Source Test Report

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

Source Tested: VEN Carbon Bed
Test Date: August 22, 2022

Project No. AST-2022-3051

Prepared By
Alliance Technical Group, LLC
6515A Basile Rowe
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Regulatory Information

Permit No. Title V Permit No. 03735T48

Source Information

Source Name
VEN Carbon Bed (Inlet / Outlet)

Target Parameter
HFPO-DA

Contact Information

Test Location
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Fayetteville, NC 28306

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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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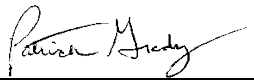

Patrick Grady
Alliance Technical Group, LLC

September 20, 2022
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 Title V Permit No. 03735T48. Source emissions testing was conducted at the inlet and outlet of the Vinyl Ethers North (VEN) carbon bed. The testing was conducted to evaluate emissions of hexafluoro-propylene oxide-dimer acid (HFPO-DA).

1.1 Source and Control System Descriptions

VEN is part of the fluoromonomer area at the Fayetteville facility. This area produces fluorocarbon compounds used to produce Chemours products, such as Nafion® Krytox® and Viton®. Indoor air fugitive emissions from VEN are vented to a carbon bed which is then vented to atmosphere through the Division Stack. Process emissions from VEN are directed to a thermal oxidizer.

1.2 Project Team

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

Table 1-1: Project Team

Alliance Personnel	Patrick Grady Antonio Andersen Brian Goodhile Jeff Sheldon

Summary of Results

2.0 Summary of Results

Alliance conducted compliance testing at the Fayetteville Works facility in Fayetteville, NC on August 22, 2022. Testing consisted of determining the emission rates of HFPO-DA at the inlet and outlet of the VEN carbon bed.

Table 2-1 provides a summary of the emission testing results. Any difference between the summary results listed in the following table 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	**8/22/22**	**8/22/22**	**8/22/22**	**--**
HFPO-DA Data				
Outlet Emission Rate, lb/hr	8.4E-05	5.5E-04	7.1E-05	2.4E-04
Inlet Emission Rate, lb/hr	9.4E-03	1.5E-02	1.1E-02	1.2E-02
Reduction Efficiency, %	99.1	96.2	99.3	98.2

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: VEN Carbon Bed Inlet
Project No.: 2022-3051
Run No.: 1
Parameter: HFPO-DA

Meter Pressure (Pm), in. Hg

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

where,

Pb	29.96	= barometric pressure, in. Hg
ΔH	1.140	= pressure differential of orifice, in H_2O
Pm	30.04	= in. Hg

Absolute Stack Gas Pressure (Ps), in. Hg

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

where,

Pb	29.96	= barometric pressure, in. Hg
Pg	-3.60	= static pressure, in. H_2O
Ps	29.70	= in. Hg

Standard Meter Volume (Vmstd), dscf

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

where,

Y	0.997	= meter correction factor
Vm	61.844	= meter volume, cf
Pm	30.04	= absolute meter pressure, in. Hg
Tm	542.5	= absolute meter temperature, °R
Vmstd	60.225	= dscf

Standard Wet Volume (Vwstd), scf

$$Vwstd = 0.04716 \times Vlc$$

where,

Vlc	54.1	= volume of H_2O collected, ml
Vwstd	2.551	= scf

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

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

where,

Ts	83.9	= stack temperature, °F
Ps	29.70	= absolute stack gas pressure, in. Hg
BWSsat	0.039	= dimensionless

Moisture Fraction (BWS), dimensionless (measured)

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

where,

Vwstd	2.551	= standard wet volume, scf
Vmstd	60.225	= standard meter volume, dscf
BWS	0.041	= dimensionless

Moisture Fraction (BWS), dimensionless

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

where,

BWSsat	0.039	= moisture fraction (theoretical at saturated conditions)
BWSmsd	0.041	= moisture fraction (measured)
BWS	0.039	

Location: Chemours Company - Fayetteville Works Facility, NC
Source: VEN Carbon Bed Inlet
Project No.: 2022-3051
Run No.: 1
Parameter: HFPO-DA

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	0.039	= moisture fraction, dimensionless
Ms	28.43	= 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
$\Delta P^{1/2}$	0.571	= velocity head of stack gas, $(in.\ H_2O)^{1/2}$
Ts	543.6	= absolute stack temperature, °R
Ps	29.70	= absolute stack gas pressure, in. Hg
Ms	28.43	= molecular weight of stack gas, lb/lb mol
Vs	32.9	= ft/sec

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

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

where,

Vs	32.9	= stack gas velocity, ft/sec
As	7.07	= cross-sectional area of stack, ft^2
Qa	13,961	= acfm

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

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

where,

Qa	13,961	= average stack gas flow at stack conditions, acfm
BWS	0.039	= moisture fraction, dimensionless
Ps	29.70	= absolute stack gas pressure, in. Hg
Ts	543.6	= absolute stack temperature, °R
Qs	12,924	= dscfm

Dry Gas Meter Calibration Check (Yqa), dimensionless

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

where,

Y	0.997	= meter correction factor, dimensionless
Θ	96	= run time, min.
Vm	61.844	= total meter volume, dcf
Tm	542.5	= absolute meter temperature, °R
ΔH@	1.581	= orifice meter calibration coefficient, in. H_2O
Pb	29.96	= barometric pressure, in. Hg
ΔH avg	1.140	= average pressure differential of orifice, in H_2O
Md	28.85	= molecular weight (DRY), lb/lb mol
$(\Delta H)^{1/2}$	1.067	= average squareroot pressure differential of orifice, $(in.\ H2O)^{1/2}$
Yqa	-0.5	= dimensionless

Location: Chemours Company - Fayetteville Works Facility, NC
Source: VEN Carbon Bed Inlet
Project No.: 2022-3051
Run No.: 1
Parameter: HFPO-DA

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	543.6	= absolute stack temperature, °R
Ps	29.70	= absolute stack gas pressure, in. Hg
Vlc	54.1	= volume of H_2O collected, ml
Vm	61.844	= meter volume, cf
Pm	30.04	= absolute meter pressure, in. Hg
Y	0.997	= meter correction factor, unitless
Tm	542.5	= absolute meter temperature, °R
Vn	65.155	= 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	65.155	= nozzle volume, ft3
θ	96.0	= run time, minutes
An	0.00034	= area of nozzle, ft^2
Vs	32.9	= average velocity, ft/sec
I	100.7	= %

HFPO-DA Concentration (C), ng/dscm

$$C = \frac{M \times 35.313}{Vmstd}$$

where,

M	332,333	= HFPO-DA mass, ng
Vmstd	60.225	= standard meter volume, dscf
C_{NH3}	194872.06	= ng/dscm

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

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

where,

M	332,333	= HFPO-DA mass, ng
Qs	12,924	= average stack gas flow at standard conditions, dscfm
Vmstd	60.225	= standard meter volume, dscf
ER	0.01	= lb/hr

Appendix B


Inlet

Emission Calculations

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3051
Parameter HFPO-DA

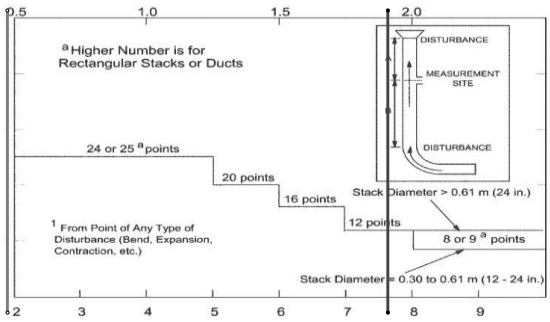
Run Number		Run 1	Run 2	Run 3	Average
Date		8/22/22	8/22/22	8/22/22	--
Start Time		9:20	11:57	14:15	--
Stop Time		11:17	13:48	16:18	--
Run Time, min	(θ)	96.0	96.0	96.0	96.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	29.96	29.96	29.96	29.96
Meter Correction Factor	(Y)	0.997	0.997	0.997	0.997
Orifice Calibration Value	(ΔH @)	1.581	1.581	1.581	1.581
Meter Volume, ft^3	(Vm)	61.844	62.569	62.984	62.466
Meter Temperature, °F	(Tm)	82.8	91.8	96.4	90.3
Meter Temperature, °R	(Tm)	542.5	551.5	556.0	550.0
Meter Orifice Pressure, in. WC	(ΔH)	1.140	1.171	1.142	1.151
Volume H_2O Collected, mL	(Vlc)	54.1	59.7	59.7	57.8
Nozzle Diameter, in	(Dn)	0.250	0.250	0.250	0.250
Area of Nozzle, ft^2	(An)	0.0003	0.0003	0.0003	0.0003
FH HFPO-DA Mass, ng	$M_{(HFPODA)}$	90,100.0	31,300.0	41,900.0	54,433.3
BH HFPO-DA Mass, ng	$M_{(HFPODA)}$	228,000.0	421,000.0	275,000.0	308,000.0
Imp HFPO-DA Mass, ng	$M_{(HFPODA)}$	14,000.0	60,400.0	56,200.0	43,533.3
Breakthrough HFPO-DA Mass, ng	$M_{(HFPODA)}$	233.0	1,250.0	1,300.0	927.67
Total HFPO-DA Mass, ng	$M_{(HFPODA)}$	332,333.0	513,950.0	374,400.0	406,894.3
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	60.225	59.937	59.837	60.000
Standard Water Volume, ft^3	(Vwstd)	2.551	2.815	2.815	2.727
Moisture Fraction Measured	(BWSmsd)	0.041	0.045	0.045	0.043
Moisture Fraction @ Saturation	(BWSsat)	0.039	0.046	0.051	0.045
Moisture Fraction	(BWS)	0.039	0.045	0.045	0.043
Meter Pressure, in Hg	(Pm)	30.04	30.05	30.04	30.04
Volume at Nozzle, ft^3	(Vn)	65.155	65.736	66.032	65.64
Isokinetic Sampling Rate, (%)	(I)	100.7	100.6	101.7	101.0
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	-0.5	-1.5	0.0	-0.7
EMISSION CALCULATIONS					
HFPO-DA Concentration, ng/dscm	$C_{(HFPODA)}$	1.9E+05	3.0E+05	2.2E+05	2.4E+05
HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	9.4E-03	1.5E-02	1.1E-02	1.2E-02

Method 1 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3051
Date: 08/09/22

Stack Parameters

Duct Orientation:	Horizontal	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	51.13	**in**
Nipple Length:	15.13	**in**
Depth of Duct:	36.00	**in**
Cross Sectional Area of Duct:	7.07	**ft²**
No. of Test Ports:	2	
Distance A:	5.7	**ft**
Distance A Duct Diameters:	1.9	**(must be > 0.5)**
Distance B:	5.7	**ft**
Distance B Duct Diameters:	1.9	**(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-8/9/22	
Reviewer (Initial and Date):	AA-8/9/22	



