36	14:44	--
Run Time, min		96.0	96.0	96.0	96.0
VELOCITY HEAD, in. WC					
Point 1		0.20	0.18	0.21	0.20
Point 2		0.20	0.18	0.22	0.20
Point 3		0.20	0.20	0.22	0.21
Point 4		0.21	0.20	0.21	0.21
Point 5		0.21	0.18	0.21	0.20
Point 6		0.25	0.18	0.19	0.21
Point 7		0.31	0.19	0.19	0.23
Point 8		0.32	0.21	0.20	0.24
Point 9		0.33	0.21	0.20	0.25
Point 10		0.34	0.22	0.19	0.25
Point 11		0.34	0.22	0.19	0.25
Point 12		0.35	0.22	0.19	0.25
Point 13		0.28	0.22	0.18	0.23
Point 14		0.28	0.22	0.18	0.23
Point 15		0.29	0.23	0.19	0.24
Point 16		0.30	0.23	0.19	0.24
Point 17		0.30	0.23	0.18	0.24
Point 18		0.30	0.22	0.19	0.24
Point 19		0.29	0.22	0.19	0.23
Point 20		0.30	0.22	0.18	0.23
Point 21		0.30	0.23	0.19	0.24
Point 22		0.31	0.23	0.19	0.24
Point 23		0.31	0.23	0.19	0.24
Point 24		0.32	0.23	0.19	0.25
CALCULATED DATA					
Square Root of ΔP, (in. WC)$^{1/2}$	(ΔP)	0.532	0.461	0.440	0.478
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	30.04	30.04	30.04	30.04
Static Pressure, in. WC	(Pg)	-1.20	-1.20	-1.20	-1.20
Stack Pressure, in. Hg	(Ps)	29.95	29.95	29.95	29.95
Stack Cross-sectional Area, ft^2	(As)	6.31	6.31	6.31	6.31
Temperature, °F	(Ts)	79.1	83.6	86.8	83.2
Temperature, °R	(Ts)	538.8	543.3	546.5	542.8
Moisture Fraction Measured	(BWSmsd)	0.039	0.041	0.039	0.040
Moisture Fraction @ Saturation	(BWSsat)	0.033	0.038	0.043	0.038
Moisture Fraction	(BWS)	0.033	0.038	0.039	0.037
O_2 Concentration, %	(O_2)	20.9	20.9	20.9	20.90
CO_2 Concentration, %	(CO_2)	0.1	0.1	0.1	0.10
Molecular Weight, lb/lb-mole (dry)	(Md)	28.85	28.85	28.85	28.85
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.49	28.44	28.43	28.45
Velocity, ft/sec	(Vs)	30.3	26.4	25.3	27.4
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	11,481	9,992	9,585	10,353
At Standard Conditions, scfm	(Qsw)	11,257	9,716	9,265	10,079
At Standard Conditions, dscfm	(Qs)	10,884	9,343	8,908	9,712

Cyclonic Flow Check

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Inlet
Project No. AST-2023-3974
Date 09/12/23

Sample Point	Angle (ΔP=0)
1	8
2	10
3	12
4	10
5	8
6	8
7	10
8	12
9	8
10	10
11	10
12	8
13	12
14	15
15	15
16	8
17	12
18	12
19	5
20	8
21	10
22	12
23	10
24	15
Average	10

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Inlet
Project No. AST-2023-3974

Analysis Type	Assumed Ambient

The remaining consistuent is assumed to be nitrogen.

Method 4 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Inlet
Project No. AST-2023-3974
Parameter HFPO-DA
Analysis Gravimetric

Run 1	Date:	9/12/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	303.6	484.2	778.0	709.2	682.3	462.8	291.0	867.9	4579.0
Final Mass, g	321.2	504.2	776.0	710.4	683.1	465.6	303.6	879.0	4643.1
Gain	17.6	20.0	-2.0	1.2	0.8	2.8	12.6	11.1	64.1
Run 2	**Date:**	9/12/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	318.6	522.8	744.2	778.4	482.2	635.2	284.0	897.8	4663.2
Final Mass, g	338.8	537.4	742.2	777.6	485.0	636.1	294.0	911.8	4722.9
Gain	20.2	14.6	-2.0	-0.8	2.8	0.9	10.0	14.0	59.7
Run 3	**Date:**	9/12/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	303.6	485.4	780.4	713.0	625.6	464.0	309.8	770.4	4452.2
Final Mass, g	319.6	499.6	778.2	713.4	625.8	466.8	320.0	782.2	4505.6
Gain	16.0	14.2	-2.2	0.4	0.2	2.8	10.2	11.8	53.4

Alliance TECHNICAL GROUP

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	8:05	**Source:**	PPA Carbon Bed Inlet	
Date:	9/12/23	Run 1 VALID	**End Time:**	9:53	**Project No.:**	AST-2023-3974	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	11		Est. Tm:	90	°F	OTM 45	Pb:	30.04	in. Hg	Vlc (ml)
Barometric:	29.70	in. Hg	Y:	1.007		Est. Ts:	76	°F		Pg:	-1.20	in. WC	64.1
Static Press:	-1.20	in. WC	ΔH @ (in.WC):	1.561		Est. ΔP:	0.19	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	29.61	in. Hg	Probe ID:	P4-1		Est. Dn:	0.277	in.		CO_2:	0.1	%	6.068
CO_2:	0.0	%	Liner Material:	glass		Target Rate:	0.63	scfm					
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECKS	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt. Initial	Final Corr.
N_2/CO:	79.1	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.002	--	--	--	0.001	Mid 1 (cf)	--
Md:	28.84	lb/lb-mole	Nozzle ID:	G-10	glass	Vacuum (in Hg):	15	--	--	--	12	Mid 2 (cf)	--
Ms:	28.62	lb/lb-mole	Nozzle Dn (in.):	0.285		Pitot Tube:	Pass	--	--	--	Pass	Mid 3 (cf)	--
												Mid-Point Leak Check Vol (cf):	--

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (fps)
					DGM Average	Stack				Probe	Filter	Imp Exit	Aux		
					Amb.	Amb.				Amb.	Amb.	Amb.	Amb.		
	Begin	End			69	69	Ideal	Actual		69	69	69	69		
A1	0.00	4.00	933.408	0.20	69	77	1.17	1.15	6	90	89	58	50	98.1	25.56
2	4.00	8.00	935.950	0.20	72	77	1.17	1.20	6	90	90	54	45	97.9	25.56
3	8.00	12.00	938.500	0.20	73	77	1.17	1.20	6	89	90	51	44	98.5	25.56
4	12.00	16.00	941.070	0.21	73	78	1.23	1.25	6	89	90	48	43	98.5	26.21
5	16.00	20.00	943.700	0.21	74	78	1.23	1.25	6	90	89	48	43	99.0	26.21
6	20.00	24.00	946.350	0.25	75	78	1.47	1.45	7	90	90	46	43	97.5	28.60
7	24.00	28.00	949.200	0.31	76	78	1.83	1.85	8	90	90	46	43	94.2	31.85
8	28.00	32.00	952.270	0.32	76	78	1.88	1.90	8	89	90	46	42	99.1	32.36
9	32.00	36.00	955.550	0.33	77	78	1.95	1.95	9	89	89	47	43	98.6	32.86
10	36.00	40.00	958.870	0.34	79	79	2.01	2.00	9	90	89	48	44	100.1	33.38
11	40.00	44.00	962.300	0.34	79	79	2.01	2.00	9	90	90	49	45	96.3	33.38
12	44.00	48.00	965.600	0.35	80	79	2.07	2.10	9	89	90	50	45	98.5	33.87
B1	48.00	52.00	969.032	0.28	82	79	1.66	1.65	10	90	89	52	45	98.0	30.30
2	52.00	56.00	972.100	0.28	82	79	1.66	1.65	10	90	89	54	46	99.0	30.30
3	56.00	60.00	975.200	0.29	82	79	1.72	1.70	10	90	90	54	46	97.3	30.83
4	60.00	64.00	978.300	0.30	83	80	1.78	1.80	10	90	89	54	46	97.2	31.39
5	64.00	68.00	981.450	0.30	84	80	1.79	1.80	10	88	89	54	46	95.5	31.39
6	68.00	72.00	984.550	0.30	85	80	1.79	1.80	10	88	88	55	47	99.9	31.39
7	72.00	76.00	987.800	0.29	86	80	1.73	1.75	10	89	89	55	47	99.8	30.86
8	76.00	80.00	991.000	0.30	86	81	1.79	1.75	11	89	90	56	47	101.3	31.42
9	80.00	84.00	994.300	0.30	87	81	1.79	1.80	11	88	90	56	48	101.1	31.42
10	84.00	88.00	997.600	0.31	87	81	1.85	1.85	11	88	90	56	48	99.5	31.94
11	88.00	92.00	1000.900	0.31	87	81	1.85	1.85	11	89	89	57	48	105.5	31.94
12	92.00	96.00	1004.400	0.32	87	81	1.91	1.90	11	90	90	57	48	98.9	32.45
	Final DGM:		1007.732												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	74.324 ft^3	0.29 in. WC	80.0 °F	79.1 °F	11	1.692 in. WC	100.5	0.033	-0.8

Alliance TECHNICAL GROUP

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	10:37	**Source:**	PPA Carbon Bed Inlet	
Date:	9/12/23	Run 2 VALID	**End Time:**	12:36	**Project No.:**	AST-2023-3974	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	11		Est. Tm:	80	°F	OTM 45	Pb:	30.04	in. Hg	Vlc (ml)
Barometric:	29.70	in. Hg	Y:	1.007		Est. Ts:	79	°F		Pg:	-1.20	in. WC	59.7
Static Press:	-1.20	in. WC	ΔH @ (in.WC):	1.561		Est. ΔP:	0.29	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	29.61	in. Hg	Probe ID:	P4-1		Est. Dn:	0.253	in.		CO_2:	0.1	%	5.92
CO_2:	0.0	%	Liner Material:	glass		Target Rate:	0.63	scfm					
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECKS	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt.	Initial / Final / Corr.
N_2/CO:	79.1	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.003	--	--	--	0.003	Mid 1 (cf)	--
Md:	28.84	lb/lb-mole	Nozzle ID:	G-10	glass	Vacuum (in Hg):	15	--	--	--	15	Mid 2 (cf)	--
Ms:	28.62	lb/lb-mole	Nozzle Dn (in.):	0.285		Pitot Tube:	Pass	--	--	--	Pass	Mid 3 (cf)	--
												Mid-Point Leak Check Vol (cf):	--

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (fps)
					DGM Average	Stack				Probe	Filter	Imp Exit	Aux		
	Begin	End			Amb.	Amb.	Ideal	Actual		Amb.	Amb.	Amb.	Amb.		
					--	--				--	--	--	--		
A1	0.00	4.00	8.950	0.18	86	82	1.07	1.10	6	89	90	60	48	106.9	24.36
2	4.00	8.00	11.650	0.18	87	82	1.08	1.10	6	89	90	57	48	104.8	24.36
3	8.00	12.00	14.300	0.20	88	82	1.20	1.20	6	89	90	55	47	101.1	25.68
4	12.00	16.00	17.000	0.20	88	82	1.20	1.20	6	89	91	55	47	95.5	25.68
5	16.00	20.00	19.550	0.18	89	82	1.08	1.10	6	89	90	54	46	104.4	24.36
6	20.00	24.00	22.200	0.18	89	82	1.08	1.10	6	89	90	54	47	104.4	24.36
7	24.00	28.00	24.850	0.19	90	82	1.14	1.15	6	90	91	55	48	101.4	25.03
8	28.00	32.00	27.500	0.21	91	83	1.26	1.25	6	90	91	56	49	101.9	26.33
9	32.00	36.00	30.300	0.21	92	83	1.26	1.25	6	90	90	56	50	99.9	26.33
10	36.00	40.00	33.050	0.22	93	83	1.33	1.30	6	89	91	56	50	99.2	26.95
11	40.00	44.00	35.850	0.22	93	83	1.33	1.30	7	89	91	57	51	97.4	26.95
12	44.00	48.00	38.600	0.22	93	83	1.33	1.30	7	89	90	57	51	94.4	26.95
B1	48.00	52.00	41.266	0.22	93	83	1.33	1.30	7	89	91	57	51	100.4	26.95
2	52.00	56.00	44.100	0.22	94	84	1.33	1.30	7	89	91	56	51	93.8	26.98
3	56.00	60.00	46.750	0.23	94	84	1.39	1.40	7	90	90	56	51	103.9	27.58
4	60.00	64.00	49.750	0.23	95	84	1.39	1.40	8	90	90	57	51	104.4	27.58
5	64.00	68.00	52.770	0.23	95	84	1.39	1.40	8	90	90	57	51	104.7	27.58
6	68.00	72.00	55.800	0.22	95	85	1.33	1.35	8	89	90	57	51	106.1	27.00
7	72.00	76.00	58.800	0.22	95	85	1.33	1.35	8	89	91	58	50	106.1	27.00
8	76.00	80.00	61.800	0.22	95	85	1.33	1.35	9	89	91	58	50	102.6	27.00
9	80.00	84.00	64.700	0.23	96	85	1.39	1.40	9	89	90	58	50	103.6	27.61
10	84.00	88.00	67.700	0.23	96	86	1.39	1.40	9	90	90	58	51	100.2	27.64
11	88.00	92.00	70.600	0.23	96	86	1.39	1.40	9	90	91	58	51	103.7	27.64
12	92.00	96.00	73.600	0.23	96	86	1.39	1.40	9	90	90	58	52	101.3	27.64
	Final DGM:		76.532												

RESULTS

Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
96.0 min	67.582 ft^3	0.21 in. WC	92.5 °F	83.6 °F	9	1.283 in. WC	103.9	0.038	2.1

Alliance TECHNICAL GROUP

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC			**Start Time:**	13:00	**Source:**	PPA Carbon Bed Inlet
Date:	9/12/23	**Run 3**	VALID	**End Time:**	14:44	**Project No.:**	AST-2023-3974	**Parameter:**	HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	11		Est. Tm:	92	°F	OTM 45	Pb:	30.04	in. Hg	Vlc (ml)
Barometric:	29.70	in. Hg	Y:	1.007		Est. Ts:	84	°F		Pg:	-1.20	in. WC	53.4
Static Press:	-1.20	in. WC	ΔH @ (in.WC):	1.561		Est. ΔP:	0.21	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	29.61	in. Hg	Probe ID:	P4-1		Est. Dn:	0.270	in.		CO_2:	0.1	%	6.010
CO_2:	0.0	%	Liner Material:	glass		Target Rate:	0.63	scfm					
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECKS	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt.	Initial	Final	Corr.
N_2/CO:	79.1	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.002	--	--	--	0.002	Mid 1 (cf)			--
Md:	28.84	lb/lb-mole	Nozzle ID:	G-10	glass	Vacuum (in Hg):	15	--	--	--	15	Mid 2 (cf)			--
Ms:	28.62	lb/lb-mole	Nozzle Dn (in.):	0.285		Pitot Tube:	Pass	--	--	--	Pass	Mid 3 (cf)			--
												Mid-Point Leak Check Vol (cf):			--

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (fps)
					DGM Average	Stack				Probe	Filter	Imp Exit	Aux		
					Amb.	Amb.				Amb.	Amb.	Amb.	Amb.		
	Begin	End			--	--	Ideal	Actual		--	--	--	--		
A1	0.00	4.00	76.737	0.21	96	86	1.27	1.25	8	91	90	54	45	107.1	26.41
2	4.00	8.00	79.700	0.22	96	86	1.33	1.30	8	90	91	54	45	109.5	27.03
3	8.00	12.00	82.800	0.22	96	86	1.33	1.30	8	90	91	54	44	102.5	27.03
4	12.00	16.00	85.700	0.21	97	86	1.27	1.25	8	90	90	53	44	102.9	26.41
5	16.00	20.00	88.550	0.21	97	87	1.27	1.25	8	91	90	53	44	103.0	26.43
6	20.00	24.00	91.400	0.19	97	87	1.15	1.15	8	91	90	53	43	108.2	25.14
7	24.00	28.00	94.250	0.19	97	87	1.15	1.15	8	90	90	53	44	100.6	25.14
8	28.00	32.00	96.900	0.20	98	87	1.21	1.20	8	90	91	53	45	96.1	25.79
9	32.00	36.00	99.500	0.20	98	87	1.21	1.20	8	90	90	54	45	99.8	25.79
10	36.00	40.00	102.200	0.19	98	87	1.15	1.15	8	90	90	54	45	102.3	25.14
11	40.00	44.00	104.900	0.19	98	87	1.15	1.15	9	91	90	54	46	104.2	25.14
12	44.00	48.00	107.650	0.19	98	87	1.15	1.15	9	90	91	55	46	106.0	25.14
B1	48.00	52.00	110.447	0.18	98	87	1.09	1.10	9	90	90	55	46	103.3	24.47
2	52.00	56.00	113.100	0.18	99	87	1.09	1.10	9	90	90	56	47	101.1	24.47
3	56.00	60.00	115.700	0.19	99	87	1.15	1.15	9	91	90	56	47	105.9	25.14
4	60.00	64.00	118.500	0.19	99	87	1.15	1.15	9	91	90	57	48	98.4	25.14
5	64.00	68.00	121.100	0.18	99	87	1.09	1.10	10	90	90	57	48	97.2	24.47
6	68.00	72.00	123.600	0.19	99	87	1.15	1.15	10	90	91	58	49	98.4	25.14
7	72.00	76.00	126.200	0.19	99	87	1.15	1.15	10	90	90	58	49	102.2	25.14
8	76.00	80.00	128.900	0.18	99	87	1.09	1.10	10	91	90	58	49	106.9	24.47
9	80.00	84.00	131.650	0.19	98	87	1.15	1.15	10	90	90	58	48	100.4	25.14
10	84.00	88.00	134.300	0.19	98	87	1.15	1.15	10	90	91	58	48	98.5	25.14
11	88.00	92.00	136.900	0.19	98	87	1.15	1.15	10	90	91	58	48	98.5	25.14
12	92.00	96.00	139.500	0.19	98	87	1.15	1.15	10	90	90	58	49	102.8	25.14
	Final DGM:		142.213												