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LOCATION OF TRAVERSE POINTS

Number of traverse points on a diameter

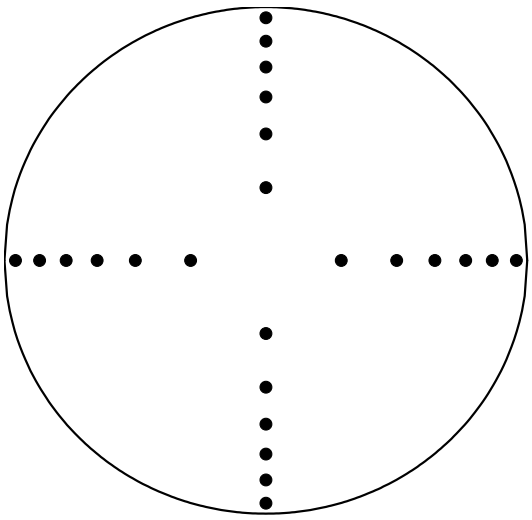
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--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

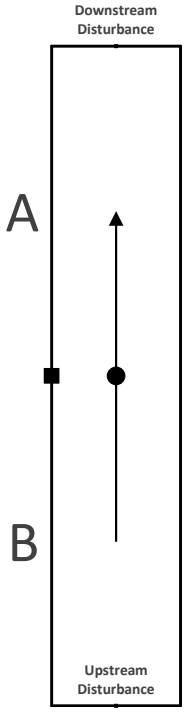
**Percent of stack diameter from inside wall to traverse point.*

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	2.1	1.00	16.13
2	6.7	2.41	17.54
3	11.8	4.25	19.37
4	17.7	6.37	21.50
5	25.0	9.00	24.13
6	35.6	12.82	27.94
7	64.4	23.18	38.31
8	75.0	27.00	42.13
9	82.3	29.63	44.75
10	88.2	31.75	46.88
11	93.3	33.59	48.71
12	97.9	35.00	50.13

Stack Diagram
A = 5.7 ft.
B = 5.7 ft.
Depth of Duct = 36 in.

Cross Sectional Area





Cyclonic Flow Check

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3051
Date 08/09/22

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

Volumetric Flow Rate Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3051
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		8/22/22	8/22/22	8/22/22	--
Start Time		9:20	11:57	14:15	--
Stop Time		11:17	13:48	16:18	--
Run Time, min		96.0	96.0	96.0	96.0
VELOCITY HEAD, in. WC					
Point 1		0.32	0.31	0.32	0.32
Point 2		0.33	0.32	0.32	0.32
Point 3		0.32	0.34	0.31	0.32
Point 4		0.32	0.34	0.32	0.33
Point 5		0.33	0.34	0.31	0.33
Point 6		0.32	0.32	0.33	0.32
Point 7		0.30	0.33	0.34	0.32
Point 8		0.32	0.33	0.33	0.33
Point 9		0.31	0.34	0.32	0.32
Point 10		0.31	0.31	0.32	0.31
Point 11		0.32	0.31	0.32	0.32
Point 12		0.31	0.30	0.31	0.31
Point 13		0.28	0.36	0.31	0.32
Point 14		0.33	0.37	0.31	0.34
Point 15		0.36	0.37	0.30	0.34
Point 16		0.36	0.37	0.34	0.36
Point 17		0.38	0.37	0.37	0.37
Point 18		0.36	0.36	0.37	0.36
Point 19		0.36	0.32	0.37	0.35
Point 20		0.32	0.31	0.31	0.31
Point 21		0.32	0.31	0.31	0.31
Point 22		0.33	0.30	0.31	0.31
Point 23		0.32	0.30	0.31	0.31
Point 24		0.31	0.30	0.31	0.31
CALCULATED DATA					
Square Root of ΔP, (in. WC)$^{1/2}$	(ΔP)	0.571	0.574	0.569	0.571
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	29.96	29.96	29.96	29.96
Static Pressure, in. WC	(Pg)	-3.60	-3.80	-3.60	-3.67
Stack Pressure, in. Hg	(Ps)	29.70	29.68	29.70	29.69
Stack Cross-sectional Area, ft^2	(As)	7.07	7.07	7.07	7.07
Temperature, °F	(Ts)	83.9	88.7	92.3	88.3
Temperature, °R	(Ts)	543.6	548.4	552.0	547.989
Moisture Fraction Measured	(BWSmsd)	0.041	0.045	0.045	0.043
Moisture Fraction @ Saturation	(BWSsat)	0.039	0.046	0.051	0.045
Moisture Fraction	(BWS)	0.039	0.045	0.045	0.043
O_2 Concentration, %	(O_2)	20.9	20.9	20.9	20.9
CO_2 Concentration, %	(CO_2)	0.1	0.1	0.1	0.1
Molecular Weight, lb/lb-mole (dry)	(Md)	28.85	28.85	28.85	28.85
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.43	28.37	28.37	28.39
Velocity, ft/sec	(Vs)	32.9	33.3	33.1	33.1
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	13,961	14,119	14,022	14,034
At Standard Conditions, dscfm	(Qs)	12,924	12,873	12,706	12,834

Method 4 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3051
Parameter HFPO-DA
Analysis Gravimetric

Run 1	**Date:**	8/22/22							
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	296.2	446.2	759.5	776.8	726.2	507.8	282.9	853.9	4649.5
Final Mass, g	312.9	463	757.7	778.7	727.2	509.8	287.9	866.4	4703.6
Gain	16.7	16.8	-1.8	1.9	1.0	2.0	5.0	12.5	54.1
Run 2	**Date:**	8/22/22							
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	309.4	531.7	728.1	793.8	752.4	491.3	314.7	860.7	4782.1
Final Mass, g	332.7	544.4	726.6	794.8	752.4	493.3	324.6	873	4841.8
Gain	23.3	12.7	-1.5	1.0	0.0	2.0	9.9	12.3	59.7
Run 3	**Date:**	8/22/22							
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	304.5	447.1	768.9	762.8	756.4	508.7	305.2	832.4	4686.0
Final Mass, g	320.4	466	767	762.2	756.8	510.2	317.5	845.6	4745.7
Gain	15.9	18.9	-1.9	-0.6	0.4	1.5	12.3	13.2	59.7

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, N(		**Start Time:**	9:20	**Source:**	VEN Carbon Bed Inlet	
Date:	8/22/22	Run 1 VALID	**End Time:**	11:17	**Project No.:**	2022-3051	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	MB #4		Est. Tm:	85	°F		Pb:	29.96	in. Hg	Vlc (ml)
Barometric:	30.04	in. Hg	Y:	0.997		Est. Ts:	90	°F		Pg:	-3.60	in. WC	54.1
Static Press:	-8.60	in. WC	ΔH @ (in.WC):	1.581		Est. ΔP:	0.45	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	29.41	in. Hg	Probe ID:	TC 7D		Est. Dn:	0.255	in.		CO_2:	0.1	%	3.450
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm			Check Pt.	Initial	Final	Corr.
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECK	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)	417.178	417.255	0.077
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.005	0.009	0.008		0.009	Mid 2 (cf)	417.255	417.346	0.091
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-4	glass	Vacuum (in Hg):	10	8	9		12	Mid 3 (cf)			--
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	--	--	--	Pass	Mid-Point Leak Check Vol (cf):			0.168

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)
A-1	0.00	4.00	386.638	0.32	77	82	1.11	1.10	3	90	92	66	53	105.0	32.58
2	4.00	8.00	389.300	0.33	78	82	1.14	1.10	3	94	95	55	52	100.8	33.09
3	8.00	12.00	391.900	0.32	79	83	1.11	1.10	3	94	92	52	51	102.3	32.61
4	12.00	16.00	394.500	0.32	80	83	1.11	1.10	3	90	88	50	55	102.1	32.61
5	16.00	20.00	397.100	0.33	80	83	1.14	1.10	3	90	88	49	48	96.7	33.12
6	20.00	24.00	399.600	0.32	80	84	1.11	1.10	3	93	92	48	44	102.2	32.64
7	24.00	28.00	402.200	0.30	81	84	1.04	1.00	3	95	95	48	47	101.3	31.60
8	28.00	32.00	404.700	0.32	82	84	1.11	1.10	3	96	93	48	49	97.9	32.64
9	32.00	36.00	407.200	0.31	82	84	1.08	1.10	3	95	93	50	47	95.5	32.13
10	36.00	40.00	409.600	0.31	83	84	1.08	1.10	4	98	96	51	46	95.3	32.13
11	40.00	44.00	412.000	0.32	83	84	1.11	1.10	5	99	95	49	49	101.6	32.64
12	44.00	48.00	414.600	0.31	83	84	1.08	1.10	5	98	97	51	51	102.4	32.13
B-1	48.00	52.00	417.178	0.28	82	84	0.97	0.97	4	94	98	65	54	94.3	30.53
2	52.00	56.00	419.600	0.33	83	84	1.15	1.20	5	97	99	52	49	100.1	33.15
3	56.00	60.00	422.200	0.36	84	84	1.25	1.30	6	98	97	53	50	99.4	34.62
4	60.00	64.00	424.900	0.36	84	84	1.25	1.30	6	99	98	52	48	99.4	34.62
5	64.00	68.00	427.600	0.38	85	84	1.33	1.30	6	97	96	54	50	100.1	35.57
6	68.00	72.00	430.400	0.36	85	84	1.26	1.30	6	98	95	56	51	99.2	34.62
7	72.00	76.00	433.100	0.36	85	84	1.26	1.30	6	97	99	56	50	102.9	34.62
8	76.00	80.00	435.900	0.32	86	85	1.12	1.10	5	96	97	56	52	97.3	32.67
9	80.00	84.00	438.400	0.32	86	85	1.12	1.10	5	97	98	56	52	97.3	32.67
10	84.00	88.00	440.900	0.33	86	85	1.15	1.20	5	99	96	56	52	103.5	33.18
11	88.00	92.00	443.600	0.32	86	85	1.12	1.10	5	96	95	56	52	101.2	32.67
12	92.00	96.00	446.200	0.31	87	85	1.08	1.10	5	97	96	57	53	96.7	32.16
	Final DGM:		448.650												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	61.844	ft^3	0.33	in. WC	82.8	°F	83.9	°F	6	1.140	in. WC	100.7	0.039	-0.5