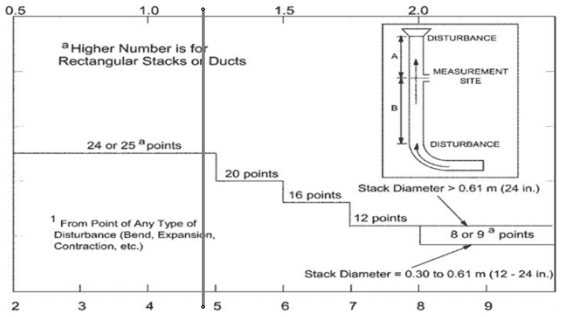
RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	65.476	ft^3	0.19	in. WC	97.9	°F	86.8	°F	10	1.171	in. WC	104.6	0.039	2.9

Method 1 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Outlet
Project No. AST-2023-3974
Date: 09/11/23

Stack Parameters

Duct Orientation:	Vertical	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	46.00	in
Nipple Length:	16.00	in
Depth of Duct:	30.00	in
Cross Sectional Area of Duct:	4.91	ft^2
No. of Test Ports:	2	
Distance A:	32.0	ft
Distance A Duct Diameters:	12.8	**(must be > 0.5)**
Distance B:	12.0	ft
Distance B Duct Diameters:	4.8	**(must be > 2)**
Minimum Number of Traverse Points:	24	
Actual Number of Traverse Points:	24	
Number of Readings per Point:	1	
Measurer (Initial and Date):	JS 9/11/23	
Reviewer (Initial and Date):	AA 9/11/23	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

Number of traverse points on a diameter

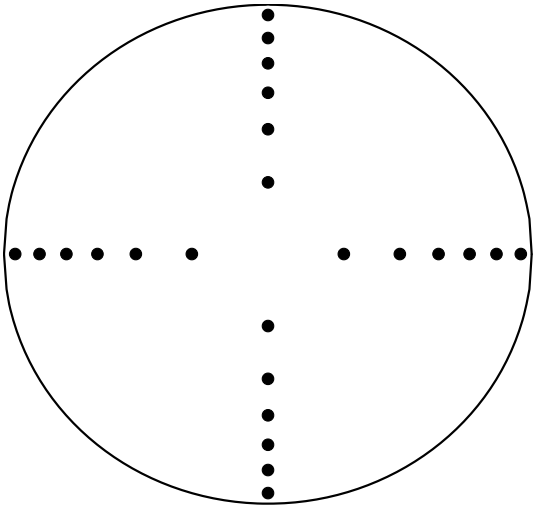
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--	--	--	89.5	--	77.4	--	64.4
8	--	--	--	--	--	--	96.8	--	85.4	--	75.0
9	--	--	--	--	--	--	--	--	91.8	--	82.3
10	--	--	--	--	--	--	--	--	97.4	--	88.2
11	--	--	--	--	--	--	--	--	--	--	93.3
12	--	--	--	--	--	--	--	--	--	--	97.9

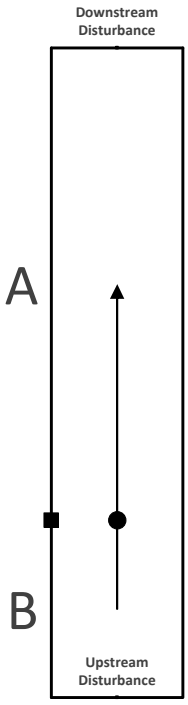
**Percent of stack diameter from inside wall to traverse point.*

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	2.1	1.00	17.00
2	6.7	2.01	18.01
3	11.8	3.54	19.54
4	17.7	5.31	21.31
5	25.0	7.50	23.50
6	35.6	10.68	26.68
7	64.4	19.32	35.32
8	75.0	22.50	38.50
9	82.3	24.69	40.69
10	88.2	26.46	42.46
11	93.3	27.99	43.99
12	97.9	29.00	45.00

Stack Diagram
A = 32 ft.
B = 12 ft.
Depth of Duct = 30 in.

Cross Sectional Area





Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Outlet
Project No. AST-2023-3974
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		9/12/23	9/12/23	9/12/23	--
Start Time		8:05	10:37	13:00	--
Stop Time		9:53	12:36	14:44	--
Run Time, min	(θ)	96.0	96.0	96.0	96.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	30.04	30.04	30.04	30.04
Meter Correction Factor	(Y)	0.989	0.989	0.989	0.989
Orifice Calibration Value	(ΔH @)	1.85	1.85	1.85	1.85
Meter Volume, ft^3	(Vm)	63.553	63.983	63.057	63.531
Meter Temperature, °F	(Tm)	84.5	95.7	102.1	94.1
Meter Temperature, °R	(Tm)	544.2	555.4	561.8	553.8
Meter Orifice Pressure, in. WC	(ΔH)	1.371	1.375	1.338	1.361
Volume H_2O Collected, mL	(Vlc)	66.4	64.6	58.1	63.0
Nozzle Diameter, in	(Dn)	0.255	0.255	0.255	0.255
Area of Nozzle, ft^2	(An)	0.0004	0.0004	0.0004	0.0004
FH HFPO-DA Mass, ug	$M_{(HFPODA)}$	0.395	0.389	0.430	0.4
BH HFPO-DA Mass, ug	$M_{(HFPODA)}$	0.0533	0.121	0.162	0.1
Imp HFPO-DA Mass, ug	$M_{(HFPODA)}$	--	--	--	--
Breakthrough HFPO-DA Mass, ug	$M_{(HFPODA)}$	--	--	0.0120	0.0
Total HFPO-DA Mass, ug	$M_{(HFPODA)}$	0.448	0.510	0.604	0.5
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	61.398	60.566	59.007	60.324
Standard Water Volume, ft^3	(Vwstd)	3.131	3.047	2.740	2.973
Moisture Fraction Measured	(BWSmsd)	0.049	0.048	0.044	0.047
Moisture Fraction @ Saturation	(BWSsat)	0.038	0.036	0.037	0.037
Moisture Fraction	(BWS)	0.038	0.036	0.037	0.037
Meter Pressure, in Hg	(Pm)	30.14	30.14	30.14	30.14
Volume at Nozzle, ft^3	(Vn)	65.975	64.839	63.024	64.61
Isokinetic Sampling Rate, (%)	(I)	102.0	101.2	100.3	101.1
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	0.0	-0.5	-1.2	-0.6
EMISSION CALCULATIONS					
HFPO-DA Concentration, ug/dscm	$C_{(HFPODA)}$	2.6E-01	3.0E-01	3.6E-01	0.3
HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	8.4E-06	9.6E-06	1.1E-05	0.0
REDUCTION CALCULATIONS					
Inlet HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODAi)}$	5.7E-03	6.3E-03	1.2E-02	7.8E-03
Outlet HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	8.4E-06	9.6E-06	1.1E-05	9.8E-06
Reduction Efficiency, %	RE	99.9	99.8	99.9	99.9

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Outlet
Project No. AST-2023-3974
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		9/12/23	9/12/23	9/12/23	--
Start Time		8:05	10:37	13:00	--
Stop Time		9:53	12:36	14:44	--
Run Time, min		96.0	96.0	96.0	96.0
VELOCITY HEAD, in. WC					
Point 1		0.27	0.28	0.28	0.28
Point 2		0.27	0.28	0.28	0.28
Point 3		0.28	0.28	0.28	0.28
Point 4		0.28	0.28	0.28	0.28
Point 5		0.28	0.28	0.28	0.28
Point 6		0.28	0.28	0.28	0.28
Point 7		0.30	0.30	0.28	0.29
Point 8		0.30	0.32	0.28	0.30
Point 9		0.32	0.30	0.29	0.30
Point 10		0.32	0.30	0.29	0.30
Point 11		0.32	0.30	0.29	0.30
Point 12		0.32	0.30	0.30	0.31
Point 13		0.30	0.30	0.27	0.29
Point 14		0.31	0.30	0.27	0.29
Point 15		0.31	0.30	0.27	0.29
Point 16		0.30	0.30	0.28	0.29
Point 17		0.30	0.30	0.28	0.29
Point 18		0.30	0.30	0.28	0.29
Point 19		0.30	0.30	0.30	0.30
Point 20		0.31	0.30	0.30	0.30
Point 21		0.31	0.30	0.30	0.30
Point 22		0.31	0.30	0.30	0.30
Point 23		0.31	0.30	0.30	0.30
Point 24		0.31	0.28	0.30	0.30
CALCULATED DATA					
Square Root of ΔP, (in. WC)$^{1/2}$	(ΔP)	0.548	0.543	0.535	0.542
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	30.04	30.04	30.04	30.04
Static Pressure, in. WC	(Pg)	1.20	1.20	1.20	1.20
Stack Pressure, in. Hg	(Ps)	30.13	30.13	30.13	30.13
Stack Cross-sectional Area, ft^2	(As)	4.91	4.91	4.91	4.91
Temperature, °F	(Ts)	83.6	82.0	82.7	82.8
Temperature, °R	(Ts)	543.3	541.6	542.4	542.4
Moisture Fraction Measured	(BWSmsd)	0.049	0.048	0.044	0.047
Moisture Fraction @ Saturation	(BWSsat)	0.038	0.036	0.037	0.037
Moisture Fraction	(BWS)	0.038	0.036	0.037	0.037
O_2 Concentration, %	(O_2)	20.9	20.9	20.9	20.90
CO_2 Concentration, %	(CO_2)	0.1	0.1	0.1	0.10
Molecular Weight, lb/lb-mole (dry)	(Md)	28.85	28.85	28.85	28.85
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.44	28.46	28.45	28.45
Velocity, ft/sec	(Vs)	31.3	31.0	30.5	31.0
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	9,228	9,129	8,993	9,117
At Standard Conditions, scfm	(Qsw)	9,025	8,955	8,810	8,930
At Standard Conditions, dscfm	(Qs)	8,680	8,631	8,484	8,598

Cyclonic Flow Check

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Outlet
Project No. AST-2023-3974
Date 09/11/23

Sample Point	Angle (ΔP=0)
1	8
2	5
3	10
4	12
5	8
6	5
7	8
8	8
9	5
10	5
11	5
12	5
13	10
14	10
15	8
16	8
17	5
18	8
19	12
20	10
21	8
22	8
23	5
24	5
Average	8

Method 3 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Outlet
Project No. AST-2023-3974

Analysis Type	Assumed Ambient

The remaining consistuent is assumed to be nitrogen.

Method 4 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Outlet
Project No. AST-2023-3974
Parameter HFPO-DA
Analysis Gravimetric

Run 1	Date:	9/12/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	307.6	500.8	727.4	723.2	645.8	486.2	293.4	862.8	4547.2
Final Mass, g	326.4	514.8	732.2	724.6	646.2	488.6	305.8	875.0	4613.6
Gain	18.8	14.0	4.8	1.4	0.4	2.4	12.4	12.2	66.4
Run 2	**Date:**	9/12/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	311.0	485.6	734.2	750.8	623.4	471.4	298.2	898.8	4573.4
Final Mass, g	331.8	501.2	732.8	751.8	623.6	473.2	311.8	911.8	4638.0
Gain	20.8	15.6	-1.4	1.0	0.2	1.8	13.6	13.0	64.6
Run 3	**Date:**	9/12/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	297.0	501.8	736.8	722.6	643.5	487.2	297.8	837.0	4523.7
Final Mass, g	316.8	516.4	736.8	723.4	644.2	488.8	308.6	846.8	4581.8
Gain	19.8	14.6	0.0	0.8	0.7	1.6	10.8	9.8	58.1

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Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	8:05	**Source:**	PPA Carbon Bed Outlet	
Date:	9/12/23	Run 1 VALID	**End Time:**	9:53	**Project No.:**	AST-2023-3974	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT		STACK DATA (EST)		FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	5	Est. Tm:	96 °F	OTM 45	Pb:	30.04 in. Hg	Vlc (ml)
Barometric:	29.70	in. Hg	Y:	0.989	Est. Ts:	77 °F		Pg:	1.20 in. WC	66.4
Static Press:	1.50	in. WC	ΔH @ (in.WC):	1.85	Est. ΔP:	0.32 in. WC		O_2:	20.9 %	K-FACTOR
Stack Press:	29.81	in. Hg	Probe ID:	P4-2	Est. Dn:	0.239 in.		CO_2:	0.1 %	4.678
CO_2:	0.0	%	Liner Material:	glass	Target Rate:	0.61 scfm			Check Pt. Initial Final	Corr.
O_2:	20.9	%	Pitot ID:	P4-2	LEAK CHECKS	Pre Mid 1 Mid 2 Mid 3 Post			Mid 1 (cf)	--
N_2/CO:	79.1	%	Pitot Cp/Type:	0.840 S-type	Leak Rate (cfm):	0.000 -- -- -- 0.000			Mid 2 (cf)	--
Md:	28.84	lb/lb-mole	Nozzle ID:	G-5 glass	Vacuum (in Hg):	10 -- -- -- 10			Mid 3 (cf)	--
Ms:	28.62	lb/lb-mole	Nozzle Dn (in.):	0.255	Pitot Tube:	Pass -- -- -- Pass			Mid-Point Leak Check Vol (cf):	--

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F) DGM Average Amb.	Stack Amb.	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb.	Filter Amb.	Imp Exit Amb.	Aux Amb.	% ISO	Vs (fps)
1	0.00	4.00	430.547	0.27	74	88	1.19	1.20	6	90	90	67	60	100.6	29.90
2	4.00	8.00	433.020	0.27	80	81	1.22	1.20	6	90	90	66	59	99.1	29.71
3	8.00	12.00	435.500	0.28	80	81	1.26	1.25	6	90	90	66	59	102.0	30.25
4	12.00	16.00	438.100	0.28	81	81	1.27	1.30	6	90	90	64	52	97.9	30.25
5	16.00	20.00	440.600	0.28	81	81	1.27	1.30	6	90	90	64	50	97.9	30.25
6	20.00	24.00	443.100	0.28	81	81	1.27	1.30	6	90	90	65	50	97.9	30.25
7	24.00	28.00	445.600	0.30	81	81	1.36	1.35	6	90	90	64	50	104.1	31.31
8	28.00	32.00	448.350	0.30	82	81	1.36	1.35	6	90	90	64	50	107.7	31.31
9	32.00	36.00	451.200	0.32	83	81	1.45	1.45	6	90	90	63	51	98.6	32.34
10	36.00	40.00	453.900	0.32	84	81	1.46	1.45	6	90	90	63	50	98.4	32.34
11	40.00	44.00	456.600	0.32	84	81	1.46	1.45	6	90	90	63	50	105.7	32.34
12	44.00	48.00	459.500	0.32	85	81	1.46	1.50	6	90	90	62	50	98.3	32.34
1	48.00	52.00	462.200	0.30	80	81	1.35	1.35	5	90	90	58	51	98.6	31.31
2	52.00	56.00	464.800	0.31	86	81	1.42	1.45	6	90	91	60	52	99.6	31.83
3	56.00	60.00	467.500	0.31	86	81	1.42	1.45	6	89	91	64	52	99.6	31.83
4	60.00	64.00	470.200	0.30	88	81	1.37	1.40	6	89	90	64	52	93.4	31.31
5	64.00	68.00	472.700	0.30	89	82	1.37	1.40	8	89	90	64	53	100.8	31.34
6	68.00	72.00	475.400	0.30	89	82	1.37	1.40	8	89	91	66	52	100.8	31.34
7	72.00	76.00	478.100	0.30	89	90	1.35	1.35	8	89	91	66	52	94.0	31.57
8	76.00	80.00	480.600	0.31	89	90	1.40	1.40	8	90	90	66	52	99.9	32.09
9	80.00	84.00	483.300	0.31	89	90	1.40	1.40	8	90	90	66	48	107.3	32.09
10	84.00	88.00	486.200	0.31	89	90	1.40	1.40	8	90	90	66	48	99.9	32.09
11	88.00	92.00	488.900	0.31	89	90	1.40	1.40	8	90	90	66	48	99.9	32.09
12	92.00	96.00	491.600	0.31	89	90	1.40	1.40	8	90	90	66	48	92.5	32.09
	Final DGM:		494.100												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	63.553 ft^3	0.30 in. WC	84.5 °F	83.6 °F	8	1.371 in. WC	102.0	0.038	0.0

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Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	10:37	**Source:**	PPA Carbon Bed Outlet	
Date:	9/12/23	Run 2 VALID	**End Time:**	12:36	**Project No.:**	AST-2023-3974	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)		FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	5		Est. Tm:	85 °F	OTM 45	Pb:	30.04 in. Hg	Vlc (ml)
Barometric:	29.70	in. Hg	Y:	0.989		Est. Ts:	84 °F		Pg:	1.20 in. WC	64.6
Static Press:	1.50	in. WC	ΔH @ (in.WC):	1.85		Est. ΔP:	0.30 in. WC		O_2:	20.9 %	K-FACTOR
Stack Press:	29.81	in. Hg	Probe ID:	P4-2		Est. Dn:	0.247 in.		CO_2:	0.1 %	4.53
CO_2:	0.0	%	Liner Material:	glass		Target Rate:	0.61 scfm			Check Pt. Initial Final Corr.	
O_2:	20.9	%	Pitot ID:	P4-2		LEAK CHECKS	Pre Mid 1 Mid 2 Mid 3 Post			Mid 1 (cf) --	
N_2/CO:	79.1	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000 -- -- -- 0.000			Mid 2 (cf) --	
Md:	28.84	lb/lb-mole	Nozzle ID:	G-5	glass	Vacuum (in Hg):	7 -- -- -- 10			Mid 3 (cf) --	
Ms:	28.62	lb/lb-mole	Nozzle Dn (in.):	0.255		Pitot Tube:	Pass -- -- -- Pass			Mid-Point Leak Check Vol (cf): --	

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F) DGM Average Amb. --	Stack Amb. --	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb. --	Filter Amb. --	Imp Exit Amb. --	Aux Amb. --	% ISO	Vs (fps)
1	0.00	4.00	494.300	0.28	87	81	1.28	1.30	6	89	92	59	38	96.9	30.25
2	4.00	8.00	496.800	0.28	91	82	1.29	1.30	6	89	92	44	42	96.2	30.28
3	8.00	12.00	499.300	0.28	92	82	1.29	1.30	6	89	92	44	41	99.9	30.28
4	12.00	16.00	501.900	0.28	93	82	1.29	1.30	6	90	92	44	38	95.9	30.28
5	16.00	20.00	504.400	0.28	94	82	1.29	1.30	6	90	91	45	42	103.4	30.28
6	20.00	24.00	507.100	0.28	95	82	1.30	1.30	6	90	91	45	42	99.4	30.28
7	24.00	28.00	509.700	0.30	95	82	1.39	1.40	6	90	91	47	42	96.0	31.34
8	28.00	32.00	512.300	0.32	95	82	1.48	1.50	6	90	91	47	42	103.7	32.37
9	32.00	36.00	515.200	0.30	95	82	1.39	1.40	6	90	92	44	46	99.7	31.34
10	36.00	40.00	517.900	0.30	95	82	1.39	1.40	6	90	92	44	46	92.3	31.34
11	40.00	44.00	520.400	0.30	95	82	1.39	1.40	7	90	92	47	40	92.3	31.34
12	44.00	48.00	522.900	0.30	96	82	1.39	1.40	7	90	92	46	40	99.5	31.34
1	48.00	52.00	525.600	0.30	96	82	1.39	1.40	7	90	92	46	40	103.2	31.34
2	52.00	56.00	528.400	0.30	96	82	1.39	1.40	7	90	92	46	44	92.2	31.34
3	56.00	60.00	530.900	0.30	96	82	1.39	1.40	7	90	92	46	40	99.5	31.34
4	60.00	64.00	533.600	0.30	96	82	1.39	1.40	7	90	92	47	40	106.9	31.34
5	64.00	68.00	536.500	0.30	96	82	1.39	1.40	7	90	92	47	40	99.5	31.34
6	68.00	72.00	539.200	0.30	96	82	1.39	1.40	7	90	91	47	41	106.9	31.34
7	72.00	76.00	542.100	0.30	97	82	1.39	1.40	7	90	91	47	41	95.7	31.34
8	76.00	80.00	544.700	0.30	99	82	1.40	1.40	7	90	91	47	41	99.0	31.34
9	80.00	84.00	547.400	0.30	99	82	1.40	1.40	7	90	91	48	41	99.0	31.34
10	84.00	88.00	550.100	0.30	101	82	1.40	1.40	7	90	91	50	43	98.7	31.34
11	88.00	92.00	552.800	0.30	101	82	1.40	1.40	7	90	91	50	43	95.0	31.34
12	92.00	96.00	555.400	0.28	101	82	1.31	1.30	7	90	91	50	43	109.0	30.28
	Final DGM:		558.283												

RESULTS

Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
96.0 min	63.983 ft^3	0.30 in. WC	95.7 °F	82.0 °F	7	1.375 in. WC	101.2	0.036	-0.5

Alliance TECHNICAL GROUP

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	13:00	**Source:**	PPA Carbon Bed Outlet	
Date:	9/12/23	Run 3 VALID	**End Time:**	14:44	**Project No.:**	AST-2023-3974	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT		STACK DATA (EST)		FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	5	Est. Tm:	96 °F	OTM 45	Pb:	30.04 in. Hg	Vlc (ml)
Barometric:	29.70	in. Hg	Y:	0.989	Est. Ts:	82 °F		Pg:	1.20 in. WC	58.1
Static Press:	1.50	in. WC	ΔH @ (in.WC):	1.85	Est. ΔP:	0.30 in. WC		O_2:	20.9 %	K-FACTOR
Stack Press:	29.81	in. Hg	Probe ID:	P4-2	Est. Dn:	0.246 in.		CO_2:	0.1 %	4.633
CO_2:	0.0	%	Liner Material:	glass	Target Rate:	0.61 scfm			Check Pt. Initial Final Corr.	
O_2:	20.9	%	Pitot ID:	P4-2	LEAK CHECKS	Pre Mid 1 Mid 2 Mid 3 Post			Mid 1 (cf)	--
N_2/CO:	79.1	%	Pitot Cp/Type:	0.840 S-type	Leak Rate (cfm):	0.000 -- -- -- 0.000			Mid 2 (cf)	--
Md:	28.84	lb/lb-mole	Nozzle ID:	G-5 glass	Vacuum (in Hg):	10 -- -- -- 8			Mid 3 (cf)	--
Ms:	28.62	lb/lb-mole	Nozzle Dn (in.):	0.255	Pitot Tube:	Pass -- -- -- Pass			Mid-Point Leak Check Vol (cf):	--

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F) DGM Average Amb. --	Stack Amb. --	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb. --	Filter Amb. --	Imp Exit Amb. --	Aux Amb. --	% ISO	Vs (fps)
1	0.00	4.00	558.383	0.28	96	82	1.30	1.30	5	90	90	48	50	99.8	30.28
2	4.00	8.00	561.000	0.28	98	82	1.30	1.30	5	90	90	48	50	98.8	30.28
3	8.00	12.00	563.600	0.28	98	82	1.30	1.30	5	91	90	47	47	98.8	30.28
4	12.00	16.00	566.200	0.28	100	82	1.31	1.30	5	90	90	44	47	109.8	30.28
5	16.00	20.00	569.100	0.28	101	82	1.31	1.30	5	90	90	44	47	94.5	30.28
6	20.00	24.00	571.600	0.28	101	82	1.31	1.30	5	90	90	44	47	102.1	30.28
7	24.00	28.00	574.300	0.28	101	82	1.31	1.30	5	91	91	45	47	100.2	30.28
8	28.00	32.00	576.950	0.28	102	83	1.31	1.30	5	91	92	48	49	100.1	30.31
9	32.00	36.00	579.600	0.29	102	83	1.36	1.35	5	91	92	45	49	96.2	30.84
10	36.00	40.00	582.190	0.29	102	83	1.36	1.35	5	91	92	46	50	93.2	30.84
11	40.00	44.00	584.700	0.29	104	83	1.36	1.40	6	91	92	40	50	103.6	30.84
12	44.00	48.00	587.500	0.30	104	83	1.41	1.40	6	91	92	40	50	100.5	31.37
1	48.00	52.00	590.262	0.27	101	83	1.26	1.30	6	92	93	42	52	94.0	29.76
2	52.00	56.00	592.700	0.27	102	83	1.26	1.30	6	92	93	40	49	100.0	29.76
3	56.00	60.00	595.300	0.27	102	83	1.26	1.30	6	92	93	40	49	96.2	29.76
4	60.00	64.00	597.800	0.28	104	83	1.32	1.30	6	92	93	40	48	90.3	30.31
5	64.00	68.00	600.200	0.28	104	83	1.32	1.30	6	91	93	40	48	105.4	30.31
6	68.00	72.00	603.000	0.28	104	83	1.32	1.30	6	91	93	40	48	97.9	30.31
7	72.00	76.00	605.600	0.30	104	83	1.41	1.40	6	91	93	40	48	98.2	31.37
8	76.00	80.00	608.300	0.30	104	83	1.41	1.40	6	90	90	40	48	94.6	31.37
9	80.00	84.00	610.900	0.30	104	83	1.41	1.40	6	90	90	40	48	98.2	31.37
10	84.00	88.00	613.600	0.30	104	83	1.41	1.40	6	90	90	40	48	94.6	31.37
11	88.00	92.00	616.200	0.30	104	83	1.41	1.40	6	90	91	40	48	94.6	31.37
12	92.00	96.00	618.800	0.30	104	83	1.41	1.40	6	90	91	40	48	96.0	31.37
	Final DGM:		621.440												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	63.057 ft^3	0.29 in. WC	102.1 °F	82.7 °F	6	1.338 in. WC	100.3	0.037	-1.2

Appendix C

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Michael Aucoin
The Chemours Company FC, LLC
c/o AECOM
248 Chapman Rd.
Suite 101
Newark, Delaware 19702

Generated 10/26/2023 10:08:23 AM

JOB DESCRIPTION

PPA Carbon Bed Inlet - OTM45

JOB NUMBER

140-33525-1

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville TN 37921

See page two for job notes and contact information.

myEOL

Eurofins Knoxville

Job Notes

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization

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10/26/2023 10:08:23 AM

Authorized for release by
Courtney Adkins, Project Manager II
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Table of Contents

Definitions/Glossary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Inlet - OTM45

Job ID: 140-33525-1

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: 140-33525-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-33525-1

Receipt
The samples were received on 9/14/2023 2:30 PM. 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 1.9º C.

LCMS
Method Dilution: The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): S-1101,1102 PPA CB INLET R1 OTM-45 FH (140-33525-1), S-1103,1104,1106 PPA CB INLET R1 OTM-45 BH (140-33525-2), S-1108,1109 PPA CB INLET R2 OTM-45 FH (140-33525-5), S-1110,1111,1113 PPA CB INLET R2 OTM-45 BH (140-33525-6), S-1115,1116 PPA CB INLET R3 OTM-45 FH (140-33525-9) and S-1117,1118,1120 PPA CB INLET R3 OTM-45 BH (140-33525-10). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): Results for samples S-1119 PPA CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE (140-33525-11) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): The following samples was reported with elevated reporting limits for all analytes: S-1119 PPA CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE (140-33525-11). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: S-1115,1116 PPA CB INLET R3 OTM-45 FH (140-33525-9). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): Results for samples S-1107 PPA CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-33525-4), S-1114 PPA CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-33525-8) and S-1121 PPA CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-33525-12) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: S-1101,1102 PPA CB INLET R1 OTM-45 FH (140-33525-1), S-1103,1104,1106 PPA CB INLET R1 OTM-45 BH (140-33525-2), S-1107 PPA CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-33525-4), S-1108,1109 PPA CB INLET R2 OTM-45 FH (140-33525-5), S-1110,1111,1113 PPA CB INLET R2 OTM-45 BH (140-33525-6), S-1114 PPA CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-33525-8), S-1117,1118,1120 PPA CB INLET R3 OTM-45 BH (140-33525-10) and S-1121 PPA CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-33525-12). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): Results for sample (MB 140-77883/14-B) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): The following sample was reported with elevated reporting limits for all analytes: (MB 140-77883/14-B). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): The method blank for preparation batch 140-77883 and 140-78024 contained HFPO-DA above the reporting limit (RL). The MB had to be ran at a dilution due to suspected contamination during sample prep. The entire sample was consumed during analysis or extraction, therefore, the data have been reported.

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

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

Client Sample ID: S-1101,1102 PPA CB INLET R1 OTM-45 FH

Lab Sample ID: 140-33525-1

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	175		5.06	4.75	ug/Sample		09/20/23 16:24	10/11/23 21:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*80*		*25 - 150*	*09/20/23 16:24*	*10/11/23 21:11*	*1*
13C4 PFOA	*99*		*25 - 150*	*09/20/23 16:24*	*10/11/23 21:11*	*1*

Client Sample ID: S-1103,1104,1106 PPA CB INLET R1 OTM-45 BH

Lab Sample ID: 140-33525-2

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	108		50.0	27.5	ug/Sample		09/19/23 09:07	10/11/23 15:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*09/19/23 09:07*	*10/11/23 15:10*	*1*
13C4 PFOA	*114*		*25 - 150*	*09/19/23 09:07*	*10/11/23 15:10*	*1*

Client Sample ID: S-1105 PPA CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33525-3

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	9.25		0.0750	0.0300	ug/Sample		09/26/23 08:42	09/28/23 13:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*77*		*25 - 150*	*09/26/23 08:42*	*09/28/23 13:12*	*1*

Client Sample ID: S-1107 PPA CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33525-4

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.664		0.200	0.110	ug/Sample		09/19/23 09:07	10/11/23 21:46	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*76*		*25 - 150*	*09/19/23 09:07*	*10/11/23 21:46*	*10*

Client Sample ID: S-1108,1109 PPA CB INLET R2 OTM-45 FH

Lab Sample ID: 140-33525-5

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	216		10.0	9.40	ug/Sample		09/20/23 16:24	10/11/23 21:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	75		25 - 150	09/20/23 16:24	10/11/23 21:20	1
13C4 PFOA	98		25 - 150	09/20/23 16:24	10/11/23 21:20	1

Client Sample ID: S-1110,1111,1113 PPA CB INLET R2 OTM-45 BH

Lab Sample ID: 140-33525-6

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	111		50.0	27.5	ug/Sample		09/19/23 09:07	10/11/23 15:28	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	86		25 - 150	09/19/23 09:07	10/11/23 15:28	1
13C4 PFOA	111		25 - 150	09/19/23 09:07	10/11/23 15:28	1

Client Sample ID: S-1112 PPA CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33525-7

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	5.50		0.0800	0.0320	ug/Sample		09/26/23 08:42	09/28/23 13:29	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	79		25 - 150	09/26/23 08:42	09/28/23 13:29	1

Client Sample ID: S-1114 PPA CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33525-8

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.260		0.100	0.0550	ug/Sample		09/19/23 09:07	10/11/23 21:55	5

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	75		25 - 150	09/19/23 09:07	10/11/23 21:55	5

Client Sample ID: S-1115,1116 PPA CB INLET R3 OTM-45 FH

Lab Sample ID: 140-33525-9

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	361		9.86	9.27	ug/Sample		09/20/23 16:24	10/10/23 20:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*25 - 150*	*09/20/23 16:24*	*10/10/23 20:57*	*1*
13C4 PFOA	*96*		*25 - 150*	*09/20/23 16:24*	*10/10/23 20:57*	*1*

Client Sample ID: S-1117,1118,1120 PPA CB INLET R3 OTM-45 BH

Lab Sample ID: 140-33525-10

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	187		50.0	27.5	ug/Sample		09/19/23 09:07	10/11/23 15:54	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*25 - 150*	*09/19/23 09:07*	*10/11/23 15:54*	*1*
13C4 PFOA	*116*		*25 - 150*	*09/19/23 09:07*	*10/11/23 15:54*	*1*

Client Sample ID: S-1119 PPA CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33525-11

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	63.3		0.800	0.320	ug/Sample		09/26/23 08:42	09/28/23 13:38	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*81*		*25 - 150*	*09/26/23 08:42*	*09/28/23 13:38*	*10*

Client Sample ID: S-1121 PPA CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33525-12

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	2.38		0.400	0.220	ug/Sample		09/19/23 09:07	10/11/23 16:03	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*79*		*25 - 150*	*09/19/23 09:07*	*10/11/23 16:03*	*20*

Default Detection Limits

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Inlet - OTM45

Job ID: 140-33525-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: None

Analyte	RL	MDL	Units
HFPO-DA	0.00500	0.00470	ug/Sample
HFPO-DA	0.0200	0.0110	ug/Sample

Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: PFAS Prep

Analyte	RL	MDL	Units
HFPO-DA	0.000500	0.000200	ug/Sample

Isotope Dilution Summary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Inlet - OTM45