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, N	**Start Time:**	11:57	**Source:**	VEN Carbon Bed Inlet
Date:	8/22/22	**Run 2**	VALID	**End Time:**	13:48	**Project No.:**	2022-3051	**Parameter:**	HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.		STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	MB #4		Est. Tm:	83	°F			Pb:	29.96	in. Hg	Vlc (ml)
Barometric:	30.04	in. Hg	Y:	0.997		Est. Ts:	84	°F			Pg:	-3.80	in. WC	59.7
Static Press:	-8.60	in. WC	ΔH @ (in.WC):	1.581		Est. ΔP:	0.33	in. WC			O_2:	20.9	%	K-FACTOR
Stack Press:	29.41	in. Hg	Probe ID:	TC 7D		Est. Dn:	0.276	in.			CO_2:	0.1	%	3.47
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm				Check Pt.	Initial	Final	Corr.
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECK	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)	479.853	479.922	0.069
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.005	0.007	0.006		0.001	Mid 2 (cf)	479.922	479.984	0.062
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-4	glass	Vacuum (in Hg):	12	9	10		10	Mid 3 (cf)			--
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	--	--	--	Pass	Mid-Point Leak Check Vol (cf):			0.131

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.		
					--	--				--	--	--	--		
A-1	0.00	4.00	449.105	0.31	86	86	1.08	1.10	4	100	98	66	51	98.7	32.19
2	4.00	8.00	451.600	0.32	87	87	1.12	1.10	4	100	99	56	56	101.2	32.73
3	8.00	12.00	454.200	0.34	88	87	1.19	1.20	4	99	97	55	54	92.3	33.74
4	12.00	16.00	456.650	0.34	89	87	1.19	1.20	4	100	102	53	49	99.7	33.74
5	16.00	20.00	459.300	0.34	90	87	1.19	1.20	4	99	100	53	52	97.6	33.74
6	20.00	24.00	461.900	0.32	90	88	1.12	1.10	4	101	102	53	51	96.8	32.76
7	24.00	28.00	464.400	0.33	90	88	1.15	1.20	5	103	101	54	50	103.0	33.27
8	28.00	32.00	467.100	0.33	90	88	1.15	1.15	5	103	102	52	52	103.0	33.27
9	32.00	36.00	469.800	0.34	90	88	1.19	1.20	5	102	101	54	52	90.2	33.77
10	36.00	40.00	472.200	0.31	90	88	1.08	1.10	5	102	101	56	52	100.7	32.24
11	40.00	44.00	474.760	0.31	90	88	1.08	1.10	5	101	102	56	54	103.9	32.24
12	44.00	48.00	477.400	0.30	90	88	1.05	1.05	5	101	102	56	56	98.1	31.72
B-1	48.00	52.00	479.853	0.36	91	89	1.26	1.30	5	101	102	55	55	95.5	34.78
2	52.00	56.00	482.600	0.37	92	90	1.29	1.30	6	102	100	56	56	93.5	35.29
3	56.00	60.00	485.200	0.37	93	89	1.30	1.30	6	102	100	55	55	96.9	35.26
4	60.00	64.00	487.900	0.37	93	90	1.30	1.30	7	103	101	55	53	97.0	35.29
5	64.00	68.00	490.600	0.37	94	90	1.30	1.30	7	102	100	56	53	100.4	35.29
6	68.00	72.00	493.400	0.36	95	90	1.27	1.30	7	100	103	57	52	101.6	34.81
7	72.00	76.00	496.200	0.32	95	90	1.13	1.10	7	102	101	57	51	100.0	32.82
8	76.00	80.00	498.800	0.31	96	90	1.09	1.10	7	103	104	58	54	101.4	32.30
9	80.00	84.00	501.400	0.31	97	90	1.09	1.10	7	104	104	59	51	103.2	32.30
10	84.00	88.00	504.050	0.30	96	90	1.06	1.10	7	103	105	59	55	105.1	31.78
11	88.00	92.00	506.700	0.30	96	90	1.06	1.10	7	102	103	60	59	99.1	31.78
12	92.00	96.00	509.200	0.30	96	91	1.06	1.10	7	103	101	60	59	103.4	31.81
	Final DGM:		511.805												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	62.569	ft^3	0.33	in. WC	91.8	°F	88.7	°F	7	1.171	in. WC	100.6	0.045	-1.5

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, N		**Start Time:**	14:15	**Source:**	VEN Carbon Bed Inlet	
Date:	8/22/22	Run 3 VALID	**End Time:**	16:18	**Project No.:**	2022-3051	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)		FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	MB #4		Est. Tm:	92 °F		Pb:	29.96 in. Hg	Vlc (ml)
Barometric:	30.04	in. Hg	Y:	0.997		Est. Ts:	89 °F		Pg:	-3.60 in. WC	59.7
Static Press:	-8.60	in. WC	ΔH @ (in.WC):	1.581		Est. ΔP:	0.33 in. WC		O_2:	20.9 %	K-FACTOR
Stack Press:	29.41	in. Hg	Probe ID:	TC 7D		Est. Dn:	0.273 in.		CO_2:	0.1 %	3.502
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78 scfm				
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECK	Pre	Mid 1 Mid 2 Mid 3	Post		
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.005	0.003 0.003	0.001		
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-4	glass	Vacuum (in Hg):	12	8 9	8		
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	-- -- --	Pass		

	Check Pt.	Initial	Final	Corr.
Mid 1 (cf)	543.524	544.072	0.548	
Mid 2 (cf)	544.072	545.142	1.070	
Mid 3 (cf)			--	
Mid-Point Leak Check Vol (cf):			1.618	

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)
					--	--				--	--	--	--		
A-1	0.00	4.00	512.278	0.32	94	91	1.12	1.10	4	104	98	66	65	97.3	32.85
2	4.00	8.00	514.800	0.32	94	91	1.12	1.10	4	104	103	66	57	100.3	32.85
3	8.00	12.00	517.400	0.31	95	91	1.09	1.10	4	103	105	64	56	105.6	32.33
4	12.00	16.00	520.100	0.32	96	91	1.13	1.10	4	102	106	61	57	96.1	32.85
5	16.00	20.00	522.600	0.31	96	92	1.09	1.10	5	103	105	61	58	101.6	32.36
6	20.00	24.00	525.200	0.33	96	92	1.16	1.20	6	104	105	61	55	94.7	33.39
7	24.00	28.00	527.700	0.34	96	92	1.19	1.20	6	105	106	61	57	97.0	33.89
8	28.00	32.00	530.300	0.33	96	92	1.16	1.20	6	102	107	61	58	102.3	33.39
9	32.00	36.00	533.000	0.32	97	92	1.13	1.10	6	101	103	59	56	103.6	32.88
10	36.00	40.00	535.700	0.32	97	92	1.13	1.10	6	103	105	60	57	99.8	32.88
11	40.00	44.00	538.300	0.32	97	92	1.13	1.10	6	104	104	60	58	103.6	32.88
12	44.00	48.00	541.000	0.31	97	92	1.09	1.10	6	102	103	60	56	98.4	32.36
B-1	48.00	52.00	543.524	0.31	95	93	1.08	1.10	6	102	105	66	58	96.3	32.39
2	52.00	56.00	547.600	0.31	95	93	1.08	1.10	6	102	105	66	58	101.9	32.39
3	56.00	60.00	550.200	0.30	97	93	1.05	1.10	6	100	106	57	54	99.2	31.86
4	60.00	64.00	552.700	0.34	97	93	1.19	1.20	6	100	104	57	53	100.7	33.92
5	64.00	68.00	555.400	0.37	97	93	1.30	1.30	6	96	104	55	52	100.1	35.39
6	68.00	72.00	558.200	0.37	97	93	1.30	1.30	6	95	104	55	54	103.7	35.39
7	72.00	76.00	561.100	0.37	97	93	1.30	1.30	6	94	104	55	53	103.3	35.39
8	76.00	80.00	563.990	0.31	97	93	1.09	1.10	6	95	104	56	55	94.1	32.39
9	80.00	84.00	566.400	0.31	97	93	1.09	1.10	6	95	105	56	53	105.4	32.39
10	84.00	88.00	569.100	0.31	98	93	1.09	1.10	6	95	102	56	53	101.3	32.39
11	88.00	92.00	571.700	0.31	98	93	1.09	1.10	6	98	104	57	54	101.3	32.39
12	92.00	96.00	574.300	0.31	97	93	1.09	1.10	6	96	104	57	54	100.7	32.39
	Final DGM:		576.880												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	62.984	ft^3	0.32	in. WC	96.4	°F	92.3	°F	6	1.142	in. WC	101.7	0.045	0.0


Outlet

Emission Calculations

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3051
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		8/22/22	8/22/22	8/22/22	--
Start Time		9:20	11:57	14:15	--
Stop Time		11:17	13:48	16:18	--
Run Time, min	(θ)	96.0	96.0	96.0	96.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	29.97	29.97	29.97	29.97
Meter Correction Factor	(Y)	1.001	1.001	1.001	1.001
Orifice Calibration Value	(ΔH @)	1.841	1.841	1.841	1.841
Meter Volume, ft^3	(Vm)	65.268	65.661	65.564	65.498
Meter Temperature, °F	(Tm)	81.2	92.1	97.8	90.3
Meter Temperature, °R	(Tm)	540.8	551.8	557.4	550.0
Meter Orifice Pressure, in. WC	(ΔH)	1.496	1.475	1.479	1.483
Volume H_2O Collected, mL	(Vlc)	65.0	64.0	58.1	62.4
Nozzle Diameter, in	(Dn)	0.249	0.249	0.249	0.249
Area of Nozzle, ft^2	(An)	0.0003	0.0003	0.0003	0.0003
FH HFPO-DA Mass, ng	$M_{(HFPODA)}$	1,670.0	1,710.0	2,240.0	1,873.3
BH HFPO-DA Mass, ng	$M_{(HFPODA)}$	1,270.0	9,630.0	317.0	3,739.0
Imp HFPO-DA Mass, ng	$M_{(HFPODA)}$	110.0	8,540.0	--	4,325.0
Breakthrough HFPO-DA Mass, ng	$M_{(HFPODA)}$	--	120.0	--	120.00
Total HFPO-DA Mass, ng	$M_{(HFPODA)}$	3,050.0	20,000.0	2,557.0	8,535.7
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	64.083	63.186	62.456	63.242
Standard Water Volume, ft^3	(Vwstd)	3.065	3.018	2.739	2.941
Moisture Fraction Measured	(BWSmsd)	0.046	0.046	0.042	0.044
Moisture Fraction @ Saturation	(BWSsat)	0.044	0.047	0.049	0.047
Moisture Fraction	(BWS)	0.044	0.046	0.042	0.044
Meter Pressure, in Hg	(Pm)	30.08	30.08	30.08	30.08
Volume at Nozzle, ft^3	(Vn)	69.245	68.568	67.714	68.51
Isokinetic Sampling Rate, (%)	(I)	104.2	104.7	103.5	104.1
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	1.9	1.9	1.3	1.7
EMISSION CALCULATIONS					
HFPO-DA Concentration, ng/dscm	$C_{(HFPODA)}$	1.7E+03	1.1E+04	1.4E+03	4.8E+03
HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	8.4E-05	5.5E-04	7.1E-05	2.4E-04
REDUCTION CALCULATIONS					
Inlet HFPO-DA Emission Rate, lb/hr	$RE_{(HFPODA)}$	9.4E-03	1.5E-02	1.1E-02	1.2E-02
HFPO-DA Reduction Efficiency, %	$RE_{(HFPODA)}$	99.1	96.2	99.3	98.2