Job ID: 140-33525-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Air

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)	
Lab Sample ID	Client Sample ID	HFPODA (25-150)	PFOA (25-150)
140-33525-1	S-1101,1102 PPA CB INLET R1	80	99
140-33525-2	S-1103,1104,1106 PPA CB INLET R1 OTM-45 BH	92	114
140-33525-3	S-1105 PPA CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	77	
140-33525-4	S-1107 PPA CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	76	
140-33525-5	S-1108,1109 PPA CB INLET R2 OTM-45 FH	75	98
140-33525-6	S-1110,1111,1113 PPA CB INLET R2 OTM-45 BH	86	111
140-33525-7	S-1112 PPA CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	79	
140-33525-8	S-1114 PPA CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	75	
140-33525-9	S-1115,1116 PPA CB INLET R3 OTM-45 FH	91	96
140-33525-10	S-1117,1118,1120 PPA CB INLET R3 OTM-45 BH	85	116
140-33525-11	S-1119 PPA CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	81	
140-33525-12	S-1121 PPA CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	79	
LCS 140-77883/2-B	Lab Control Sample	70	89
LCS 140-77978/2-B	Lab Control Sample	61	69
LCS 140-78174/2-A	Lab Control Sample	82	
LCSD 140-77883/3-B	Lab Control Sample Dup	75	86
LCSD 140-77978/3-B	Lab Control Sample Dup	72	74
LCSD 140-78174/3-A	Lab Control Sample Dup	78	
MB 140-77883/1-B	Method Blank	66	87
MB 140-77978/1-B	Method Blank	63	68
MB 140-78174/14-A	Method Blank	77	
MB 140-78174/1-A	Method Blank	82	

Surrogate Legend

HFPODA = 13C3 HFPO-DA
PFOA = 13C4 PFOA

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Inlet - OTM45

Job ID: 140-33525-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-77883/1-B
Matrix: Air
Analysis Batch: 78868

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 77883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		09/19/23 09:07	10/11/23 13:33	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*66*		*25 - 150*	*09/19/23 09:07*	*10/11/23 13:33*	*1*
13C4 PFOA	*87*		*25 - 150*	*09/19/23 09:07*	*10/11/23 13:33*	*1*

Lab Sample ID: LCS 140-77883/2-B
Matrix: Air
Analysis Batch: 78868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 77883

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02317		ug/Sample		116	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*70*		*25 - 150*
13C4 PFOA	*89*		*25 - 150*

Lab Sample ID: LCSD 140-77883/3-B
Matrix: Air
Analysis Batch: 78868

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 77883

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02426		ug/Sample		121	60 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*75*		*25 - 150*
13C4 PFOA	*86*		*25 - 150*

Lab Sample ID: MB 140-77978/1-B
Matrix: Air
Analysis Batch: 78837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 77978

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		09/20/23 16:24	10/10/23 19:47	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*63*		*25 - 150*	*09/20/23 16:24*	*10/10/23 19:47*	*1*
13C4 PFOA	*68*		*25 - 150*	*09/20/23 16:24*	*10/10/23 19:47*	*1*

Lab Sample ID: LCS 140-77978/2-B
Matrix: Air
Analysis Batch: 78837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 77978

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02109		ug/Sample		105	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*61*		*25 - 150*
13C4 PFOA	*69*		*25 - 150*

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

Lab Sample ID: LCSD 140-77978/3-B
Matrix: Air
Analysis Batch: 78837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 77978

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02032		ug/Sample		102	60 - 140	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*72*		*25 - 150*
13C4 PFOA	*74*		*25 - 150*

Lab Sample ID: MB 140-78174/14-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 78174

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		09/26/23 08:42	09/28/23 13:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*77*		*25 - 150*	*09/26/23 08:42*	*09/28/23 13:21*	*1*

Lab Sample ID: MB 140-78174/1-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 78174

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		09/26/23 08:42	09/28/23 11:08	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*82*		*25 - 150*	*09/26/23 08:42*	*09/28/23 11:08*	*1*

Lab Sample ID: LCS 140-78174/2-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 78174

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.009299		ug/Sample		93	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*82*		*25 - 150*

Lab Sample ID: LCSD 140-78174/3-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 78174

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.009740		ug/Sample		97	60 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*78*		*25 - 150*

QC Association Summary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Inlet - OTM45

Job ID: 140-33525-1

LCMS

Prep Batch: 77883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33525-2	S-1103,1104,1106 PPA CB INLET R1 OTM-45 BH	Total/NA	Air	None	
140-33525-4	S-1107 PPA CB INLET R1 OTM-45 BREAKTHRC	Total/NA	Air	None	
140-33525-6	S-1110,1111,1113 PPA CB INLET R2 OTM-45 BH	Total/NA	Air	None	
140-33525-8	S-1114 PPA CB INLET R2 OTM-45 BREAKTHRC	Total/NA	Air	None	
140-33525-10	S-1117,1118,1120 PPA CB INLET R3 OTM-45 BH	Total/NA	Air	None	
140-33525-12	S-1121 PPA CB INLET R3 OTM-45 BREAKTHRC	Total/NA	Air	None	
MB 140-77883/1-B	Method Blank	Total/NA	Air	None	
LCS 140-77883/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-77883/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 77978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33525-1	S-1101,1102 PPA CB INLET R1 OTM-45 FH	Total/NA	Air	None	
140-33525-5	S-1108,1109 PPA CB INLET R2 OTM-45 FH	Total/NA	Air	None	
140-33525-9	S-1115,1116 PPA CB INLET R3 OTM-45 FH	Total/NA	Air	None	
MB 140-77978/1-B	Method Blank	Total/NA	Air	None	
LCS 140-77978/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-77978/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Cleanup Batch: 78013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33525-1	S-1101,1102 PPA CB INLET R1 OTM-45 FH	Total/NA	Air	Split	77978
140-33525-5	S-1108,1109 PPA CB INLET R2 OTM-45 FH	Total/NA	Air	Split	77978
140-33525-9	S-1115,1116 PPA CB INLET R3 OTM-45 FH	Total/NA	Air	Split	77978
MB 140-77978/1-B	Method Blank	Total/NA	Air	Split	77978
LCS 140-77978/2-B	Lab Control Sample	Total/NA	Air	Split	77978
LCSD 140-77978/3-B	Lab Control Sample Dup	Total/NA	Air	Split	77978

Cleanup Batch: 78024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33525-2	S-1103,1104,1106 PPA CB INLET R1 OTM-45 BH	Total/NA	Air	Split	77883
140-33525-4	S-1107 PPA CB INLET R1 OTM-45 BREAKTHRC	Total/NA	Air	Split	77883
140-33525-6	S-1110,1111,1113 PPA CB INLET R2 OTM-45 BH	Total/NA	Air	Split	77883
140-33525-8	S-1114 PPA CB INLET R2 OTM-45 BREAKTHRC	Total/NA	Air	Split	77883
140-33525-10	S-1117,1118,1120 PPA CB INLET R3 OTM-45 BH	Total/NA	Air	Split	77883
140-33525-12	S-1121 PPA CB INLET R3 OTM-45 BREAKTHRC	Total/NA	Air	Split	77883
MB 140-77883/1-B	Method Blank	Total/NA	Air	Split	77883
LCS 140-77883/2-B	Lab Control Sample	Total/NA	Air	Split	77883
LCSD 140-77883/3-B	Lab Control Sample Dup	Total/NA	Air	Split	77883

Prep Batch: 78174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33525-3	S-1105 PPA CB INLET R1 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
140-33525-7	S-1112 PPA CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
140-33525-11	S-1119 PPA CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
MB 140-78174/14-A	Method Blank	Total/NA	Air	PFAS Prep	
MB 140-78174/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-78174/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-78174/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

QC Association Summary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Inlet - OTM45

Job ID: 140-33525-1

LCMS

Analysis Batch: 78294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33525-3	S-1105 PPA CB INLET R1 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	78174
140-33525-7	S-1112 PPA CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	78174
140-33525-11	S-1119 PPA CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	78174
MB 140-78174/14-A	Method Blank	Total/NA	Air	537 (modified)	78174
MB 140-78174/1-A	Method Blank	Total/NA	Air	537 (modified)	78174
LCS 140-78174/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	78174
LCSD 140-78174/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	78174

Cleanup Batch: 78835

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33525-1	S-1101,1102 PPA CB INLET R1 OTM-45 FH	Total/NA	Air	Dilution	78013
140-33525-2	S-1103,1104,1106 PPA CB INLET R1 OTM-45 BH	Total/NA	Air	Dilution	78024
140-33525-5	S-1108,1109 PPA CB INLET R2 OTM-45 FH	Total/NA	Air	Dilution	78013
140-33525-6	S-1110,1111,1113 PPA CB INLET R2 OTM-45 BH	Total/NA	Air	Dilution	78024
140-33525-9	S-1115,1116 PPA CB INLET R3 OTM-45 FH	Total/NA	Air	Dilution	78013
140-33525-10	S-1117,1118,1120 PPA CB INLET R3 OTM-45 BH	Total/NA	Air	Dilution	78024

Analysis Batch: 78837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33525-9	S-1115,1116 PPA CB INLET R3 OTM-45 FH	Total/NA	Air	537 (modified)	78835
MB 140-77978/1-B	Method Blank	Total/NA	Air	537 (modified)	78013
LCS 140-77978/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	78013
LCSD 140-77978/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	78013

Analysis Batch: 78868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33525-1	S-1101,1102 PPA CB INLET R1 OTM-45 FH	Total/NA	Air	537 (modified)	78835
140-33525-2	S-1103,1104,1106 PPA CB INLET R1 OTM-45 BH	Total/NA	Air	537 (modified)	78835
140-33525-4	S-1107 PPA CB INLET R1 OTM-45 BREAKTHRC	Total/NA	Air	537 (modified)	78024
140-33525-5	S-1108,1109 PPA CB INLET R2 OTM-45 FH	Total/NA	Air	537 (modified)	78835
140-33525-6	S-1110,1111,1113 PPA CB INLET R2 OTM-45 BH	Total/NA	Air	537 (modified)	78835
140-33525-8	S-1114 PPA CB INLET R2 OTM-45 BREAKTHRC	Total/NA	Air	537 (modified)	78024
140-33525-10	S-1117,1118,1120 PPA CB INLET R3 OTM-45 BH	Total/NA	Air	537 (modified)	78835
140-33525-12	S-1121 PPA CB INLET R3 OTM-45 BREAKTHRC	Total/NA	Air	537 (modified)	78024
MB 140-77883/1-B	Method Blank	Total/NA	Air	537 (modified)	78024
LCS 140-77883/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	78024
LCSD 140-77883/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	78024

Client Sample ID: S-1101,1102 PPA CB INLET R1 OTM-45 FH

Lab Sample ID: 140-33525-1

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	91 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			45 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	78835	10/10/23 16:18	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 21:11	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1103,1104,1106 PPA CB INLET R1 OTM-45 BH

Lab Sample ID: 140-33525-2

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Cleanup	Dilution			4 uL	10000 uL	78835	10/10/23 16:18	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 15:10	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1105 PPA CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33525-3

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			.00667 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 13:12	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1107 PPA CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33525-4

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		10	1 mL	1 mL	78868	10/11/23 21:46	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1108,1109 PPA CB INLET R2 OTM-45 FH

Lab Sample ID: 140-33525-5

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	86 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			43 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Cleanup	Dilution			5 uL	10000 uL	78835	10/10/23 16:18	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 21:20	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1110,1111,1113 PPA CB INLET R2 OTM-45 BH

Lab Sample ID: 140-33525-6

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Cleanup	Dilution			4 uL	10000 uL	78835	10/11/23 10:56	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 15:28	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1112 PPA CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33525-7

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			.00625 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 13:29	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1114 PPA CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33525-8

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		5	1 mL	1 mL	78868	10/11/23 21:55	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1115,1116 PPA CB INLET R3 OTM-45 FH

Lab Sample ID: 140-33525-9

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	73 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			37 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Cleanup	Dilution			5 uL	10000 uL	78835	10/10/23 16:18	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 20:57	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1117,1118,1120 PPA CB INLET R3 OTM-45 BH

Lab Sample ID: 140-33525-10

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Cleanup	Dilution			4 uL	10000 uL	78835	10/11/23 10:56	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 15:54	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1119 PPA CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33525-11

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			.00625 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		10	1 mL	1 mL	78294	09/28/23 13:38	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1121 PPA CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33525-12

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		20	1 mL	1 mL	78868	10/11/23 16:03	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-77883/1-B

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 13:33	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-77978/1-B

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 19:47	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-78174/14-A

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 13:21	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-78174/1-A

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:08	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-77883/2-B

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 13:42	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Inlet - OTM45

Job ID: 140-33525-1

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-77978/2-B
Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 19:56	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-78174/2-A
Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:16	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-77883/3-B
Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 13:51	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-77978/3-B
Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 20:05	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-78174/3-A
Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:25	CAC	EET KNX
	Instrument ID: LCA									

Laboratory References:
EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC
Job ID: 140-33525-1
Project/Site: PPA Carbon Bed Inlet - OTM45

Laboratory: Eurofins Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-24
Colorado	State	TN00009	02-29-24
Connecticut	State	PH-0223	09-30-25
Florida	NELAP	E87177	06-30-24
Georgia (DW)	State	906	07-27-25
Hawaii	State	NA	07-27-24
Kansas	NELAP	E-10349	10-31-23
Kentucky (DW)	State	90101	12-31-23
Louisiana (All)	NELAP	83979	06-30-24
Louisiana (DW)	State	LA019	12-31-23
Maryland	State	277	03-31-24
Michigan	State	9933	07-27-25
Nevada	State	TN00009	07-31-24
New Hampshire	NELAP	2999	01-17-24
New Jersey	NELAP	TN001	07-01-24
New York	NELAP	10781	03-31-24
North Carolina (DW)	State	21705	07-31-24
North Carolina (WW/SW)	State	64	12-31-23
Oklahoma	State	9415	12-31-23
Oregon	NELAP	TNI0189	01-01-24
Pennsylvania	NELAP	68-00576	12-01-23
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-23-18	08-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	525-22-279-18762	10-06-25
Utah	NELAP	TN00009	07-31-24
Virginia	NELAP	460176	09-14-24
Washington	State	C593	01-19-24
West Virginia (DW)	State	9955C	12-31-23
West Virginia DEP	State	345	04-30-24
Wisconsin	State	998044300	08-31-24

Method Summary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Inlet - OTM45

Job ID: 140-33525-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET KNX
Dilution	Dilution and Re-fortification of Standards	None	EET KNX
None	Leaching Procedure	TAL SOP	EET KNX
None	Leaching Procedure for Filter	TAL SOP	EET KNX
PFAS Prep	Preparation, Direct Inject PFAS	TAL-SAC	EET KNX
Split	Source Air Split	None	EET KNX

Protocol References:

EPA = US Environmental Protection Agency
None = None
TAL SOP = TestAmerica Laboratories, Standard Operating Procedure
TAL-SAC = Eurofins Sacramento, Facility Standard Operating Procedure.

Laboratory References:

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Sample Summary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Inlet - OTM45

Job ID: 140-33525-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-33525-1	S-1101,1102 PPA CB INLET R1 OTM-45 FH	Air	09/12/23 00:00	09/14/23 14:30
140-33525-2	S-1103,1104,1106 PPA CB INLET R1 OTM-45 BH	Air	09/12/23 00:00	09/14/23 14:30
140-33525-3	S-1105 PPA CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	09/12/23 00:00	09/14/23 14:30
140-33525-4	S-1107 PPA CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/12/23 00:00	09/14/23 14:30
140-33525-5	S-1108,1109 PPA CB INLET R2 OTM-45 FH	Air	09/12/23 00:00	09/14/23 14:30
140-33525-6	S-1110,1111,1113 PPA CB INLET R2 OTM-45 BH	Air	09/12/23 00:00	09/14/23 14:30
140-33525-7	S-1112 PPA CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	09/12/23 00:00	09/14/23 14:30
140-33525-8	S-1114 PPA CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/12/23 00:00	09/14/23 14:30
140-33525-9	S-1115,1116 PPA CB INLET R3 OTM-45 FH	Air	09/12/23 00:00	09/14/23 14:30
140-33525-10	S-1117,1118,1120 PPA CB INLET R3 OTM-45 BH	Air	09/12/23 00:00	09/14/23 14:30
140-33525-11	S-1119 PPA CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	09/12/23 00:00	09/14/23 14:30
140-33525-12	S-1121 PPA CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/12/23 00:00	09/14/23 14:30

Request for Analysis/Chain-of-Custody – RFA/COC #001
The Chemours Company – Fayetteville NC
PFA ~~VES~~ Carbon Bed Inlet

eurofins
Environment Testing
TestAmerica

Project Identification:	Chemours Emissions Test
Client Name:	Chemours Company
Client Contact:	Eddie Vega (910) 678-1938
TestAmerica Contact:	Courtney Adkins (865) 291-3019
TestAmerica Project Manager:	Billy Anderson (865) 291-3080

Analytical Testing QC Requirements:
The Legend for Project-Specific Quality Control Testing is designated in the "QC" column as follows: "BT" = Blank Train, "RB" = Reagent Blank, "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PB" = Proof Blank, "TB" = Trip Blank

Laboratory Deliverable Turnaround Requirements:	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt
Laboratory Destination:	TestAmerica Laboratories, Inc. 5815 Middlebrook Pike Knoxville, TN 37921
Lab Phone Number:	865.291.3000
Courier:	Hand Deliver

Project Deliverables:
Report analytical results on TALS Reports and in data packages. Include "Field Sample Number", "Sample Type", and "Run Number" on all TALS Reports.