Volumetric Flow Rate Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3051
Parameter HFPO-DA

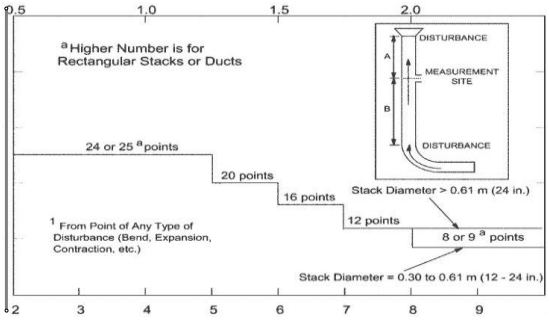
Run Number		Run 1	Run 2	Run 3	Average
Date		8/22/22	8/22/22	8/22/22	--
Start Time		9:20	11:57	14:15	--
Stop Time		11:17	13:48	16:18	--
Run Time, min		96.0	96.0	96.0	96.0
VELOCITY HEAD, in. WC					
Point 1		0.38	0.34	0.33	0.35
Point 2		0.39	0.33	0.34	0.35
Point 3		0.40	0.40	0.32	0.37
Point 4		0.38	0.40	0.39	0.39
Point 5		0.39	0.39	0.37	0.38
Point 6		0.35	0.37	0.34	0.35
Point 7		0.26	0.28	0.26	0.27
Point 8		0.25	0.26	0.23	0.25
Point 9		0.24	0.27	0.24	0.25
Point 10		0.25	0.23	0.22	0.23
Point 11		0.24	0.23	0.24	0.24
Point 12		0.23	0.22	0.21	0.22
Point 13		0.66	0.57	0.68	0.64
Point 14		0.65	0.56	0.68	0.63
Point 15		0.65	0.69	0.65	0.66
Point 16		0.65	0.66	0.66	0.66
Point 17		0.67	0.65	0.58	0.63
Point 18		0.58	0.43	0.45	0.49
Point 19		0.26	0.25	0.25	0.25
Point 20		0.20	0.22	0.21	0.21
Point 21		0.21	0.20	0.21	0.21
Point 22		0.18	0.18	0.22	0.19
Point 23		0.20	0.21	0.22	0.21
Point 24		0.20	0.20	0.23	0.21
CALCULATED DATA					
Square Root of ΔP, $(\text{in. WC})^{1/2}$	(ΔP)	0.593	0.583	0.582	0.586
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	29.97	29.97	29.97	29.97
Static Pressure, in. WC	(Pg)	1.80	1.70	1.70	1.73
Stack Pressure, in. Hg	(Ps)	30.10	30.10	30.10	30.10
Stack Cross-sectional Area, ft^2	(As)	7.07	7.07	7.07	7.07
Temperature, °F	(Ts)	87.8	90.1	91.6	89.8
Temperature, °R	(Ts)	547.5	549.8	551.3	549.517
Moisture Fraction Measured	(BWSmsd)	0.046	0.046	0.042	0.044
Moisture Fraction @ Saturation	(BWSsat)	0.044	0.047	0.049	0.047
Moisture Fraction	(BWS)	0.044	0.046	0.042	0.044
O_2 Concentration, %	(O_2)	20.9	20.9	20.9	20.9
CO_2 Concentration, %	(CO_2)	0.1	0.1	0.1	0.1
Molecular Weight, lb/lb-mole (dry)	(Md)	28.85	28.85	28.85	28.85
Molecular Weight, lb/lb-mole (wet)	(Ms)	28.38	28.36	28.40	28.38
Velocity, ft/sec	(Vs)	34.1	33.6	33.6	33.8
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	14,447	14,256	14,239	14,314
At Standard Conditions, dscfm	(Qs)	13,396	13,135	13,132	13,221

Method 1 Data

Location	**Chemours Company - Fayetteville Works Facility, NC**
Source	**VEN Carbon Bed Outlet**
Project No.	**2022-3051**
Date:	**08/09/22**

Stack Parameters

Duct Orientation:	Horizontal	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	51.13	**in**
Nipple Length:	15.13	**in**
Depth of Duct:	36.00	**in**
Cross Sectional Area of Duct:	7.07	**ft²**
No. of Test Ports:	2	
Distance A:	4.8	**ft**
Distance A Duct Diameters:	4.8	**(must be > 0.5)**
Distance B:	5.7	**ft**
Distance B Duct Diameters:	1.9	**(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-8/9/22	
Reviewer (Initial and Date):	AA-8/9/22	



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	16.13
2	6.7	2.41	17.54
3	11.8	4.25	19.37
4	17.7	6.37	21.50
5	25.0	9.00	24.13
6	35.6	12.82	27.94
7	64.4	23.18	38.31
8	75.0	27.00	42.13
9	82.3	29.63	44.75
10	88.2	31.75	46.88
11	93.3	33.59	48.71
12	97.9	35.00	50.13

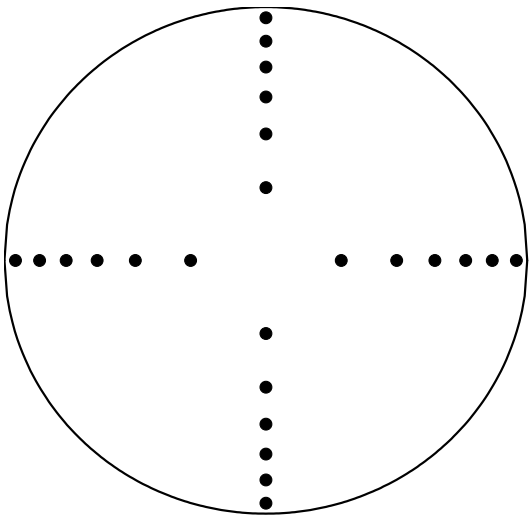
Stack Diagram

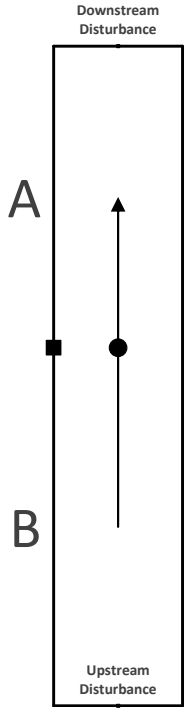
A = 4.8 ft.

B = 5.7 ft.

Depth of Duct = 36 in.

Cross Sectional Area





Cyclonic Flow Check

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3051
Date 08/09/22

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

QA/QC Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3051
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
8/22/22	GL-3	0.248	0.250	0.250	0.249	0.002	≤ 0.004 in.	glass

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
8/22/22	P4-2	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
8/22/22	TC-5D	76.0	76.0	0.0%	± 1.5 % (absolute)	5 '

Field Balance Check

Date	**08/22/22**					
Balance ID:	**MyWeigh 5500**					
Test Weight ID:	**SYR-1**					
Certified Weight (g):	**1000.0**					
Measured Weight (g):	**999.8**					
Weight Difference (g):	**0.2**	--	--	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
8/22/22	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
8/22/22	MB7	Pass

Reagent	Lot#	Field Prep performed	Field Lot	Date	By
DiH2O	TA/Eurofins	No	NA	NA	NA
Methanol/Ammonia Mix	TA/Eurofins	No	NA	NA	NA

Method 4 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3051
Parameter HFPO-DA
Analysis Gravimetric

Run 1	Date:	8/22/22							
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	310.2	497.1	748.2	749.6	726.3	490.3	277.4	762.6	4561.7
Final Mass, g	331.2	513.6	747.8	750.9	726.9	492.4	288.3	775.6	4626.7
Gain	21.0	16.5	-0.4	1.3	0.6	2.1	10.9	13.0	65.0
Run 2	**Date:**	8/22/22							
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	300.2	466.6	772.5	788.8	752.1	476.7	312.8	859.5	4729.2
Final Mass, g	321.7	484.7	769.7	788	752.4	480.3	324.7	871.7	4793.2
Gain	21.5	18.1	-2.8	-0.8	0.3	3.6	11.9	12.2	64.0
Run 3	**Date:**	8/22/22							
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	305.3	514.5	774.5	755.3	708.6	477.5	303.1	725.6	4564.4
Final Mass, g	323.7	529.4	773.5	755.5	709.0	480	313	738.4	4622.5
Gain	18.4	14.9	-1.0	0.2	0.4	2.5	9.9	12.8	58.1

Appendix C

eurofins | Environment Testing America

ANALYTICAL REPORT

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

Laboratory Job ID: 140-28598-1
Client Project/Site: VEN Carbon Bed Inlet

For:
The Chemours Company FC, LLC
c/o AECOM
Sabre Building, Suite 300
4051 Ogletown Road
Newark, Delaware 19713

Attn: Michael Aucoin

Authorized for release by:
9/13/2022 10:16:58 AM

Courtney Adkins, Project Manager II
(865)291-3019
Courtney.Adkins@et.eurofinsus.com

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Definitions/Glossary

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-28598-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

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: 140-28598-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-28598-1

Receipt

The samples were received on 8/22/2022 6:30 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 0.8º C.

LCMS

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 140-64692 and 140-64793 and analytical batch 140-65151 recovered outside acceptance limits for HFPO-DA. The laboratory control sample duplicate (LCSD) was within limits. 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: T-2408,T-2409 VEN CB INLET R1 OTM-45 FH

Lab Sample ID: 140-28598-1

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	90.1		4.93	4.64	ug/Sample		08/26/22 10:38	09/09/22 23:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*101*		*25 - 150*	*08/26/22 10:38*	*09/09/22 23:27*	*1*

Client Sample ID: T-2410,T-2411,2413 VEN CB INLET R1 OTM-45 BH

Lab Sample ID: 140-28598-2

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	228	*+	50.0	27.5	ug/Sample		08/26/22 09:53	09/10/22 01:48	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96*		*25 - 150*	*08/26/22 09:53*	*09/10/22 01:48*	*1*

Client Sample ID: T-2412 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28598-3

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	14.0		0.390	0.156	ug/Sample		08/26/22 14:00	09/09/22 20:57	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*102*		*25 - 150*	*08/26/22 14:00*	*09/09/22 20:57*	*5*

Client Sample ID: T-2414 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28598-4

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.233	*+	0.0400	0.0220	ug/Sample		08/26/22 09:53	09/10/22 13:30	2

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*88*		*25 - 150*	*08/26/22 09:53*	*09/10/22 13:30*	*2*

Client Sample ID: T-2415,T-2416 VEN CB INLET R2 OTM-45 FH

Lab Sample ID: 140-28598-5

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	31.3		5.00	4.70	ug/Sample		08/26/22 10:38	09/09/22 23:54	1

Client Sample ID: T-2415,T-2416 VEN CB INLET R2 OTM-45 FH

Lab Sample ID: 140-28598-5

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	128		25 - 150	08/26/22 10:38	09/09/22 23:54	1

Client Sample ID: T-2417,T-2418,2420 VEN CB INLET R2 OTM-45 BH

Lab Sample ID: 140-28598-6

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	421	*+	100	55.0	ug/Sample		08/26/22 09:53	09/10/22 02:06	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	99		25 - 150	08/26/22 09:53	09/10/22 02:06	1

Client Sample ID: T-2419 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28598-7

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	60.4		0.778	0.311	ug/Sample		08/26/22 14:00	09/09/22 21:06	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	101		25 - 150	08/26/22 14:00	09/09/22 21:06	10

Client Sample ID: T-2421 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28598-8

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	1.25	*+	0.400	0.220	ug/Sample		08/26/22 09:53	09/10/22 02:14	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	99		25 - 150	08/26/22 09:53	09/10/22 02:14	20

Client Sample ID: T-2422,T-2423 VEN CB INLET R3 OTM-45 FH

Lab Sample ID: 140-28598-9

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	41.9		5.00	4.70	ug/Sample		08/26/22 10:38	09/10/22 00:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	95		25 - 150	08/26/22 10:38	09/10/22 00:02	1

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-28598-1

Client Sample ID: T-2424,T-2425,2427 VEN CB INLET R3 OTM-45 BH

Lab Sample ID: 140-28598-10

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	275	*+	100	55.0	ug/Sample		08/26/22 09:53	09/10/22 02:23	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	97		25 - 150	08/26/22 09:53	09/10/22 02:23	1

Client Sample ID: T-2426 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28598-11

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	56.2		0.773	0.309	ug/Sample		08/26/22 14:00	09/09/22 21:15	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	108		25 - 150	08/26/22 14:00	09/09/22 21:15	10

Client Sample ID: T-2428 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28598-12

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	1.30	*+	0.400	0.220	ug/Sample		08/26/22 09:53	09/10/22 02:32	20

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	106		25 - 150	08/26/22 09:53	09/10/22 02:32	20

Default Detection Limits

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-28598-1

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: VEN Carbon Bed Inlet

Job ID: 140-28598-1

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)						
140-28598-1	T-2408,T-2409 VEN CB INLET F	101						
140-28598-2	T-2410,T-2411,2413 VEN CB INLET R1 OTM-45 BH	96						
140-28598-3	T-2412 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	102						
140-28598-4	T-2414 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	88						
140-28598-5	T-2415,T-2416 VEN CB INLET R2 OTM-45 FH	128						
140-28598-6	T-2417,T-2418,2420 VEN CB INLET R2 OTM-45 BH	99						
140-28598-7	T-2419 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	101						
140-28598-8	T-2421 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	99						
140-28598-9	T-2422,T-2423 VEN CB INLET R3 OTM-45 FH	95						
140-28598-10	T-2424,T-2425,2427 VEN CB INLET R3 OTM-45 BH	97						
140-28598-11	T-2426 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	108						
140-28598-12	T-2428 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	106						
LCS 140-64692/2-B	Lab Control Sample	76						
LCS 140-64694/2-B	Lab Control Sample	89						
LCS 140-64704/2-A	Lab Control Sample	103						
LCSD 140-64692/3-B	Lab Control Sample Dup	88						
LCSD 140-64694/3-B	Lab Control Sample Dup	91						
LCSD 140-64704/3-A	Lab Control Sample Dup	105						
MB 140-64692/1-B	Method Blank	91						
MB 140-64694/1-B	Method Blank	90						
MB 140-64704/1-A	Method Blank	101						

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-64692/1-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64692

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		08/26/22 09:53	09/10/22 01:04	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*25 - 150*	*08/26/22 09:53*	*09/10/22 01:04*	*1*

Lab Sample ID: LCS 140-64692/2-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64692

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.03046	*+	ug/Sample		152	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*76*		*25 - 150*

Lab Sample ID: LCSD 140-64692/3-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64692

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02534		ug/Sample		127	60 - 140	18	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*88*		*25 - 150*

Lab Sample ID: MB 140-64694/1-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64694

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		08/26/22 10:38	09/09/22 23:01	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*08/26/22 10:38*	*09/09/22 23:01*	*1*

Lab Sample ID: LCS 140-64694/2-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64694

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.01761		ug/Sample		88	60 - 140		

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

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

Lab Sample ID: LCSD 140-64694/3-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64694

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.01852		ug/Sample		93	60 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*91*		*25 - 150*

Lab Sample ID: MB 140-64704/1-A
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64704

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		08/26/22 14:00	09/09/22 20:31	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*101*		*25 - 150*	*08/26/22 14:00*	*09/09/22 20:31*	*1*

Lab Sample ID: LCS 140-64704/2-A
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64704

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.008720		ug/Sample		87	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*103*		*25 - 150*

Lab Sample ID: LCSD 140-64704/3-A
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64704

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.009491		ug/Sample		95	60 - 140	8	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*105*		*25 - 150*

QC Association Summary

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-28598-1

LCMS

Prep Batch: 64692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28598-2	T-2410,T-2411,2413 VEN CB INLET R1 OTM-45	Total/NA	Air	None	
140-28598-4	T-2414 VEN CB INLET R1 OTM-45 BREAKTHR(	Total/NA	Air	None	
140-28598-6	T-2417,T-2418,2420 VEN CB INLET R2 OTM-45	Total/NA	Air	None	
140-28598-8	T-2421 VEN CB INLET R2 OTM-45 BREAKTHR(	Total/NA	Air	None	
140-28598-10	T-2424,T-2425,2427 VEN CB INLET R3 OTM-45	Total/NA	Air	None	
140-28598-12	T-2428 VEN CB INLET R3 OTM-45 BREAKTHR(	Total/NA	Air	None	
MB 140-64692/1-B	Method Blank	Total/NA	Air	None	
LCS 140-64692/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-64692/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 64694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28598-1	T-2408,T-2409 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	None	
140-28598-5	T-2415,T-2416 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	None	
140-28598-9	T-2422,T-2423 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	None	
MB 140-64694/1-B	Method Blank	Total/NA	Air	None	
LCS 140-64694/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-64694/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 64704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28598-3	T-2412 VEN CB INLET R1 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
140-28598-7	T-2419 VEN CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
140-28598-11	T-2426 VEN CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
MB 140-64704/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-64704/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-64704/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Cleanup Batch: 64772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28598-1	T-2408,T-2409 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	Split	64694
140-28598-5	T-2415,T-2416 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	Split	64694
140-28598-9	T-2422,T-2423 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	Split	64694
MB 140-64694/1-B	Method Blank	Total/NA	Air	Split	64694
LCS 140-64694/2-B	Lab Control Sample	Total/NA	Air	Split	64694
LCSD 140-64694/3-B	Lab Control Sample Dup	Total/NA	Air	Split	64694

Cleanup Batch: 64793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28598-2	T-2410,T-2411,2413 VEN CB INLET R1 OTM-45	Total/NA	Air	Split	64692
140-28598-4	T-2414 VEN CB INLET R1 OTM-45 BREAKTHR(	Total/NA	Air	Split	64692
140-28598-6	T-2417,T-2418,2420 VEN CB INLET R2 OTM-45	Total/NA	Air	Split	64692
140-28598-8	T-2421 VEN CB INLET R2 OTM-45 BREAKTHR(	Total/NA	Air	Split	64692
140-28598-10	T-2424,T-2425,2427 VEN CB INLET R3 OTM-45	Total/NA	Air	Split	64692
140-28598-12	T-2428 VEN CB INLET R3 OTM-45 BREAKTHR(	Total/NA	Air	Split	64692
MB 140-64692/1-B	Method Blank	Total/NA	Air	Split	64692
LCS 140-64692/2-B	Lab Control Sample	Total/NA	Air	Split	64692
LCSD 140-64692/3-B	Lab Control Sample Dup	Total/NA	Air	Split	64692

LCMS

Analysis Batch: 65151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28598-1	T-2408,T-2409 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	537 (modified)	65155
140-28598-2	T-2410,T-2411,2413 VEN CB INLET R1 OTM-45	Total/NA	Air	537 (modified)	65155
140-28598-3	T-2412 VEN CB INLET R1 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	64704
140-28598-5	T-2415,T-2416 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	537 (modified)	65155
140-28598-6	T-2417,T-2418,2420 VEN CB INLET R2 OTM-45	Total/NA	Air	537 (modified)	65155
140-28598-7	T-2419 VEN CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	64704
140-28598-8	T-2421 VEN CB INLET R2 OTM-45 BREAKTHR(	Total/NA	Air	537 (modified)	64793
140-28598-9	T-2422,T-2423 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	537 (modified)	65155
140-28598-10	T-2424,T-2425,2427 VEN CB INLET R3 OTM-45	Total/NA	Air	537 (modified)	65155
140-28598-11	T-2426 VEN CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	64704
140-28598-12	T-2428 VEN CB INLET R3 OTM-45 BREAKTHR(	Total/NA	Air	537 (modified)	64793
MB 140-64692/1-B	Method Blank	Total/NA	Air	537 (modified)	64793
MB 140-64694/1-B	Method Blank	Total/NA	Air	537 (modified)	64772
MB 140-64704/1-A	Method Blank	Total/NA	Air	537 (modified)	64704
LCS 140-64692/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	64793
LCS 140-64694/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	64772
LCS 140-64704/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	64704
LCSD 140-64692/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	64793
LCSD 140-64694/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	64772
LCSD 140-64704/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	64704

Analysis Batch: 65154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28598-4	T-2414 VEN CB INLET R1 OTM-45 BREAKTHR(	Total/NA	Air	537 (modified)	64793

Cleanup Batch: 65155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28598-1	T-2408,T-2409 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	Dilution	64772
140-28598-2	T-2410,T-2411,2413 VEN CB INLET R1 OTM-45	Total/NA	Air	Dilution	64793
140-28598-5	T-2415,T-2416 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	Dilution	64772
140-28598-6	T-2417,T-2418,2420 VEN CB INLET R2 OTM-45	Total/NA	Air	Dilution	64793
140-28598-9	T-2422,T-2423 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	Dilution	64772
140-28598-10	T-2424,T-2425,2427 VEN CB INLET R3 OTM-45	Total/NA	Air	Dilution	64793

Client Sample ID: T-2408,T-2409 VEN CB INLET R1 OTM-45 FH

Lab Sample ID: 140-28598-1

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	73 mL	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			37 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	65155	09/09/22 11:48	JRC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:27	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2410,T-2411,2413 VEN CB INLET R1 OTM-45 BH

Lab Sample ID: 140-28598-2

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Cleanup	Dilution			4 uL	10000 uL	65155	09/09/22 11:48	JRC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 01:48	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2412 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28598-3