Analytical Parameter:	Holding Time Requirements:	Preservation Requirements:
HFPO-DA (CAS No. 13252-13-6)	14 Days to Extraction; 40 Days to Analysis	Cool, 4°C

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
S-1101 ~~VES~~ PFA CB INLET R1 OTM-45 Particulate Filter (Combine with *S-1102*)	1	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
S-1102 ~~VES~~ PFA CB INLET R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse (Combine with *S-1101*) PFA	1	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction. 140-33525 Chain of Custody
S-1103 ~~VES~~ PFA CB INLET R1 OTM-45 XAD-2 Resin Tube	1	9/12/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
S-1104 ~~VES~~ PFA CB INLET R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *S-1103*)	1	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.
S-1105 ~~VES~~ PFA CB INLET R1 OTM-45 Impingers 1,2 & 3 Condensate	1	9/12/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
S-1106 ~~VES~~ PFA CB INLET R1 OTM-45 Impinger Glassware MeOH Rinse (Combine with *S-1103*)	1	9/12/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
S-1107 ~~VES~~ PFA CB INLET R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	9/12/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.
S-1108 ~~VES~~ PFA CB INLET R2 OTM-45 Particulate Filter (Combine with *S-1109*)	2	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
S-1109 ~~VES~~ PFA CB INLET R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *S-1108*)	2	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
S-1110 ~~VES~~ PFA CB INLET R2 OTM-45 XAD-2 Resin Tube	2	9/12/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO. Analyze.
S-1111 ~~VES~~ PFA CB INLET R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *S-1110*)	2	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.
S-1112 ~~VES~~ PFA CB INLET R2 OTM-45 Impingers 1,2 & 3 Condensate	2	9/12/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
S-1113 ~~VES~~ PFA CB INLET R2 OTM-45 Impinger Glassware MeOH Rinse (Combine with *S-1110*)	2	9/12/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
S-1114 ~~VES~~ PFA CB INLET R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	9/12/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
S-1115 VES CB INLET R3 OTM-45 Particulate Filter (Combine with *S-1116*)	3	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
S-1116 VES CB INLET R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *S-1115*)	3	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
S-1117 VES CB INLET R3 OTM-45 XAD-2 Resin Tube	3	9/12/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO.
S-1118 VES CB INLET R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *S-1117*)	3	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using method 8321A-HFPO.
S-1119 VES CB INLET R3 OTM-45 Impingers 1,2 & 3 Condensate	3	9/12/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
S-1120 VES CB INLET R3 OTM-45 Impinger Glassware MeOH Rinse (Combine with *S-1117*)	3	9/12/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
S-1121 VES CB INLET R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	9/12/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	RT 1.8/CT 1.7°C
(3) Record any apparent sample loss/breakage.	
(4) Record any unidentified samples transported with this shipment of samples:	
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformance):	HAND DELIVERED, NO CUSTODY SEAL

Custody Transfer:

		Name	Company	Date/Time
Relinquished By:	Patton Mesy		Alliance TG	9/14/23/1430
Accepted By:	Ryan Lemmon		ETA-KW X	9-14-23 14:30
Relinquished By:				
Accepted By:				
Relinquished By:				
Accepted By:				
Relinquished By:				
Accepted By:				

Loc: 140
33525

10/26/2023

EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?			✓	☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : S676 Correction factor: -0.1°C	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?			✓	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: _____ PM Instructions: _____

Sample Receiving Associate: _____ Date: 9-15-23

QA026R32.doc, 062719

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Michael Aucoin
The Chemours Company FC, LLC
c/o AECOM
248 Chapman Rd.
Suite 101
Newark, Delaware 19702

Generated 10/26/2023 10:01:00 AM

JOB DESCRIPTION

PPA Carbon Bed Outlet - OTM45

JOB NUMBER

140-33521-1

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville TN 37921

See page two for job notes and contact information.

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization

Generated
10/26/2023 10:01:00 AM

Authorized for release by
Courtney Adkins, Project Manager II
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(865)291-3019

Table of Contents

Definitions/Glossary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Outlet - OTM45

Job ID: 140-33521-1

Qualifiers

LCMS

Qualifier	Qualifier Description
I	Value is EMPC (estimated maximum possible concentration).
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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: 140-33521-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-33521-1

Receipt
The samples were received on 9/14/2023 2:30 PM. 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 2.7º C.

LCMS
Method 537 (modified): Results for samples S-1129,1130 PPA CB OUTLET R1 OTM-45 FH (140-33521-1), S-1136,1137 PPA CB OUTLET R2 OTM-45 FH (140-33521-5) and S-1143,1144 PPA CB OUTLET R3 OTM-45 FH (140-33521-9) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: S-1129,1130 PPA CB OUTLET R1 OTM-45 FH (140-33521-1), S-1136,1137 PPA CB OUTLET R2 OTM-45 FH (140-33521-5) and S-1143,1144 PPA CB OUTLET R3 OTM-45 FH (140-33521-9). The sample was analyzed at a dilution based on screening results.

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

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

Client Sample ID: S-1129,1130 PPA CB OUTLET R1 OTM-45 FH

Lab Sample ID: 140-33521-1

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.395		0.0250	0.0235	ug/Sample		09/20/23 16:24	10/10/23 20:13	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*70*		*25 - 150*	*09/20/23 16:24*	*10/10/23 20:13*	*5*

Client Sample ID: S-1131,1132,1134 PPA CB OUTLET R1 OTM-45 BH

Lab Sample ID: 140-33521-2

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0533	I	0.0200	0.0110	ug/Sample		09/19/23 09:07	10/11/23 13:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*108*		*25 - 150*	*09/19/23 09:07*	*10/11/23 13:59*	*1*

Client Sample ID: S-1133 PPA CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33521-3

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0787	0.0315	ug/Sample		09/26/23 08:42	09/28/23 11:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*81*		*25 - 150*	*09/26/23 08:42*	*09/28/23 11:34*	*1*

Client Sample ID: S-1135 PPA CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33521-4

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		09/19/23 09:07	10/11/23 14:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*25 - 150*	*09/19/23 09:07*	*10/11/23 14:08*	*1*

Client Sample ID: S-1136,1137 PPA CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-33521-5

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.389		0.0246	0.0232	ug/Sample		09/20/23 16:24	10/10/23 20:22	5

Client Sample ID: S-1136,1137 PPA CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-33521-5

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	70		25 - 150	09/20/23 16:24	10/10/23 20:22	5

Client Sample ID: S-1138,1139,1141 PPA CB OUTLET R2 OTM-45 BH

Lab Sample ID: 140-33521-6

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.121	I	0.0200	0.0110	ug/Sample		09/19/23 09:07	10/11/23 14:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	88		25 - 150	09/19/23 09:07	10/11/23 14:17	1

Client Sample ID: S-1140 PPA CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33521-7

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0775	0.0310	ug/Sample		09/26/23 08:42	09/28/23 11:43	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	77		25 - 150	09/26/23 08:42	09/28/23 11:43	1

Client Sample ID: S-1142 PPA CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33521-8

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		09/19/23 09:07	10/11/23 14:26	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		25 - 150	09/19/23 09:07	10/11/23 14:26	1

Client Sample ID: S-1143,1144 PPA CB OUTLET R3 OTM-45 FH

Lab Sample ID: 140-33521-9

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.430		0.0250	0.0235	ug/Sample		09/20/23 16:24	10/10/23 20:31	5

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80		25 - 150	09/20/23 16:24	10/10/23 20:31	5

Client Sample ID: S-1145,1146,1148 PPA CB OUTLET R3 OTM-45 BH

Lab Sample ID: 140-33521-10

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.162	I	0.0200	0.0110	ug/Sample		09/19/23 09:07	10/11/23 14:35	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	113		25 - 150	09/19/23 09:07	10/11/23 14:35	1

Client Sample ID: S-1147 PPA CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33521-11

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0800	0.0320	ug/Sample		09/26/23 08:42	09/28/23 11:52	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	76		25 - 150	09/26/23 08:42	09/28/23 11:52	1

Client Sample ID: S-1149 PPA CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33521-12

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0120	J	0.0200	0.0110	ug/Sample		09/19/23 09:07	10/11/23 15:01	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	74		25 - 150	09/19/23 09:07	10/11/23 15:01	1

Default Detection Limits

Client: The Chemours Company FC, LLC
Job ID: 140-33521-1
Project/Site: PPA Carbon Bed Outlet - OTM45

Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: None

Analyte	RL	MDL	Units
HFPO-DA	0.00500	0.00470	ug/Sample
HFPO-DA	0.0200	0.0110	ug/Sample

Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: PFAS Prep

Analyte	RL	MDL	Units
HFPO-DA	0.000500	0.000200	ug/Sample

Isotope Dilution Summary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Outlet - OTM45

Job ID: 140-33521-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Air

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HFPODA (25-150)						
140-33521-1	S-1129,1130 PPA CB OUTLET F	70						
140-33521-2	S-1131,1132,1134 PPA CB OUTLET R1 OTM-45 BH	108						
140-33521-3	S-1133 PPA CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	81						
140-33521-4	S-1135 PPA CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	85						
140-33521-5	S-1136,1137 PPA CB OUTLET R2 OTM-45 FH	70						
140-33521-6	S-1138,1139,1141 PPA CB OUTLET R2 OTM-45 BH	88						
140-33521-7	S-1140 PPA CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	77						
140-33521-8	S-1142 PPA CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	92						
140-33521-9	S-1143,1144 PPA CB OUTLET R3 OTM-45 FH	80						
140-33521-10	S-1145,1146,1148 PPA CB OUTLET R3 OTM-45 BH	113						
140-33521-11	S-1147 PPA CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	76						
140-33521-12	S-1149 PPA CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	74						
LCS 140-77883/2-B	Lab Control Sample	70						
LCS 140-77978/2-B	Lab Control Sample	61						
LCS 140-78174/2-A	Lab Control Sample	82						
LCSD 140-77883/3-B	Lab Control Sample Dup	75						
LCSD 140-77978/3-B	Lab Control Sample Dup	72						
LCSD 140-78174/3-A	Lab Control Sample Dup	78						
MB 140-77883/1-B	Method Blank	66						
MB 140-77978/1-B	Method Blank	63						
MB 140-78174/1-A	Method Blank	82						

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-77883/1-B
Matrix: Air
Analysis Batch: 78868

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 77883

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		09/19/23 09:07	10/11/23 13:33	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*66*		*25 - 150*	*09/19/23 09:07*	*10/11/23 13:33*	*1*

Lab Sample ID: LCS 140-77883/2-B
Matrix: Air
Analysis Batch: 78868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 77883

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02317		ug/Sample		116	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*70*		*25 - 150*

Lab Sample ID: LCSD 140-77883/3-B
Matrix: Air
Analysis Batch: 78868

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 77883

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02426		ug/Sample		121	60 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*75*		*25 - 150*

Lab Sample ID: MB 140-77978/1-B
Matrix: Air
Analysis Batch: 78837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 77978

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		09/20/23 16:24	10/10/23 19:47	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*63*		*25 - 150*	*09/20/23 16:24*	*10/10/23 19:47*	*1*

Lab Sample ID: LCS 140-77978/2-B
Matrix: Air
Analysis Batch: 78837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 77978

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02109		ug/Sample		105	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*61*		*25 - 150*

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

Lab Sample ID: LCSD 140-77978/3-B
Matrix: Air
Analysis Batch: 78837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 77978

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02032		ug/Sample		102	60 - 140	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*72*		*25 - 150*

Lab Sample ID: MB 140-78174/1-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 78174

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		09/26/23 08:42	09/28/23 11:08	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*82*		*25 - 150*	*09/26/23 08:42*	*09/28/23 11:08*	*1*

Lab Sample ID: LCS 140-78174/2-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 78174

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.009299		ug/Sample		93	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*82*		*25 - 150*

Lab Sample ID: LCSD 140-78174/3-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 78174

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.009740		ug/Sample		97	60 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*78*		*25 - 150*

LCMS

Prep Batch: 77883

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33521-2	S-1131,1132,1134 PPA CB OUTLET R1 OTM-45	Total/NA	Air	None	
140-33521-4	S-1135 PPA CB OUTLET R1 OTM-45 BREAKTHI	Total/NA	Air	None	
140-33521-6	S-1138,1139,1141 PPA CB OUTLET R2 OTM-45	Total/NA	Air	None	
140-33521-8	S-1142 PPA CB OUTLET R2 OTM-45 BREAKTHI	Total/NA	Air	None	
140-33521-10	S-1145,1146,1148 PPA CB OUTLET R3 OTM-45	Total/NA	Air	None	
140-33521-12	S-1149 PPA CB OUTLET R3 OTM-45 BREAKTHI	Total/NA	Air	None	
MB 140-77883/1-B	Method Blank	Total/NA	Air	None	
LCS 140-77883/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-77883/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 77978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33521-1	S-1129,1130 PPA CB OUTLET R1 OTM-45 FH	Total/NA	Air	None	
140-33521-5	S-1136,1137 PPA CB OUTLET R2 OTM-45 FH	Total/NA	Air	None	
140-33521-9	S-1143,1144 PPA CB OUTLET R3 OTM-45 FH	Total/NA	Air	None	
MB 140-77978/1-B	Method Blank	Total/NA	Air	None	
LCS 140-77978/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-77978/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Cleanup Batch: 78013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33521-1	S-1129,1130 PPA CB OUTLET R1 OTM-45 FH	Total/NA	Air	Split	77978
140-33521-5	S-1136,1137 PPA CB OUTLET R2 OTM-45 FH	Total/NA	Air	Split	77978
140-33521-9	S-1143,1144 PPA CB OUTLET R3 OTM-45 FH	Total/NA	Air	Split	77978
MB 140-77978/1-B	Method Blank	Total/NA	Air	Split	77978
LCS 140-77978/2-B	Lab Control Sample	Total/NA	Air	Split	77978
LCSD 140-77978/3-B	Lab Control Sample Dup	Total/NA	Air	Split	77978

Cleanup Batch: 78024

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33521-2	S-1131,1132,1134 PPA CB OUTLET R1 OTM-45	Total/NA	Air	Split	77883
140-33521-4	S-1135 PPA CB OUTLET R1 OTM-45 BREAKTHI	Total/NA	Air	Split	77883
140-33521-6	S-1138,1139,1141 PPA CB OUTLET R2 OTM-45	Total/NA	Air	Split	77883
140-33521-8	S-1142 PPA CB OUTLET R2 OTM-45 BREAKTHI	Total/NA	Air	Split	77883
140-33521-10	S-1145,1146,1148 PPA CB OUTLET R3 OTM-45	Total/NA	Air	Split	77883
140-33521-12	S-1149 PPA CB OUTLET R3 OTM-45 BREAKTHI	Total/NA	Air	Split	77883
MB 140-77883/1-B	Method Blank	Total/NA	Air	Split	77883
LCS 140-77883/2-B	Lab Control Sample	Total/NA	Air	Split	77883
LCSD 140-77883/3-B	Lab Control Sample Dup	Total/NA	Air	Split	77883

Prep Batch: 78174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33521-3	S-1133 PPA CB OUTLET R1 OTM-45 IMPINGER	Total/NA	Air	PFAS Prep	
140-33521-7	S-1140 PPA CB OUTLET R2 OTM-45 IMPINGER	Total/NA	Air	PFAS Prep	
140-33521-11	S-1147 PPA CB OUTLET R3 OTM-45 IMPINGER	Total/NA	Air	PFAS Prep	
MB 140-78174/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-78174/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-78174/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

QC Association Summary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Outlet - OTM45

Job ID: 140-33521-1

LCMS

Analysis Batch: 78294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33521-3	S-1133 PPA CB OUTLET R1 OTM-45 IMPINGER	Total/NA	Air	537 (modified)	78174
140-33521-7	S-1140 PPA CB OUTLET R2 OTM-45 IMPINGER	Total/NA	Air	537 (modified)	78174
140-33521-11	S-1147 PPA CB OUTLET R3 OTM-45 IMPINGER	Total/NA	Air	537 (modified)	78174
MB 140-78174/1-A	Method Blank	Total/NA	Air	537 (modified)	78174
LCS 140-78174/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	78174
LCSD 140-78174/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	78174

Analysis Batch: 78837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33521-1	S-1129,1130 PPA CB OUTLET R1 OTM-45 FH	Total/NA	Air	537 (modified)	78013
140-33521-5	S-1136,1137 PPA CB OUTLET R2 OTM-45 FH	Total/NA	Air	537 (modified)	78013
140-33521-9	S-1143,1144 PPA CB OUTLET R3 OTM-45 FH	Total/NA	Air	537 (modified)	78013
MB 140-77978/1-B	Method Blank	Total/NA	Air	537 (modified)	78013
LCS 140-77978/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	78013
LCSD 140-77978/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	78013

Analysis Batch: 78868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33521-2	S-1131,1132,1134 PPA CB OUTLET R1 OTM-45	Total/NA	Air	537 (modified)	78024
140-33521-4	S-1135 PPA CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	78024
140-33521-6	S-1138,1139,1141 PPA CB OUTLET R2 OTM-45	Total/NA	Air	537 (modified)	78024
140-33521-8	S-1142 PPA CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	78024
140-33521-10	S-1145,1146,1148 PPA CB OUTLET R3 OTM-45	Total/NA	Air	537 (modified)	78024
140-33521-12	S-1149 PPA CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	78024
MB 140-77883/1-B	Method Blank	Total/NA	Air	537 (modified)	78024
LCS 140-77883/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	78024
LCSD 140-77883/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	78024

Lab Chronicle

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Outlet - OTM45

Job ID: 140-33521-1

Client Sample ID: S-1129,1130 PPA CB OUTLET R1 OTM-45 FH

Lab Sample ID: 140-33521-1
Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	64 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			32 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		5	1 mL	1 mL	78837	10/10/23 20:13	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1131,1132,1134 PPA CB OUTLET R1 OTM-45 BH

Lab Sample ID: 140-33521-2
Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 13:59	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1133 PPA CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33521-3
Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			.00635 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:34	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1135 PPA CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33521-4
Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 14:08	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1136,1137 PPA CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-33521-5
Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	67 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			34 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		5	1 mL	1 mL	78837	10/10/23 20:22	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1138,1139,1141 PPA CB OUTLET R2 OTM-45 BH

Lab Sample ID: 140-33521-6

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 14:17	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1140 PPA CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33521-7

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			.00645 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:43	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1142 PPA CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33521-8

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 14:26	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1143,1144 PPA CB OUTLET R3 OTM-45 FH

Lab Sample ID: 140-33521-9

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	56 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			28 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		5	1 mL	1 mL	78837	10/10/23 20:31	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1145,1146,1148 PPA CB OUTLET R3 OTM-45 BH

Lab Sample ID: 140-33521-10

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 14:35	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1147 PPA CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-33521-11

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			.00625 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:52	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: S-1149 PPA CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-33521-12

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 15:01	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-77883/1-B

Date Collected: N/A
Date Received: N/A

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 13:33	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-77978/1-B

Date Collected: N/A
Date Received: N/A

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 19:47	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Outlet - OTM45

Job ID: 140-33521-1

Client Sample ID: Method Blank
Lab Sample ID: MB 140-78174/1-A

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:08	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-77883/2-B

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 13:42	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-77978/2-B

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 19:56	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-78174/2-A

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:16	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-77883/3-B

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	77883	09/19/23 09:07	RPT	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78024	09/21/23 13:04	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 13:51	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-77978/3-B

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 20:05	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-78174/3-A

Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:25	CAC	EET KNX

Instrument ID: LCA

Laboratory References:

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC
Job ID: 140-33521-1
Project/Site: PPA Carbon Bed Outlet - OTM45

Laboratory: Eurofins Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-24
Colorado	State	TN00009	02-29-24
Connecticut	State	PH-0223	09-30-25
Florida	NELAP	E87177	06-30-24
Georgia (DW)	State	906	07-27-25
Hawaii	State	NA	07-27-24
Kansas	NELAP	E-10349	10-31-23
Kentucky (DW)	State	90101	12-31-23
Louisiana (All)	NELAP	83979	06-30-24
Louisiana (DW)	State	LA019	12-31-23
Maryland	State	277	03-31-24
Michigan	State	9933	07-27-25
Nevada	State	TN00009	07-31-24
New Hampshire	NELAP	2999	01-17-24
New Jersey	NELAP	TN001	07-01-24
New York	NELAP	10781	03-31-24
North Carolina (DW)	State	21705	07-31-24
North Carolina (WW/SW)	State	64	12-31-23
Oklahoma	State	9415	12-31-23
Oregon	NELAP	TNI0189	01-01-24
Pennsylvania	NELAP	68-00576	12-01-23
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-23-18	08-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	525-22-279-18762	10-06-25
Utah	NELAP	TN00009	07-31-24
Virginia	NELAP	460176	09-14-24
Washington	State	C593	01-19-24
West Virginia (DW)	State	9955C	12-31-23
West Virginia DEP	State	345	04-30-24
Wisconsin	State	998044300	08-31-24

Method Summary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Outlet - OTM45

Job ID: 140-33521-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET KNX
None	Leaching Procedure	TAL SOP	EET KNX
None	Leaching Procedure for Filter	TAL SOP	EET KNX
PFAS Prep	Preparation, Direct Inject PFAS	TAL-SAC	EET KNX
Split	Source Air Split	None	EET KNX

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

TAL-SAC = Eurofins Sacramento, Facility Standard Operating Procedure.

Laboratory References:

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Sample Summary

Client: The Chemours Company FC, LLC
Project/Site: PPA Carbon Bed Outlet - OTM45

Job ID: 140-33521-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-33521-1	S-1129,1130 PPA CB OUTLET R1 OTM-45 FH	Air	09/12/23 00:00	09/14/23 14:30
140-33521-2	S-1131,1132,1134 PPA CB OUTLET R1 OTM-45 BH	Air	09/12/23 00:00	09/14/23 14:30
140-33521-3	S-1133 PPA CB OUTLET R1 OTM-45 IMPINGER 1,2&3 CONDENSATE	Air	09/12/23 00:00	09/14/23 14:30
140-33521-4	S-1135 PPA CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/12/23 00:00	09/14/23 14:30
140-33521-5	S-1136,1137 PPA CB OUTLET R2 OTM-45 FH	Air	09/12/23 00:00	09/14/23 14:30
140-33521-6	S-1138,1139,1141 PPA CB OUTLET R2 OTM-45 BH	Air	09/12/23 00:00	09/14/23 14:30
140-33521-7	S-1140 PPA CB OUTLET R2 OTM-45 IMPINGER 1,2&3 CONDENSATE	Air	09/12/23 00:00	09/14/23 14:30
140-33521-8	S-1142 PPA CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/12/23 00:00	09/14/23 14:30
140-33521-9	S-1143,1144 PPA CB OUTLET R3 OTM-45 FH	Air	09/12/23 00:00	09/14/23 14:30
140-33521-10	S-1145,1146,1148 PPA CB OUTLET R3 OTM-45 BH	Air	09/12/23 00:00	09/14/23 14:30
140-33521-11	S-1147 PPA CB OUTLET R3 OTM-45 IMPINGER 1,2&3 CONDENSATE	Air	09/12/23 00:00	09/14/23 14:30
140-33521-12	S-1149 PPA CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/12/23 00:00	09/14/23 14:30

Request for Analysis/Chain-of-Custody – RFA/COC #002
The Chemours Company – Fayetteville NC
VES Carbon Bed Outlet

eurofins Environment Testing TestAmerica

Project Identification:	Chemours Emissions Test
Client Name:	The Chemours Company FC, LLC
Client Contact:	Eddie Vega (910) 678-1938
TestAmerica Project Manager:	Ms. Courtney Adkins Office: (865) 291-3019
TestAmerica Program Manager:	Mr. Billy Anderson Office: (865) 291-3080 Cell: (865) 206-9004

Analytical Testing QC Requirements:
The Legend for ProjecV-Specific Quality Control Testing is designated in the "QC" column as follows: "BT" = Blank Train, "RB" = Reagent Blank, "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PB" = Proof Blank, "TB" = Trip Blank

Laboratory Deliverable Turnaround Requirements:	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt
Laboratory Destination:	Eurofins TestAmerica 5815 Middlebrook Pike Knoxville, TN
Lab Phone Number:	(865) 291-3000
Courier:	Hand Deliver

Project Deliverables:
Report analytical results on TALS Report form Std_Tal_L4. Include "Field Sample Number", "Sample Type", and "Run Number" on all TALS Reports.

Analytical Parameter:	Holding Time Requirements:
HFPO-DA (CAS No. 13252-13-6)	14 Days to Extraction; 40 Days to Analysis

140-33521 Chain of Custody

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
S-1129 ~~VES~~ PFA CB OUTLET R1 OTM-45 Filter (Combine with *V-1130*) ~~PFA~~ PPA	1	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using Method 8321A-HFPO.
S-1130 ~~VES~~ CB OUTLET R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse (Combine with *V-1129*) ~~PFA~~ PPA	1	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
S-1131 ~~VES~~ CB OUTLET R1 OTM-45 XAD-2 Resin Tube	1	9/12/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using Method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
S-1132 ~~VES~~ CB OUTLET R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *V-1131*)	1	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
S-1133 ~~VES~~ CB OUTLET R1 OTM-45 Impingers 1,2 & 3 Condensate	1	9/12/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
S-1134 ~~VES~~ CB OUTLET R1 OTM-45 Impinger Glassware MeOH Rinse (Combine with *V-1131*)	1	9/12/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
S-1135 ~~VES~~ CB OUTLET R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	9/12/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
S-1136 ~~VES~~ CB OUTLET R2 OTM-45 Filter (Combine with *V-1137*)	2	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using Method 8321A-HFPO.
S-1137 ~~VES~~ CB OUTLET R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *V-1136*)	2	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
PPA S-1138 ~~VES~~ CB OUTLET R2 OTM-45 XAD-2 Resin Tube PPA	2	9/12/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using Method 8321A-HFPO.
S-1139 ~~VES~~ CB OUTLET R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *V-1138*)	2	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
PPA S-1140 ~~VES~~ CB OUTLET R2 OTM-45 Impingers 1,2 & 3 Condensate	2	9/12/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
PPA S-1141 ~~VES~~ CB OUTLET R2 OTM-45 Impinger Glassware MeOH Rinse (Combine with *V-1138*)	2	9/12/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
PPA S-1142 ~~VES~~ CB OUTLET R2 OTM-45 Breakthrough XAD-2 Resin Tube PPA	2	9/12/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
S-1143 ~~VES~~ CB OUTLET R3 OTM-45 Filter (Combine with *V-1144*)	3	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using Method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
S-1144 ~~VES~~ PFA CB OUTLET R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *V-1143*)	3	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
S-1145 ~~VES~~ PFA CB OUTLET R3 OTM-45 XAD-2 Resin Tube	3	9/12/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using Method 8321A-HFPO.
S-1146 ~~VES~~ PFA CB OUTLET R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *V-1145*)	3	9/12/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
S-1147 ~~VES~~ PFA CB OUTLET R3 OTM-45 Impingers 1,2 & 3 Condensate	3	9/12/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
S-1148 ~~VES~~ PFA CB OUTLET R3 OTM-45 Impinger Glassware MeOH Rinse (Combine with *V-1145*)	3	9/12/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
S-1149 ~~VES~~ PFA CB OUTLET R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	9/12/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using Method 8321A-HFPO.

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	NONE
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	RT 2.8/CT 2.7°C
(3) Record any apparent sample loss/breakage.	NONE
(4) Record any unidentified samples transported with this shipment of samples:	NONE
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	HAND DELIVERED, NO CUSTODY SEALS

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:		Alliance TG	9/14/23/1430
Accepted By:		FTK WX	9-14-23 14:30
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?	Comments/Actions Taken
1. Are the shipping containers intact?	✓			☐ Containers, Broken	
2. Were ambient air containers received intact?			✓	☐ Checked in lab	
3. The coolers/containers custody seal if present, is it intact?			✓	☐ Yes ☐ NA	
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : S176 Correction factor: -0.1°C	✓			☐ Cooler Out of Temp, Client Contacted, Proceed/Cancel ☐ Cooler Out of Temp, Same Day Receipt	
5. Were all of the sample containers received intact?	✓			☐ Containers, Broken	
6. Were samples received in appropriate containers?	✓			☐ Containers, Improper; Client Contacted; Proceed/Cancel	
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ COC & Samples Do Not Match ☐ COC Incorrect/Incomplete ☐ COC Not Received	
8. Were all of the samples listed on the COC received?	✓			☐ Sample Received, Not on COC ☐ Sample on COC, Not Received	
9. Is the date/time of sample collection noted?	✓			☐ COC; No Date/Time; Client Contacted	
10. Was the sampler identified on the COC?			✓	☐ Sampler Not Listed on COC	**Labeling Verified by:** **Date:**
11. Is the client and project name/# identified?	✓			☐ COC Incorrect/Incomplete	
12. Are tests/parameters listed for each sample?	✓			☐ COC No tests on COC	**pH test strip lot number:**
13. Is the matrix of the samples noted?	✓			☐ COC Incorrect/Incomplete	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ COC Incorrect/Incomplete	
15. Were samples received within holding time?	✓			☐ Holding Time - Receipt	
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ pH Adjusted, pH Included (See box 16A) ☐ Incorrect Preservative	
17. Were VOA samples received without headspace?			✓	☐ Headspace (VOA only)	
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ Residual Chlorine	
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust	
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info	

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: ____ PM Instructions: ____

Sample Receiving Associate: [signature] Date: 9-15-23

QA026R32.doc, 062719

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

Attn: Michael Aucoin
The Chemours Company FC, LLC
c/o AECOM
248 Chapman Rd.
Suite 101
Newark, Delaware 19702

Generated 10/27/2023 8:14:33 AM

JOB DESCRIPTION

Carbon Bed Field QC - OTM-45

JOB NUMBER

140-33526-1

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville TN 37921

See page two for job notes and contact information.

myEOL

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins TestAmerica Project Manager.

Authorization

Generated
10/27/2023 8:14:33 AM

Authorized for release by
Courtney Adkins, Project Manager II
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(865)291-3019

Table of Contents

Definitions/Glossary

Client: The Chemours Company FC, LLC
Project/Site: Carbon Bed Field QC - OTM-45

Job ID: 140-33526-1

Qualifiers

LCMS

Qualifier	Qualifier Description
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.

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: 140-33526-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-33526-1

Receipt
The samples were received on 9/14/2023 2:30 PM. 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 2.3º C.

LCMS
Method 537 (modified): After initial analysis analyst notice sample was not spiked with IDA during prep however did contain internal standard. Sample was post-spiked with IDA and re-analyzed. Project manager was notified and results have been reported.
N-1165 QC OTM-45 MEOH WITH 5% NH4OH RB (140-33526-6)

Method 537 (modified): Reanalysis of the following sample was performed outside of the analytical holding time due to not being spiked with IDA during prep. Sample was post-spiked and re-analyzed. : N-1165 QC OTM-45 MEOH WITH 5% NH4OH RB (140-33526-6).

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

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

Client Sample ID: N-1157,1158 QC OTM-45 FH PBT

Lab Sample ID: 140-33526-1

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.00553		0.00494	0.00464	ug/Sample		09/20/23 16:24	10/10/23 21:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*73*		*25 - 150*	*09/20/23 16:24*	*10/10/23 21:24*	*1*

Client Sample ID: N-1159,1160,1162 QC OTM-45 BH PBT

Lab Sample ID: 140-33526-2

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		09/25/23 11:01	10/11/23 19:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*09/25/23 11:01*	*10/11/23 19:52*	*1*

Client Sample ID: N-1161 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE PBT

Lab Sample ID: 140-33526-3

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0775	0.0310	ug/Sample		09/26/23 08:42	09/28/23 13:47	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*76*		*25 - 150*	*09/26/23 08:42*	*09/28/23 13:47*	*1*

Client Sample ID: N-1163 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE PBT

Lab Sample ID: 140-33526-4

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		09/25/23 11:01	10/11/23 20:01	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*87*		*25 - 150*	*09/25/23 11:01*	*10/11/23 20:01*	*1*

Client Sample ID: N-1164 QC OTM-45 DI WATER RB

Lab Sample ID: 140-33526-5

Date Collected: 09/12/23 00:00
Matrix: Air
Date Received: 09/14/23 14:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0250	0.0100	ug/Sample		09/26/23 08:42	09/28/23 13:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*83*		*25 - 150*	*09/26/23 08:42*	*09/28/23 13:56*	*1*

Client Sample ID: N-1165 QC OTM-45 MEOH WITH 5% NH4OH RB

Lab Sample ID: 140-33526-6

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND	H	0.0200	0.0110	ug/Sample		09/25/23 11:01	10/25/23 09:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*78*		*25 - 150*	*09/25/23 11:01*	*10/25/23 09:51*	*1*

Client Sample ID: N-1166,1167 QC OTM-45 FH BT

Lab Sample ID: 140-33526-7

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00492	0.00463	ug/Sample		09/20/23 16:24	10/10/23 21:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*70*		*25 - 150*	*09/20/23 16:24*	*10/10/23 21:33*	*1*

Client Sample ID: N-1168,1169,1171 QC OTM-45 BH BT

Lab Sample ID: 140-33526-8

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		09/25/23 11:01	10/11/23 20:36	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*86*		*25 - 150*	*09/25/23 11:01*	*10/11/23 20:36*	*1*

Client Sample ID: N-1170 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE BT

Lab Sample ID: 140-33526-9

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0775	0.0310	ug/Sample		09/26/23 08:42	09/28/23 14:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*81*		*25 - 150*	*09/26/23 08:42*	*09/28/23 14:05*	*1*

Client Sample ID: N-1172 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE BT

Lab Sample ID: 140-33526-10

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		09/25/23 11:01	10/11/23 20:45	1

Client: The Chemours Company FC, LLC
Project/Site: Carbon Bed Field QC - OTM-45

Job ID: 140-33526-1

Client Sample ID: N-1172 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE BT

Lab Sample ID: 140-33526-10

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	73		25 - 150	09/25/23 11:01	10/11/23 20:45	1