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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			0.00641 Sample	10 mL	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		5	1 mL	1 mL	65151	09/09/22 20:57	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2414 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28598-4

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		2	1 mL	1 mL	65154	09/10/22 13:30	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2415,T-2416 VEN CB INLET R2 OTM-45 FH

Lab Sample ID: 140-28598-5

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30

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	76 mL	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			38 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	65155	09/09/22 11:48	JRC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:54	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2417,T-2418,2420 VEN CB INLET R2 OTM-45 BH

Lab Sample ID: 140-28598-6

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Cleanup	Dilution			2 uL	10000 uL	65155	09/09/22 11:48	JRC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 02:06	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2419 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28598-7

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30

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			0.00643 Sample	10 mL	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		10	1 mL	1 mL	65151	09/09/22 21:06	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2421 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28598-8

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		20	1 mL	1 mL	65151	09/10/22 02:14	JRC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-28598-1

Client Sample ID: T-2422,T-2423 VEN CB INLET R3 OTM-45 FH

Lab Sample ID: 140-28598-9

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	82 mL	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			41 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	65155	09/09/22 11:48	JRC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 00:02	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2424,T-2425,2427 VEN CB INLET R3 OTM-45 BH

Lab Sample ID: 140-28598-10

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Cleanup	Dilution			2 uL	10000 uL	65155	09/09/22 11:48	JRC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 02:23	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2426 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28598-11

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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			0.00647 Sample	10 mL	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		10	1 mL	1 mL	65151	09/09/22 21:15	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2428 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28598-12

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		20	1 mL	1 mL	65151	09/10/22 02:32	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-64692/1-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 01:04	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-64694/1-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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:01	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-64704/1-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	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 20:31	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-64692/2-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 01:13	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-64694/2-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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:09	JRC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-28598-1

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-64704/2-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	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 20:40	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-64692/3-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 01:39	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-64694/3-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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:18	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-64704/3-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	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 20:49	JRC	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: 140-28598-1
Project/Site: VEN Carbon Bed Inlet

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	06-16-23
California	State	2423	06-30-22 *
Colorado	State	TN00009	02-28-23
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-23
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-22
Kansas	NELAP	E-10349	10-31-22
Kentucky (DW)	State	90101	12-31-22
Louisiana	NELAP	83979	06-30-23
Louisiana (All)	NELAP	83979	06-30-23
Louisiana (DW)	State	LA019	12-31-22
Maryland	State	277	03-31-23
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-23
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-23
New York	NELAP	10781	03-31-23
North Carolina (DW)	State	21705	07-31-23
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-22 *
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-22-17	08-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-19-00236	12-31-22
Utah	NELAP	TN00009	07-31-23
Virginia	NELAP	460176	09-14-22
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-23
Wisconsin	State	998044300	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Inlet

Job ID: 140-28598-1

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: VEN Carbon Bed Inlet

Job ID: 140-28598-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-28598-1	T-2408,T-2409 VEN CB INLET R1 OTM-45 FH	Air	08/22/22 00:00	08/22/22 18:30
140-28598-2	T-2410,T-2411,2413 VEN CB INLET R1 OTM-45 BH	Air	08/22/22 00:00	08/22/22 18:30
140-28598-3	T-2412 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	08/22/22 00:00	08/22/22 18:30
140-28598-4	T-2414 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	08/22/22 00:00	08/22/22 18:30
140-28598-5	T-2415,T-2416 VEN CB INLET R2 OTM-45 FH	Air	08/22/22 00:00	08/22/22 18:30
140-28598-6	T-2417,T-2418,2420 VEN CB INLET R2 OTM-45 BH	Air	08/22/22 00:00	08/22/22 18:30
140-28598-7	T-2419 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	08/22/22 00:00	08/22/22 18:30
140-28598-8	T-2421 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	08/22/22 00:00	08/22/22 18:30
140-28598-9	T-2422,T-2423 VEN CB INLET R3 OTM-45 FH	Air	08/22/22 00:00	08/22/22 18:30
140-28598-10	T-2424,T-2425,2427 VEN CB INLET R3 OTM-45 BH	Air	08/22/22 00:00	08/22/22 18:30
140-28598-11	T-2426 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	08/22/22 00:00	08/22/22 18:30
140-28598-12	T-2428 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	08/22/22 00:00	08/22/22 18:30

Project Identification:	**Chemours Emissions Test**
Client Name:	Chemours Company
Client Contact:	Christel Compton (910) 678-1213
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**
T-2408 VEN CB INLET R1 OTM-45 Particulate Filter (Combine with *T-2409*)	1	8/22/22		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.
T-2409 VEN CB INLET R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse (Combine with *T-2408*)	1	8/22/22		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.
T-2410 VEN CB INLET R1 OTM-45 XAD-2 Resin Tube	1	8/22/22		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.

140-28598 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
T-2411 VEN CB INLET R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2410*)	1	8/22/22		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.
T-2412 VEN CB INLET R1 OTM-45 Impingers 1,2 & 3 Condensate	1	8/22/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2413 VEN CB INLET R1 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2410*)	1	8/22/22		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.
T-2414 VEN CB INLET R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	8/22/22		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.
T-2415 VEN CB INLET R2 OTM-45 Particulate Filter (Combine with *T-2416*)	2	8/22/22		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.
T-2416 VEN CB INLET R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *T-2415*)	2	8/22/22		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
T-2417 VEN CB INLET R2 OTM-45 XAD-2 Resin Tube	2	8/22/22		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.
T-2418 VEN CB INLET R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2417*)	2	8/22/22		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.
T-2419 VEN CB INLET R2 OTM-45 Impingers 1,2 & 3 Condensate	2	8/22/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2420 VEN CB INLET R2 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2417*)	2	8/22/22		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.
T-2421 VEN CB INLET R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	8/22/22		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.
T-2422 VEN CB INLET R3 OTM-45 Particulate Filter (Combine with *T-2423*)	3	8/22/22		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
T-2423 VEN CB INLET R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *T-2422*)	3	8/22/22		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.
T-2424 VEN CB INLET R3 OTM-45 XAD-2 Resin Tube	3	8/22/22		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.
T-2425 VEN CB INLET R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2424*)	3	8/22/22		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.
T-2426 VEN CB INLET R3 OTM-45 Impingers 1,2 & 3 Condensate	3	8/22/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2427 VEN CB INLET R3 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2424*)	3	8/22/22		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.
T-2428 VEN CB INLET R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	8/22/22		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
T-2429 VEN CB INLET R4 OTM-45 Particulate Filter (Combine with *T-2430*)	4			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.
T-2430 VEN CB INLET R4 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *T-2429*)	4			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.
T-2431 VEN CB INLET R4 OTM-45 XAD-2 Resin Tube	4			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.
T-2432 VEN CB INLET R4 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2431*)	4			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.
T-2433 VEN CB INLET R4 OTM-45 Impingers 1,2 & 3 Condensate	4			500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2434 VEN CB INLET R4 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2431*)	4			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
T-2435 VEN CB INLET R4 OTM-45 Breakthrough XAD-2 Resin Tube	4			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 0.7/CT 0.8
(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:	[signature]	Alliance	8/22/22 1830
Accepted By:	[signature]	FEDEX	8-22-22 18:30
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 : S073 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	

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: 8-24-22

QA026R32.doc, 062719

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ANALYTICAL REPORT

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

Laboratory Job ID: 140-28600-1
Client Project/Site: VEN Carbon Bed Outlet

For:
The Chemours Company FC, LLC
c/o AECOM
Sabre Building, Suite 300
4051 Ogletown Road
Newark, Delaware 19713

Attn: Michael Aucoin

Authorized for release by:
9/13/2022 10:22:46 AM

Courtney Adkins, Project Manager II
(865)291-3019
Courtney.Adkins@et.eurofinsus.com

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Definitions/Glossary

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-28600-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

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: 140-28600-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-28600-1

Receipt

The samples were received on 8/22/2022 6:30 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 0.9º C.

LCMS

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 140-64692 and 140-64793 and analytical batch 140-65151 recovered outside acceptance limits for HFPO-DA. The laboratory control sample duplicate (LCSD) was within limits. The entire sample was consumed during analysis or extraction therefore, the data have been reported.

Organic Prep

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

Client Sample ID: T-2436,T-2437 VEN CB OUTLET R1 OTM-45 FH

Lab Sample ID: 140-28600-1

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	1.67		0.0983	0.0924	ug/Sample		08/26/22 10:38	09/10/22 00:11	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*107*		*25 - 150*	*08/26/22 10:38*	*09/10/22 00:11*	*20*

Client Sample ID: T-2438,T-2439,2441 VEN CB OUTLET R1 OTM-45 BH

Lab Sample ID: 140-28600-2

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	1.27	*+	0.281	0.155	ug/Sample		08/26/22 09:53	09/10/22 13:39	5

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*76*		*25 - 150*	*08/26/22 09:53*	*09/10/22 13:39*	*5*

Client Sample ID: T-2440 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28600-3

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.110		0.0820	0.0328	ug/Sample		08/26/22 14:00	09/09/22 21:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*103*		*25 - 150*	*08/26/22 14:00*	*09/09/22 21:24*	*1*

Client Sample ID: T-2442 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28600-4

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND	*+	0.0400	0.0220	ug/Sample		08/26/22 09:53	09/10/22 02:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*103*		*25 - 150*	*08/26/22 09:53*	*09/10/22 02:50*	*1*

Client Sample ID: T-2443,T-2444 VEN CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-28600-5

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	1.71		0.100	0.0940	ug/Sample		08/26/22 10:38	09/10/22 00:20	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*113*		*25 - 150*	*08/26/22 10:38*	*09/10/22 00:20*	*20*

Client Sample ID: T-2445,T-2446,2448 VEN CB OUTLET R2 OTM-45 BH

Lab Sample ID: 140-28600-6

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	9.63	*+	2.00	1.10	ug/Sample		08/26/22 09:53	09/10/22 02:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*95*		*25 - 150*	*08/26/22 09:53*	*09/10/22 02:58*	*1*

Client Sample ID: T-2447 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28600-7

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	8.54		0.156	0.0622	ug/Sample		08/26/22 14:00	09/09/22 21:33	2

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*103*		*25 - 150*	*08/26/22 14:00*	*09/09/22 21:33*	*2*

Client Sample ID: T-2449 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28600-8

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.120	*+	0.0200	0.0110	ug/Sample		08/26/22 09:53	09/10/22 03:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*86*		*25 - 150*	*08/26/22 09:53*	*09/10/22 03:26*	*1*

Client Sample ID: T-2450,T-2451 VEN CB OUTLET R3 OTM-45 FH

Lab Sample ID: 140-28600-9

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	2.24		0.100	0.0940	ug/Sample		08/26/22 10:38	09/10/22 00:29	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*97*		*25 - 150*	*08/26/22 10:38*	*09/10/22 00:29*	*20*

Client Sample ID: T-2452,T-2453,2455 VEN CB OUTLET R3 OTM-45 BH

Lab Sample ID: 140-28600-10

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.317	*+	0.200	0.110	ug/Sample		08/26/22 09:53	09/10/22 03:44	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*99*		*25 - 150*	*08/26/22 09:53*	*09/10/22 03:44*	*10*

Client Sample ID: T-2454 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28600-11

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 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		08/26/22 14:00	09/09/22 21:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*106*		*25 - 150*	*08/26/22 14:00*	*09/09/22 21:59*	*1*

Client Sample ID: T-2456 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28600-12

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 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		08/26/22 09:53	09/10/22 03:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*105*		*25 - 150*	*08/26/22 09:53*	*09/10/22 03:53*	*1*

Default Detection Limits

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-28600-1

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: VEN Carbon Bed Outlet

Job ID: 140-28600-1

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)
140-28600-1	T-2436,T-2437 VEN CB OUTLE	107
140-28600-2	T-2438,T-2439,2441 VEN CB OUTLET R1 OTM-45 BH	76
140-28600-3	T-2440 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	103
140-28600-4	T-2442 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	103
140-28600-5	T-2443,T-2444 VEN CB OUTLET R2 OTM-45 FH	113
140-28600-6	T-2445,T-2446,2448 VEN CB OUTLET R2 OTM-45 BH	95
140-28600-7	T-2447 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	103
140-28600-8	T-2449 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	86
140-28600-9	T-2450,T-2451 VEN CB OUTLET R3 OTM-45 FH	97
140-28600-10	T-2452,T-2453,2455 VEN CB OUTLET R3 OTM-45 BH	99
140-28600-11	T-2454 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	106
140-28600-12	T-2456 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	105
LCS 140-64692/2-B	Lab Control Sample	76
LCS 140-64694/2-B	Lab Control Sample	89
LCS 140-64704/2-A	Lab Control Sample	103
LCSD 140-64692/3-B	Lab Control Sample Dup	88
LCSD 140-64694/3-B	Lab Control Sample Dup	91
LCSD 140-64704/3-A	Lab Control Sample Dup	105
MB 140-64692/14-B	Method Blank	98
MB 140-64692/1-B	Method Blank	91
MB 140-64694/1-B	Method Blank	90
MB 140-64704/1-A	Method Blank	101

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-64692/14-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64692

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		08/26/22 09:53	09/10/22 03:35	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*98*		*25 - 150*	*08/26/22 09:53*	*09/10/22 03:35*	*1*

Lab Sample ID: MB 140-64692/1-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64692

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		08/26/22 09:53	09/10/22 01:04	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*25 - 150*	*08/26/22 09:53*	*09/10/22 01:04*	*1*

Lab Sample ID: LCS 140-64692/2-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64692

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.03046	*+	ug/Sample		152	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*76*		*25 - 150*

Lab Sample ID: LCSD 140-64692/3-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64692

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02534		ug/Sample		127	60 - 140	18	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*88*		*25 - 150*

Lab Sample ID: MB 140-64694/1-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64694

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		08/26/22 10:38	09/09/22 23:01	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*08/26/22 10:38*	*09/09/22 23:01*	*1*

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

Lab Sample ID: LCS 140-64694/2-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64694

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.01761		ug/Sample		88	60 - 140		

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

Lab Sample ID: LCSD 140-64694/3-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64694

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.01852		ug/Sample		93	60 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*91*		*25 - 150*

Lab Sample ID: MB 140-64704/1-A
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64704

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		08/26/22 14:00	09/09/22 20:31	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*101*		*25 - 150*	*08/26/22 14:00*	*09/09/22 20:31*	*1*

Lab Sample ID: LCS 140-64704/2-A
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64704

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.008720		ug/Sample		87	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*103*		*25 - 150*

Lab Sample ID: LCSD 140-64704/3-A
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64704

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.009491		ug/Sample		95	60 - 140	8	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*105*		*25 - 150*

LCMS

Prep Batch: 64692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28600-2	T-2438,T-2439,2441 VEN CB OUTLET R1 OTM-	Total/NA	Air	None	
140-28600-4	T-2442 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	None	
140-28600-6	T-2445,T-2446,2448 VEN CB OUTLET R2 OTM-	Total/NA	Air	None	
140-28600-8	T-2449 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	None	
140-28600-10	T-2452,T-2453,2455 VEN CB OUTLET R3 OTM-	Total/NA	Air	None	
140-28600-12	T-2456 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	None	
MB 140-64692/14-B	Method Blank	Total/NA	Air	None	
MB 140-64692/1-B	Method Blank	Total/NA	Air	None	
LCS 140-64692/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-64692/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 64694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28600-1	T-2436,T-2437 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	None	
140-28600-5	T-2443,T-2444 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	None	
140-28600-9	T-2450,T-2451 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	None	
MB 140-64694/1-B	Method Blank	Total/NA	Air	None	
LCS 140-64694/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-64694/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 64704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28600-3	T-2440 VEN CB OUTLET R1 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
140-28600-7	T-2447 VEN CB OUTLET R2 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
140-28600-11	T-2454 VEN CB OUTLET R3 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
MB 140-64704/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-64704/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-64704/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Cleanup Batch: 64772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28600-1	T-2436,T-2437 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	Split	64694
140-28600-5	T-2443,T-2444 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	Split	64694
140-28600-9	T-2450,T-2451 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	Split	64694
MB 140-64694/1-B	Method Blank	Total/NA	Air	Split	64694
LCS 140-64694/2-B	Lab Control Sample	Total/NA	Air	Split	64694
LCSD 140-64694/3-B	Lab Control Sample Dup	Total/NA	Air	Split	64694

Cleanup Batch: 64793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28600-2	T-2438,T-2439,2441 VEN CB OUTLET R1 OTM-	Total/NA	Air	Split	64692
140-28600-4	T-2442 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	Split	64692
140-28600-6	T-2445,T-2446,2448 VEN CB OUTLET R2 OTM-	Total/NA	Air	Split	64692
140-28600-8	T-2449 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	Split	64692
140-28600-10	T-2452,T-2453,2455 VEN CB OUTLET R3 OTM-	Total/NA	Air	Split	64692
140-28600-12	T-2456 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	Split	64692
MB 140-64692/14-B	Method Blank	Total/NA	Air	Split	64692
MB 140-64692/1-B	Method Blank	Total/NA	Air	Split	64692
LCS 140-64692/2-B	Lab Control Sample	Total/NA	Air	Split	64692
LCSD 140-64692/3-B	Lab Control Sample Dup	Total/NA	Air	Split	64692

QC Association Summary

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-28600-1

LCMS

Analysis Batch: 65151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28600-1	T-2436,T-2437 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	537 (modified)	64772
140-28600-3	T-2440 VEN CB OUTLET R1 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	64704
140-28600-4	T-2442 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	64793
140-28600-5	T-2443,T-2444 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	537 (modified)	64772
140-28600-6	T-2445,T-2446,2448 VEN CB OUTLET R2 OTM-	Total/NA	Air	537 (modified)	65155
140-28600-7	T-2447 VEN CB OUTLET R2 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	64704
140-28600-8	T-2449 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	64793
140-28600-9	T-2450,T-2451 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	537 (modified)	64772
140-28600-10	T-2452,T-2453,2455 VEN CB OUTLET R3 OTM-	Total/NA	Air	537 (modified)	64793
140-28600-11	T-2454 VEN CB OUTLET R3 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	64704
140-28600-12	T-2456 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	64793
MB 140-64692/14-B	Method Blank	Total/NA	Air	537 (modified)	64793
MB 140-64692/1-B	Method Blank	Total/NA	Air	537 (modified)	64793
MB 140-64694/1-B	Method Blank	Total/NA	Air	537 (modified)	64772
MB 140-64704/1-A	Method Blank	Total/NA	Air	537 (modified)	64704
LCS 140-64692/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	64793
LCS 140-64694/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	64772
LCS 140-64704/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	64704
LCSD 140-64692/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	64793
LCSD 140-64694/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	64772
LCSD 140-64704/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	64704

Analysis Batch: 65154

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28600-2	T-2438,T-2439,2441 VEN CB OUTLET R1 OTM-	Total/NA	Air	537 (modified)	64793

Cleanup Batch: 65155

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28600-6	T-2445,T-2446,2448 VEN CB OUTLET R2 OTM-	Total/NA	Air	Dilution	64793

Client Sample ID: T-2436,T-2437 VEN CB OUTLET R1 OTM-45 FH

Lab Sample ID: 140-28600-1

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	59 mL	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			30 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		20	1 mL	1 mL	65151	09/10/22 00:11	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2438,T-2439,2441 VEN CB OUTLET R1 OTM-45 BH

Lab Sample ID: 140-28600-2

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			64 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		5	1 mL	1 mL	65154	09/10/22 13:39	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2440 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28600-3

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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			0.00610 Sample	10 mL	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 21:24	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2442 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28600-4

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			90 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 02:50	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2443,T-2444 VEN CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-28600-5

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			28 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		20	1 mL	1 mL	65151	09/10/22 00:20	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2445,T-2446,2448 VEN CB OUTLET R2 OTM-45 BH

Lab Sample ID: 140-28600-6

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	65155	09/09/22 11:48	JRC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 02:58	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2447 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28600-7

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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			0.00643 Sample	10 mL	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		2	1 mL	1 mL	65151	09/09/22 21:33	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2449 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28600-8

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 03:26	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2450,T-2451 VEN CB OUTLET R3 OTM-45 FH

Lab Sample ID: 140-28600-9

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	58 mL	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			29 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		20	1 mL	1 mL	65151	09/10/22 00:29	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2452,T-2453,2455 VEN CB OUTLET R3 OTM-45 BH

Lab Sample ID: 140-28600-10

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		10	1 mL	1 mL	65151	09/10/22 03:44	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2454 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28600-11

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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			0.00645 Sample	10 mL	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 21:59	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2456 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28600-12

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 03:53	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-64692/14-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 03:35	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-64692/1-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 01:04	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-64694/1-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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:01	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-64704/1-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	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 20:31	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-64692/2-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 01:13	JRC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-28600-1

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-64694/2-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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:09	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-64704/2-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	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 20:40	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-64692/3-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 01:39	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-64694/3-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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:18	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-64704/3-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	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 20:49	JRC	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: 140-28600-1
Project/Site: VEN Carbon Bed Outlet

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	06-16-23
California	State	2423	06-30-22 *
Colorado	State	TN00009	02-28-23
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-23
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-22
Kansas	NELAP	E-10349	10-31-22
Kentucky (DW)	State	90101	12-31-22
Louisiana	NELAP	83979	06-30-23
Louisiana (All)	NELAP	83979	06-30-23
Louisiana (DW)	State	LA019	12-31-22
Maryland	State	277	03-31-23
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-23
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-23
New York	NELAP	10781	03-31-23
North Carolina (DW)	State	21705	07-31-23
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-22 *
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-22-17	08-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-19-00236	12-31-22
Utah	NELAP	TN00009	07-31-23
Virginia	NELAP	460176	09-14-22
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-23
Wisconsin	State	998044300	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Outlet