Client Sample ID: A-1766 OTM-45 MEDIA CHECK XAD

Lab Sample ID: 140-33526-11

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		09/25/23 11:01	10/11/23 20:54	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	79		25 - 150	09/25/23 11:01	10/11/23 20:54	1

Client Sample ID: A-1767 OTM-45 MEDIA CHECK FILTER

Lab Sample ID: 140-33526-12

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		09/20/23 16:24	10/10/23 21:41	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	65		25 - 150	09/20/23 16:24	10/10/23 21:41	1

Default Detection Limits

Client: The Chemours Company FC, LLC
Job ID: 140-33526-1
Project/Site: Carbon Bed Field QC - OTM-45

Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: None

Analyte	RL	MDL	Units
HFPO-DA	0.00500	0.00470	ug/Sample
HFPO-DA	0.0200	0.0110	ug/Sample

Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: PFAS Prep

Analyte	RL	MDL	Units
HFPO-DA	0.000500	0.000200	ug/Sample

Isotope Dilution Summary

Client: The Chemours Company FC, LLC
Project/Site: Carbon Bed Field QC - OTM-45

Job ID: 140-33526-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Matrix: Air

Prep Type: Total/NA

		Percent Isotope Dilution Recovery (Acceptance Limits)						
Lab Sample ID	Client Sample ID	HFPODA (25-150)						
140-33526-1	N-1157,1158 QC OTM-45 FH PE	73						
140-33526-2	N-1159,1160,1162 QC OTM-45 BH PBT	90						
140-33526-3	N-1161 QC OTM-45 IMPINGER 1,2&3 CONDENSATE PBT	76						
140-33526-4	N-1163 QC OTM-45 BREAKTHROUGH XAD-2 RESI TUBE PBT	87						
140-33526-5	N-1164 QC OTM-45 DI WATER RB	83						
140-33526-6	N-1165 QC OTM-45 MEOH WITH 5% NH4OH RB	78						
140-33526-7	N-1166,1167 QC OTM-45 FH BT	70						
140-33526-8	N-1168,1169,1171 QC OTM-45 BH BT	86						
140-33526-9	N-1170 QC OTM-45 IMPINGER 1,2&3 CONDENSATE BT	81						
140-33526-10	N-1172 QC OTM-45 BREAKTHROUGH XAD-2 RESI TUBE BT	73						
140-33526-11	A-1766 OTM-45 MEDIA CHECK XAD	79						
140-33526-12	A-1767 OTM-45 MEDIA CHECK FILTER	65						
LCS 140-77978/2-B	Lab Control Sample	61						
LCS 140-78136/2-B	Lab Control Sample	70						
LCS 140-78174/2-A	Lab Control Sample	82						
LCSD 140-77978/3-B	Lab Control Sample Dup	72						
LCSD 140-78136/3-B	Lab Control Sample Dup	66						
LCSD 140-78174/3-A	Lab Control Sample Dup	78						
MB 140-77978/1-B	Method Blank	63						
MB 140-78136/1-B	Method Blank	66						
MB 140-78174/14-A	Method Blank	77						
MB 140-78174/1-A	Method Blank	82						

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-77978/1-B
Matrix: Air
Analysis Batch: 78837

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 77978

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		09/20/23 16:24	10/10/23 19:47	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*63*		*25 - 150*	*09/20/23 16:24*	*10/10/23 19:47*	*1*

Lab Sample ID: LCS 140-77978/2-B
Matrix: Air
Analysis Batch: 78837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 77978

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02109		ug/Sample		105	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*61*		*25 - 150*

Lab Sample ID: LCSD 140-77978/3-B
Matrix: Air
Analysis Batch: 78837

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 77978

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02032		ug/Sample		102	60 - 140	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*72*		*25 - 150*

Lab Sample ID: MB 140-78136/1-B
Matrix: Air
Analysis Batch: 78868

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 78136

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		09/25/23 11:01	10/11/23 19:26	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*66*		*25 - 150*	*09/25/23 11:01*	*10/11/23 19:26*	*1*

Lab Sample ID: LCS 140-78136/2-B
Matrix: Air
Analysis Batch: 78868

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 78136

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02061		ug/Sample		103	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*70*		*25 - 150*

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

Lab Sample ID: LCSD 140-78136/3-B
Matrix: Air
Analysis Batch: 78868

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 78136

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02169		ug/Sample		108	60 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*66*		*25 - 150*

Lab Sample ID: MB 140-78174/14-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 78174

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		09/26/23 08:42	09/28/23 13:21	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*77*		*25 - 150*	*09/26/23 08:42*	*09/28/23 13:21*	*1*

Lab Sample ID: MB 140-78174/1-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 78174

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		09/26/23 08:42	09/28/23 11:08	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*82*		*25 - 150*	*09/26/23 08:42*	*09/28/23 11:08*	*1*

Lab Sample ID: LCS 140-78174/2-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 78174

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.009299		ug/Sample		93	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*82*		*25 - 150*

Lab Sample ID: LCSD 140-78174/3-A
Matrix: Air
Analysis Batch: 78294

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 78174

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.009740		ug/Sample		97	60 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*78*		*25 - 150*

QC Association Summary

Client: The Chemours Company FC, LLC
Project/Site: Carbon Bed Field QC - OTM-45

Job ID: 140-33526-1

LCMS

Prep Batch: 77978

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33526-1	N-1157,1158 QC OTM-45 FH PBT	Total/NA	Air	None	
140-33526-7	N-1166,1167 QC OTM-45 FH BT	Total/NA	Air	None	
140-33526-12	A-1767 OTM-45 MEDIA CHECK FILTER	Total/NA	Air	None	
MB 140-77978/1-B	Method Blank	Total/NA	Air	None	
LCS 140-77978/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-77978/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Cleanup Batch: 78013

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33526-1	N-1157,1158 QC OTM-45 FH PBT	Total/NA	Air	Split	77978
140-33526-7	N-1166,1167 QC OTM-45 FH BT	Total/NA	Air	Split	77978
140-33526-12	A-1767 OTM-45 MEDIA CHECK FILTER	Total/NA	Air	Split	77978
MB 140-77978/1-B	Method Blank	Total/NA	Air	Split	77978
LCS 140-77978/2-B	Lab Control Sample	Total/NA	Air	Split	77978
LCSD 140-77978/3-B	Lab Control Sample Dup	Total/NA	Air	Split	77978

Prep Batch: 78136

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33526-2	N-1159,1160,1162 QC OTM-45 BH PBT	Total/NA	Air	None	
140-33526-4	N-1163 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	None	
140-33526-6	N-1165 QC OTM-45 MEOH WITH 5% NH4OH RI	Total/NA	Air	None	
140-33526-8	N-1168,1169,1171 QC OTM-45 BH BT	Total/NA	Air	None	
140-33526-10	N-1172 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	None	
140-33526-11	A-1766 OTM-45 MEDIA CHECK XAD	Total/NA	Air	None	
MB 140-78136/1-B	Method Blank	Total/NA	Air	None	
LCS 140-78136/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-78136/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 78174

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33526-3	N-1161 QC OTM-45 IMPINGERS 1,2&3 CONDEI	Total/NA	Air	PFAS Prep	
140-33526-5	N-1164 QC OTM-45 DI WATER RB	Total/NA	Air	PFAS Prep	
140-33526-9	N-1170 QC OTM-45 IMPINGERS 1,2&3 CONDEI	Total/NA	Air	PFAS Prep	
MB 140-78174/14-A	Method Blank	Total/NA	Air	PFAS Prep	
MB 140-78174/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-78174/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-78174/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Cleanup Batch: 78264

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33526-2	N-1159,1160,1162 QC OTM-45 BH PBT	Total/NA	Air	Split	78136
140-33526-4	N-1163 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	Split	78136
140-33526-6	N-1165 QC OTM-45 MEOH WITH 5% NH4OH RI	Total/NA	Air	Split	78136
140-33526-8	N-1168,1169,1171 QC OTM-45 BH BT	Total/NA	Air	Split	78136
140-33526-10	N-1172 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	Split	78136
140-33526-11	A-1766 OTM-45 MEDIA CHECK XAD	Total/NA	Air	Split	78136
MB 140-78136/1-B	Method Blank	Total/NA	Air	Split	78136
LCS 140-78136/2-B	Lab Control Sample	Total/NA	Air	Split	78136
LCSD 140-78136/3-B	Lab Control Sample Dup	Total/NA	Air	Split	78136

QC Association Summary

Client: The Chemours Company FC, LLC
Project/Site: Carbon Bed Field QC - OTM-45

Job ID: 140-33526-1

LCMS

Analysis Batch: 78294

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33526-3	N-1161 QC OTM-45 IMPINGERS 1,2&3 CONDEI	Total/NA	Air	537 (modified)	78174
140-33526-5	N-1164 QC OTM-45 DI WATER RB	Total/NA	Air	537 (modified)	78174
140-33526-9	N-1170 QC OTM-45 IMPINGERS 1,2&3 CONDEI	Total/NA	Air	537 (modified)	78174
MB 140-78174/14-A	Method Blank	Total/NA	Air	537 (modified)	78174
MB 140-78174/1-A	Method Blank	Total/NA	Air	537 (modified)	78174
LCS 140-78174/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	78174
LCSD 140-78174/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	78174

Analysis Batch: 78837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33526-1	N-1157,1158 QC OTM-45 FH PBT	Total/NA	Air	537 (modified)	78013
140-33526-7	N-1166,1167 QC OTM-45 FH BT	Total/NA	Air	537 (modified)	78013
140-33526-12	A-1767 OTM-45 MEDIA CHECK FILTER	Total/NA	Air	537 (modified)	78013
MB 140-77978/1-B	Method Blank	Total/NA	Air	537 (modified)	78013
LCS 140-77978/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	78013
LCSD 140-77978/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	78013

Analysis Batch: 78868

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33526-2	N-1159,1160,1162 QC OTM-45 BH PBT	Total/NA	Air	537 (modified)	78264
140-33526-4	N-1163 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	537 (modified)	78264
140-33526-8	N-1168,1169,1171 QC OTM-45 BH BT	Total/NA	Air	537 (modified)	78264
140-33526-10	N-1172 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	537 (modified)	78264
140-33526-11	A-1766 OTM-45 MEDIA CHECK XAD	Total/NA	Air	537 (modified)	78264
MB 140-78136/1-B	Method Blank	Total/NA	Air	537 (modified)	78264
LCS 140-78136/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	78264
LCSD 140-78136/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	78264

Analysis Batch: 79451

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-33526-6	N-1165 QC OTM-45 MEOH WITH 5% NH4OH RE	Total/NA	Air	537 (modified)	78264

Client Sample ID: N-1157,1158 QC OTM-45 FH PBT

Lab Sample ID: 140-33526-1

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	81 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			41 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 21:24	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: N-1159,1160,1162 QC OTM-45 BH PBT

Lab Sample ID: 140-33526-2

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	78136	09/25/23 11:01	PRR	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78264	09/27/23 11:49	PRR	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 19:52	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: N-1161 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE PBT

Lab Sample ID: 140-33526-3

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			.00645 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 13:47	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: N-1163 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE PBT

Lab Sample ID: 140-33526-4

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	78136	09/25/23 11:01	PRR	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78264	09/27/23 11:49	PRR	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 20:01	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: N-1164 QC OTM-45 DI WATER RB

Lab Sample ID: 140-33526-5

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			.02 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 13:56	CAC	EET KNX

Instrument ID: LCA

Lab Chronicle

Client: The Chemours Company FC, LLC
Project/Site: Carbon Bed Field QC - OTM-45

Job ID: 140-33526-1

Client Sample ID: N-1165 QC OTM-45 MEOH WITH 5% NH4OH RB

Lab Sample ID: 140-33526-6

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	78136	09/25/23 11:01	PRR	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78264	09/27/23 11:49	PRR	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	79451	10/25/23 09:51	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: N-1166,1167 QC OTM-45 FH BT

Lab Sample ID: 140-33526-7

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	63 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			32 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 21:33	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: N-1168,1169,1171 QC OTM-45 BH BT

Lab Sample ID: 140-33526-8

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	78136	09/25/23 11:01	PRR	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78264	09/27/23 11:49	PRR	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 20:36	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: N-1170 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE BT

Lab Sample ID: 140-33526-9

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			.00645 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 14:05	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: N-1172 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE BT

Lab Sample ID: 140-33526-10

Date Collected: 09/12/23 00:00
Date Received: 09/14/23 14:30

Matrix: Air

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	78136	09/25/23 11:01	PRR	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78264	09/27/23 11:49	PRR	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 20:45	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: A-1766 OTM-45 MEDIA CHECK XAD

Lab Sample ID: 140-33526-11

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	78136	09/25/23 11:01	PRR	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78264	09/27/23 11:49	PRR	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 20:54	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: A-1767 OTM-45 MEDIA CHECK FILTER

Lab Sample ID: 140-33526-12

Date Collected: 09/12/23 00:00

Matrix: Air

Date Received: 09/14/23 14:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 21:41	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-77978/1-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 19:47	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-78136/1-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	78136	09/25/23 11:01	PRR	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78264	09/27/23 11:49	PRR	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 19:26	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-78174/14-A

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 13:21	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Project/Site: Carbon Bed Field QC - OTM-45

Job ID: 140-33526-1

Client Sample ID: Method Blank — Lab Sample ID: MB 140-78174/1-A

Date Collected: N/A — **Matrix: Air**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:08	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 140-77978/2-B

Date Collected: N/A — **Matrix: Air**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 19:56	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 140-78136/2-B

Date Collected: N/A — **Matrix: Air**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	78136	09/25/23 11:01	PRR	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78264	09/27/23 11:49	PRR	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 19:34	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample — Lab Sample ID: LCS 140-78174/2-A

Date Collected: N/A — **Matrix: Air**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:16	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup — Lab Sample ID: LCSD 140-77978/3-B

Date Collected: N/A — **Matrix: Air**
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	77978	09/20/23 16:24	RPT	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	78013	09/21/23 11:50	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78837	10/10/23 20:05	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-78136/3-B

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	78136	09/25/23 11:01	PRR	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	78264	09/27/23 11:49	PRR	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78868	10/11/23 19:43	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup

Lab Sample ID: LCSD 140-78174/3-A

Date Collected: N/A

Matrix: Air

Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	78174	09/26/23 08:42	RPT	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	78294	09/28/23 11:25	CAC	EET KNX
	Instrument ID: LCA									

Laboratory References:

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC
Job ID: 140-33526-1
Project/Site: Carbon Bed Field QC - OTM-45

Laboratory: Eurofins Knoxville

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-24
Colorado	State	TN00009	02-29-24
Connecticut	State	PH-0223	09-30-25
Florida	NELAP	E87177	06-30-24
Georgia (DW)	State	906	07-27-25
Hawaii	State	NA	07-27-24
Kansas	NELAP	E-10349	10-31-23
Kentucky (DW)	State	90101	12-31-23
Louisiana (All)	NELAP	83979	06-30-24
Louisiana (DW)	State	LA019	12-31-23
Maryland	State	277	03-31-24
Michigan	State	9933	07-27-25
Nevada	State	TN00009	07-31-24
New Hampshire	NELAP	2999	01-17-24
New Jersey	NELAP	TN001	07-01-24
New York	NELAP	10781	03-31-24
North Carolina (DW)	State	21705	07-31-24
North Carolina (WW/SW)	State	64	12-31-23
Oklahoma	State	9415	12-31-23
Oregon	NELAP	TNI0189	01-01-24
Pennsylvania	NELAP	68-00576	12-01-23
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-23-18	08-31-24
US Fish & Wildlife	US Federal Programs	058448	07-31-24
USDA	US Federal Programs	525-22-279-18762	10-06-25
Utah	NELAP	TN00009	07-31-24
Virginia	NELAP	460176	09-14-24
Washington	State	C593	01-19-24
West Virginia (DW)	State	9955C	12-31-23
West Virginia DEP	State	345	04-30-24
Wisconsin	State	998044300	08-31-24

Method Summary

Client: The Chemours Company FC, LLC
Project/Site: Carbon Bed Field QC - OTM-45

Job ID: 140-33526-1

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	EET KNX
None	Leaching Procedure	TAL SOP	EET KNX
None	Leaching Procedure for Filter	TAL SOP	EET KNX
PFAS Prep	Preparation, Direct Inject PFAS	TAL-SAC	EET KNX
Split	Source Air Split	None	EET KNX

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

TAL-SAC = Eurofins Sacramento, Facility Standard Operating Procedure.

Laboratory References:

EET KNX = Eurofins Knoxville, 5815 Middlebrook Pike, Knoxville, TN 37921, TEL (865)291-3000

Sample Summary

Client: The Chemours Company FC, LLC
Project/Site: Carbon Bed Field QC - OTM-45

Job ID: 140-33526-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-33526-1	N-1157,1158 QC OTM-45 FH PBT	Air	09/12/23 00:00	09/14/23 14:30
140-33526-2	N-1159,1160,1162 QC OTM-45 BH PBT	Air	09/12/23 00:00	09/14/23 14:30
140-33526-3	N-1161 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE PBT	Air	09/12/23 00:00	09/14/23 14:30
140-33526-4	N-1163 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE PBT	Air	09/12/23 00:00	09/14/23 14:30
140-33526-5	N-1164 QC OTM-45 DI WATER RB	Air	09/12/23 00:00	09/14/23 14:30
140-33526-6	N-1165 QC OTM-45 MEOH WITH 5% NH4OH RI	Air	09/12/23 00:00	09/14/23 14:30
140-33526-7	N-1166,1167 QC OTM-45 FH BT	Air	09/12/23 00:00	09/14/23 14:30
140-33526-8	N-1168,1169,1171 QC OTM-45 BH BT	Air	09/12/23 00:00	09/14/23 14:30
140-33526-9	N-1170 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE BT	Air	09/12/23 00:00	09/14/23 14:30
140-33526-10	N-1172 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE BT	Air	09/12/23 00:00	09/14/23 14:30
140-33526-11	A-1766 OTM-45 MEDIA CHECK XAD	Air	09/12/23 00:00	09/14/23 14:30
140-33526-12	A-1767 OTM-45 MEDIA CHECK FILTER	Air	09/12/23 00:00	09/14/23 14:30

Request for Analysis/Chain-of-Custody – RFA/COC #003
The Chemours Company – Fayetteville NC
Carbon Bed Field QC Samples

eurofins | Environment Testing America

Project Identification:	Chemours Emissions Test
Client Name:	The Chemours Company FC, LLC
Client Contact:	Eddie Vega (910) 678-1938
TestAmerica Project Manager:	Courtney Adkins Office: (865) 291-3019
TestAmerica Program Manager:	Billy Anderson Office: (865) 291-3080 Cell: (865) 206-9004

Laboratory Deliverable Turnaround Requirements:	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt

Analytical Testing QC Requirements:
The Legend for ProjecB- Specific Quality Control Testing is designated in the "QC" column as follows: "BT" = Blank Train, "RB" = Reagent Blank, "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PB" = Proof Blank, "TB" = Trip Blank

Laboratory Destination:	Eurofins TestAmerica 5815 Middlebrook Pike Knoxville, TN 37921
Lab Phone Number:	865.291.3000
Courier:	Hand Deliver

Project Deliverables:
Report analytical results on TALS Report form Std_Tal_L4. Include "Field Sample Number", "Sample Type", and "Run Number" on all TALS Reports.

Analytical Parameter:	Holding Time Requirements:	Preservation Requirements:
HFPO-DA (CAS No. 13252-13-6) & PFOA (CAS No. 335-67-1)	14 Days to Extraction; 40 Days to Analysis	Cool, 4°C

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
N-1157 QC OTM-45 Filter PBT (Combine with *N-1158*)	QC	9/12/23	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Filter sample. Analyze for HFPO-DA.
N-1158 QC OTM-45 FH of Filter Holder & Probe MeOH Rinse PBT (Combine with *N-1157*)	QC	9/12/23	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Filter extraction.
N-1159 QC OTM-45 XAD-2 Resin Tube PBT	QC	9/12/23	Proof Blank Train	XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA.

140-33526 Chain of Custody

Request for Analysis/Chain-of-Custody – RFA/COC #003
The Chemours Company – Fayetteville NC
Carbon Bed Field QC Samples

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Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
N-1160 QC OTM-45 BH of Filter Holder & Coil Condenser MeOH Rinse PBT (Combine with *N-1159*)	QC	9/12/23	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA.
N-1161 QC OTM-45 Impingers 1,2 & 3 Condensate PBT	QC	9/12/23	Proof Blank Train	1 Liter HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Analyze for HFPO-DA.
N-1162 QC OTM-45 Impinger Glassware MeOH Rinse PBT (Combine with *N-1159)*	QC	9/12/23	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
N-1163 QC OTM-45 Breakthrough XAD-2 Resin Tube PBT	QC	9/12/23	Proof Blank Train	XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA.
N-1164 QC OTM-45 DI Water RB	QC	9/12/23	Reagent Blank	250 mL HDPE Wide-Mouth Bottle	**Deionized (DI) Water Reagent Blank** OTM-45 Reagent Blank HFPO-DA Analysis	**Knoxville**: Analyze for HFPO-DA.
N-1165 QC OTM-45 MeOH with 5% NH_4OH RB	QC	9/12/23	Reagent Blank	250 mL HDPE Wide-Mouth Bottle	**Methanol with 5% NH_4OH Reagent Blank** OTM-45 Reagent Blank HFPO-DA Analysis	**Knoxville**: Analyze for HFPO-DA.

Request for Analysis/Chain-of-Custody – RFA/COC #003
The Chemours Company – Fayetteville NC
Carbon Bed Field QC Samples

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Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
N-1166 QC OTM-45 Filter BT (Combine with *N-1167*)	QC	9/12/23	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Filter sample. Analyze for HFPO-DA.
N-1167 QC OTM-45 FH of Filter Holder & Probe MeOH Rinse BT (Combine with *N-1166*)	QC	9/12/23	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Filter extraction.
N-1168 QC OTM-45 XAD-2 Resin Tube BT	QC	9/12/23	Field Blank Train	XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA.
N-1169 QC OTM-45 BH of Filter Holder & Coil Condenser MeOH Rinse BT (Combine with *N-1168*)	QC	9/12/23	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA.
N-1170 QC OTM-45 Impingers 1,2 & 3 Condensate BT	QC	9/12/23	Field Blank Train	1 Liter HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Analyze for HFPO-DA.

Request for Analysis/Chain-of-Custody – RFA/COC #003
The Chemours Company – Fayetteville NC
Carbon Bed Field QC Samples

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Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
N-1171 QC OTM-45 Impinger Glassware MeOH Rinse BT (Combine with *N-1168)*	QC	9/12/23	Field Blank Train	250 mL HDPE Wide- Mouth Bottle	**Impinger Glassware** **Methanol/5%** **Ammonium Hydroxide** **Rinse** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
N-1172 QC OTM-45 Breakthrough XAD-2 Resin Tube BT	QC	9/12/23	Field Blank Train	XAD-2 Resin Tube	**Breakthrough XAD-2** **Resin Tube** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA.

Request for Analysis/Chain-of-Custody – RFA/COC #003
The Chemours Company – Fayetteville NC
Carbon Bed Field QC Samples

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Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	NONE
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	RT 2.4/CT 2.3°C
(3) Record any aQ2rent sample loss/breakage.	NONE
(4) Record any unidentified samples transported with this shipment of samples:	NONE
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	HAND DELIVERED, NO CUSTODY SEALS

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	Patrick Young	Alliance TG	9/14/23 / 1430
Accepted By:	Ryan Johnson	FEDEX	9-14-23 14:30
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

Loc: 140
33526

EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST **Log In Number:**

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	/			☐ **Containers, Broken**
2. Were ambient air containers received intact?			/	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?			/	☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SL76 Correction factor: -0.1°C	/			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	/			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	/			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	/			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	/			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	/			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?			/	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	/			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	/			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	/			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	/			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	/			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			/	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			/	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			/	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			/	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			/	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

	Box 16A: pH Preservation	Box 18A: Residual Chlorine
Preservative:		
Lot Number:		
Exp Date:		
Analyst:		
Date:		
Time:		

Project #: _____ PM Instructions: _____

Sample Receiving Associate: _____ Date: 9/15/23

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Appendix D

QA/QC Data

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Inlet
Project No. AST-2023-3974
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
9/12/23	G-10	0.285	0.285	0.285	0.285	0.000	≤ 0.004 in.	glass

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
9/12/23	P4-1	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
9/12/23	P4-1	69.0	68.0	0.2%	± 1.5 % (absolute)	5'

Field Balance Check

Date	**09/12/23**					
Balance ID:	**Citizon**					
Test Weight ID:	**SYR-1000**					
Certified Weight (g):	**1000.0**					
Measured Weight (g):	**999.6**					
Weight Difference (g):	**0.4**	--	--	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
9/12/23	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
9/12/23	11	Pass

Reagent	Lot#	Field Prep performed	Field Lot	Date	By
DIUF	Eurofins	No	N/A	N/A	N/A
Ammonia/MeOH	Eurofins	No	N/A	N/A	N/A

Balance Check must be conducted each day

Acceptable Balance Tolerance is measurement within +/- 0.5g of certified weight

Equipment Detail - Dry Gas Meter

Console ID: 11
Meter S/N: 22070987
Critical Orifice S/N: co-1393

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	29.99					
Final Barometric Pressure, in. Hg	(Pb_F)	29.99					
Average Barometric Pressure, in. Hg	(Pb)	29.99					
Critifcal Orifice ID	(Y)	11	11	18	18	31	31
K' Factor, $ft^3 \cdot R^{1/2}$ / in. WC·min	(K')	0.3073	0.3073	0.5023	0.5023	0.8246	0.8246
Vacuum Pressure, in. Hg	(V_P)	24.0	24.0	19.0	19.0	17.5	17.5
Initial DGM Volume, ft^3	(Vm_I)	602.859	608.818	614.777	624.524	634.267	650.240
Final DGM Volume, ft^3	(Vm_F)	608.818	614.777	624.524	634.267	650.240	666.380
Total DGM Volume, ft^3	(Vm)	5.959	5.959	9.747	9.743	15.973	16.140
Ambient Temperature, °F	(Ta)	71	71	72	72	72	72
Initial DGM Temperature, °F	(Tm_I)	71	72	72	72	73	74
Final DGM Temperature, °F	(Tm_F)	72	72	72	73	74	75
Average DGM Temperature, °F	(Tm)	72	72	72	73	74	75
Elapsed Time	(Θ)	15.00	15.00	15.00	15.00	15.00	15.00
Meter Orifice Pressure, in. WC	(ΔH)	0.44	0.44	1.20	1.20	3.20	3.20
Standard Meter volume, ft^3	(Vmstd)	5.9411	5.9355	9.7267	9.7135	15.9725	16.1093
Standard Critical Orifice Volume, ft^3	(Vcr)	6.0008	6.0008	9.7994	9.7994	16.0872	16.0872
Meter Correction Factor	(Y)	1.010	1.011	1.007	1.009	1.007	0.999
Tolerance	--	0.003	0.004	0.000	0.002	0.000	0.009
Orifice Calibration Value	(ΔH @)	1.542	1.540	1.578	1.577	1.565	1.562
Tolerance	--	0.019	0.020	0.018	0.016	0.004	0.001
Orifice Cal Check	--						
Meter Correction Factor	**(Y)**	**1.007**					
Orifice Calibration Value	**(ΔH @)**	**1.561**					
Positive Pressure Leak Check		**Yes**					

Equipment Detail - Thermocouple Sensor

Reference Calibrator Make: Altek
Reference Calibrator Model: Series 22
Reference Calibrator S/N: 8475031

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Difference
°F	°R	°F	°R	%	°F
0	460	0	460	0.0	0
100	560	101	561	-0.2	1
300	760	301	761	-0.1	1
400	860	402	862	-0.2	2
500	960	502	962	-0.2	2
600	1,060	610	1,070	-0.9	10
700	1,160	710	1,170	-0.9	10
800	1,260	805	1,265	-0.4	5
900	1,360	901	1,361	-0.1	1
1,000	1,460	1,007	1,467	-0.5	7
1,100	1,560	1,110	1,570	-0.6	10
1,200	1,660	1,205	1,665	-0.3	5

Personnel

Calibration By: Gavin Denison
Calibration Date: 6/30/2023
Expiration Date: 12/30/2023

QA/QC Data

Location Chemours Company - Fayetteville Works Facility, NC
Source PPA Carbon Bed Outlet
Project No. AST-2023-3974
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
9/12/23	G-5	0.255	0.256	0.255	0.255	0.001	≤ 0.004 in.	glass

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
9/12/23	P4-2	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
9/12/23	P4-2	69.0	69.0	0.0%	± 1.5 % (absolute)	5'

Field Balance Check

Date	**09/12/23**					
Balance ID:	**Citizon**					
Test Weight ID:	**SYR-1000**					
Certified Weight (g):	**1000.0**					
Measured Weight (g):	**999.6**					
Weight Difference (g):	**0.4**	--	--	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
9/12/23	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
9/12/23	5	Pass

Reagent	Lot#	Field Prep performed	Field Lot	Date	By
DIUF	Eurofins	No	N/A	N/A	N/A
Ammonia/MeOH	Eurofins	No	N/A	N/A	N/A

Balance Check must be conducted each day

Acceptable Balance Tolerance is measurement within +/- 0.5g of certified weight

Equipment Detail - Dry Gas Meter

Console ID: 5
Meter S/N: 20035532
Critical Orifice S/N: co-1393

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	29.85					
Final Barometric Pressure, in. Hg	(Pb_F)	29.10					
Average Barometric Pressure, in. Hg	(Pb)	29.48					
Critifcal Orifice ID	(Y)	18	18	16	16	26	26
K' Factor, $ft^3 \cdot R^{1/2}$ / in. WC·min	(K')	0.5023	0.5023	0.4273	0.4273	0.7060	0.7060
Vacuum Pressure, in. Hg	(V_P)	22.0	20.0	19.5	19.5	16.0	16.0
Initial DGM Volume, ft^3	(Vm_I)	729.819	739.881	749.835	758.361	766.722	780.623
Final DGM Volume, ft^3	(Vm_F)	739.881	749.835	758.361	766.722	780.623	794.518
Total DGM Volume, ft^3	(Vm)	10.062	9.954	8.526	8.361	13.901	13.895
Ambient Temperature, °F	(Ta)	72	72	72	73	73	73
Initial DGM Temperature, °F	(Tm_I)	72	72	73	74	74	74
Final DGM Temperature, °F	(Tm_F)	72	73	74	74	74	75
Average DGM Temperature, °F	(Tm)	72	73	74	74	74	75
Elapsed Time	(Θ)	15.00	15.00	15.00	15.00	15.00	15.00
Meter Orifice Pressure, in. WC	(ΔH)	1.40	1.30	1.00	1.00	2.80	2.80
Standard Meter volume, ft^3	(Vmstd)	9.8740	9.7564	8.3348	8.1659	13.6374	13.6188
Standard Critical Orifice Volume, ft^3	(Vcr)	9.6312	9.6312	8.1931	8.1854	13.5242	13.5242
Meter Correction Factor	(Y)	0.975	0.987	0.983	1.002	0.992	0.993
Tolerance	--	0.013	0.002	0.006	0.014	0.003	0.004
Orifice Calibration Value	(ΔH @)	1.874	1.739	1.843	1.845	1.901	1.899
Tolerance	--	0.024	0.112	0.007	0.005	0.051	0.049
Orifice Cal Check	--	1.15		1.16		1.13	
Meter Correction Factor	**(Y)**	**0.989**					
Orifice Calibration Value	**(ΔH @)**	**1.850**					
Positive Pressure Leak Check		**Yes**					

Equipment Detail - Thermocouple Sensor

Reference Calibrator Make: Altek
Reference Calibrator Model: Series 22
Reference Calibrator S/N: 845031

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Difference
°F	°R	°F	°R	%	°F
0	460	0	460	0.0	0
100	560	99	559	0.2	1
200	660	199	659	0.2	1
300	760	298	758	0.3	2
400	860	398	858	0.2	2
500	960	497	957	0.3	3
600	1,060	596	1,056	0.4	4
700	1,160	699	1,159	0.1	1
800	1,260	797	1,257	0.2	3
900	1,360	898	1,358	0.1	2
1,000	1,460	999	1,459	0.1	1
1,100	1,560	1,097	1,557	0.2	3
1,200	1,660	1,195	1,655	0.3	5
1,300	1,760	1,299	1,759	0.1	1
1,400	1,860	1,398	1,858	0.1	2
1,500	1,960	1,497	1,957	0.2	3

Personnel

Calibration By: Jeffrey Sheldon
Calibration Date: 6/27/2023
Expiration Date: 12/27/2023

Appendix E

PPA Operations Data

PPA - 9/12/2023																												
Time	800				900				1000				1100				1200				1300				1400			
Stack Testing	RUN1: 8:05-9:53										RUN 2 10:37-12:36											RUN 3: 13:00-14:44						
A/F column Feed Rate (pounds per hour)																												
903 Distillation (pounds per hour)																												
DAF ISO Venting																												
Charging water to Hyd - venting															x													
Charging Sulfuric acid - venting																x												
Hydrolysis - Wash Tank pressure Transfer to Hydrolysis																	x	x										
Hydrolysis - Phase Settle (del as no venting 7-9-21)																												
Vap heels pressure transfer																												
Vap cycle	x	x	x	x	x	x	x	x			x	x	x	x	x	x												
Rec Tk to 903 Fd Tk Press Xfer (added to process 4/2020)								x																				
Venting after press tran from North/South Acid tank to Hyd					x																						x	
DAF tran to Hyd - venting during transfer																												
Hydrolysis - transfer to Waste Acid Trailer			x	x																								
Wash Tk to Vaporizer pressure transfer (new 8-2019)																												
Pump Recovered Tote to Hydrolysis Rx (new 9-15-21)																												
Scrubber Recirculation Flow (gpm)	38 gpm										38 gpm											38gpm						
Scrubber dp (inwc)	-1.0 inwc										-1.0 inwc											-1.0 inwc						

Last Page of Report