Job ID: 140-28600-1

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: VEN Carbon Bed Outlet

Job ID: 140-28600-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-28600-1	T-2436,T-2437 VEN CB OUTLET R1 OTM-45 FH	Air	08/22/22 00:00	08/22/22 18:30
140-28600-2	T-2438,T-2439,2441 VEN CB OUTLET R1 OTM-45 BH	Air	08/22/22 00:00	08/22/22 18:30
140-28600-3	T-2440 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	08/22/22 00:00	08/22/22 18:30
140-28600-4	T-2442 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	08/22/22 00:00	08/22/22 18:30
140-28600-5	T-2443,T-2444 VEN CB OUTLET R2 OTM-45 FH	Air	08/22/22 00:00	08/22/22 18:30
140-28600-6	T-2445,T-2446,2448 VEN CB OUTLET R2 OTM-45 BH	Air	08/22/22 00:00	08/22/22 18:30
140-28600-7	T-2447 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	08/22/22 00:00	08/22/22 18:30
140-28600-8	T-2449 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	08/22/22 00:00	08/22/22 18:30
140-28600-9	T-2450,T-2451 VEN CB OUTLET R3 OTM-45 FH	Air	08/22/22 00:00	08/22/22 18:30
140-28600-10	T-2452,T-2453,2455 VEN CB OUTLET R3 OTM-45 BH	Air	08/22/22 00:00	08/22/22 18:30
140-28600-11	T-2454 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	08/22/22 00:00	08/22/22 18:30
140-28600-12	T-2456 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	08/22/22 00:00	08/22/22 18:30

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

eurofins | Environment Testing TestAmerica

Project Identification:	Chemours Emissions Test
Client Name:	The Chemours Company FC, LLC
Client Contact:	Ms. Christel Compton Office: (910) 678-1213 Cell: (910) 975-3386
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 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:	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:	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
T-2436 VEN CB OUTLET R1 OTM-45 Filter (Combine with *T-2437*)	1	8/22/22		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.
T-2437 VEN CB OUTLET R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse (Combine with *T-2436*)	1	8/22/22		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. 140-28600 Chain of Custody
T-2438 VEN CB OUTLET R1 OTM-45 XAD-2 Resin Tube	1	8/22/22		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
T-2439 VEN CB OUTLET R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2438*)	1	8/22/22		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.
T-2440 VEN CB OUTLET R1 OTM-45 Impingers 1,2 & 3 Condensate	1	8/22/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2441 VEN CB OUTLET R1 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2438*)	1	8/22/22		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.
T-2442 VEN CB OUTLET R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	8/22/22		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.
T-2443 VEN CB OUTLET R2 OTM-45 Filter (Combine with *T-2444*)	2	8/22/22		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.
T-2444 VEN CB OUTLET R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *T-2443*)	2	8/22/22		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
T-2445 VEN CB OUTLET R2 OTM-45 XAD-2 Resin Tube	2	8/22/22		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.
T-2446 VEN CB OUTLET R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2445*)	2	8/22/22		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.
T-2447 VEN CB OUTLET R2 OTM-45 Impingers 1,2 & 3 Condensate	2	8/22/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2448 VEN CB OUTLET R2 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2445*)	2	8/22/22		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.
T-2449 VEN CB OUTLET R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	8/22/22		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.
T-2450 VEN CB OUTLET R3 OTM-45 Filter (Combine with *T-2451*)	3	8/22/22		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
T-2451 VEN CB OUTLET R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *T-2450*)	3	8/22/22		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.
T-2452 VEN CB OUTLET R3 OTM-45 XAD-2 Resin Tube	3	8/22/22		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.
T-2453 VEN CB OUTLET R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2452*)	3	8/22/22		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.
T-2454 VEN CB OUTLET R3 OTM-45 Impingers 1,2 & 3 Condensate	3	8/22/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2455 VEN CB OUTLET R3 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2452*)	3	8/22/22		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.
T-2456 VEN CB OUTLET R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	8/22/22		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
T-2457 VEN CB OUTLET R4 OTM-45 Filter (Combine with *T-2458*)	4			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.
T-2458 VEN CB OUTLET R4 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *T-2457*)	4			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.
T-2459 VEN CB OUTLET R4 OTM-45 XAD-2 Resin Tube	4			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.
T-2460 VEN CB OUTLET R4 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2459*)	4			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.
T-2461 VEN CB OUTLET R4 OTM-45 Impingers 1,2 & 3 Condensate	4			500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2462 VEN CB OUTLET R4 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2459*)	4			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.
T-2463 VEN CB OUTLET R4 OTM-45 Breakthrough XAD-2 Resin Tube	4			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 0.8/CT 0.9°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:	[signature]	Alliance	8/22/22/1830
Accepted By:	[signature]	ETA-KNOX	8-22-22 18:31
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?
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 : SC73 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: Kayla Jones Date: 8.24.22

QA026R32.doc, 062719

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ANALYTICAL REPORT

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville, TN 37921
Tel: (865)291-3000

Laboratory Job ID: 140-28602-1
Client Project/Site: VEN Carbon Bed Field QC

For:
The Chemours Company FC, LLC
c/o AECOM
Sabre Building, Suite 300
4051 Ogletown Road
Newark, Delaware 19713

Attn: Michael Aucoin

Authorized for release by:
9/13/2022 10:26:29 AM

Courtney Adkins, Project Manager II
(865)291-3019
Courtney.Adkins@et.eurofinsus.com

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Definitions/Glossary

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Field QC

Job ID: 140-28602-1

Qualifiers

LCMS

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

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: 140-28602-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-28602-1

Receipt

The samples were received on 8/22/2022 6:30 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 0.4º C.

LCMS

Method 537 (modified): The laboratory control sample (LCS) for preparation batch 140-64692 and 140-64793 and analytical batch 140-65151 recovered outside acceptance limits for HFPO-DA. The laboratory control sample duplicate (LCSD) was within limits. The entire sample was consumed during analysis or extraction therefore, the data have been reported.

Method 537 (modified): During the extraction process, two samples 140-28602-A-6 and 140-28602-A-8 were given the same sample ID of 140-28602-A-6. Both extracts were analyzed and uploaded for informational purposes. The laboratory is providing the data for these two extracts. The best way to provide that data is by having one extract labeled as 140-28602-A-6 and the other as 140-28602-A-8, but the laboratory is unable to distinguish with sample goes with each ID. The samples again are T-2472 QC OTM-45 MEOH WITH 5% NH4OH RB (140-28602-6) and T-2475,T-2476,2478 QC OTM-45 BH BT (140-28602-8).

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: T-2464,T-2465 QC OTM-45 FH PBT

Lab Sample ID: 140-28602-1

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30
Sample Container: Air Train

Method: 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		08/26/22 10:38	09/10/22 00:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96*		*25 - 150*	*08/26/22 10:38*	*09/10/22 00:38*	*1*

Client Sample ID: T-2466,T-2467,2469 QC OTM-45 BH PBT

Lab Sample ID: 140-28602-2

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30
Sample Container: Air Train

Method: 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		08/26/22 09:53	09/10/22 04:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*87*		*25 - 150*	*08/26/22 09:53*	*09/10/22 04:02*	*1*

Client Sample ID: T-2468 QC OTM-45 IMPINGER 1,2&3 CONDENSATE PBT

Lab Sample ID: 140-28602-3

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0773	0.0309	ug/Sample		08/26/22 14:00	09/09/22 22:08	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*76*		*25 - 150*	*08/26/22 14:00*	*09/09/22 22:08*	*1*

Client Sample ID: T-2470 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE PBT

Lab Sample ID: 140-28602-4

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30
Sample Container: Air Train

Method: 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		08/26/22 09:53	09/10/22 04:10	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*88*		*25 - 150*	*08/26/22 09:53*	*09/10/22 04:10*	*1*

Client Sample ID: T-2471 QC OTM-45 DI WATER RB

Lab Sample ID: 140-28602-5

Date Collected: 08/22/22 00:00
Matrix: Air
Date Received: 08/22/22 18:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0379	0.0152	ug/Sample		08/26/22 14:00	09/09/22 22:17	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*103*		*25 - 150*	*08/26/22 14:00*	*09/09/22 22:17*	*1*

Client Sample ID: T-2472 QC OTM-45 MEOH WITH 5% NH4OH RB

Lab Sample ID: 140-28602-6

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 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		08/26/22 09:53	09/10/22 04:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*88*		*25 - 150*	*08/26/22 09:53*	*09/10/22 04:19*	*1*

Client Sample ID: T-2473,T-2474 QC OTM-45 FH BT

Lab Sample ID: 140-28602-7

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 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		08/26/22 10:38	09/10/22 00:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*95*		*25 - 150*	*08/26/22 10:38*	*09/10/22 00:46*	*1*

Client Sample ID: T-2475,T-2476,2478 QC OTM-45 BH BT

Lab Sample ID: 140-28602-8

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 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		08/26/22 09:53	09/10/22 04:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*25 - 150*	*08/26/22 09:53*	*09/10/22 04:28*	*1*

Client Sample ID: T-2477 QC OTM-45 IMPINGER 1,2&3 CONDENSATE BT

Lab Sample ID: 140-28602-9

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0737	0.0295	ug/Sample		08/26/22 14:00	09/09/22 22:25	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*106*		*25 - 150*	*08/26/22 14:00*	*09/09/22 22:25*	*1*

Client Sample ID: T-2479 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE BT

Lab Sample ID: 140-28602-10

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 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		08/26/22 09:53	09/10/22 04:37	1

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Field QC

Job ID: 140-28602-1

Client Sample ID: T-2479 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE BT

Lab Sample ID: 140-28602-10

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	93		25 - 150	08/26/22 09:53	09/10/22 04:37	1

Client Sample ID: C-1498 OTM-45 MEDIA CHECK XAD

Lab Sample ID: 140-28602-11

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 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		08/26/22 09:53	09/10/22 04:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		25 - 150	08/26/22 09:53	09/10/22 04:46	1

Client Sample ID: C-1499 OTM-45 MEDIA CHECK FILTER

Lab Sample ID: 140-28602-12

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30
Sample Container: Air Train

Matrix: Air

Method: 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		08/26/22 10:38	09/10/22 00:55	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	91		25 - 150	08/26/22 10:38	09/10/22 00:55	1

Default Detection Limits

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Field QC

Job ID: 140-28602-1

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: VEN Carbon Bed Field QC

Job ID: 140-28602-1

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)
140-28602-1	T-2464,T-2465 QC OTM-45 FH	96
140-28602-2	T-2466,T-2467,2469 QC OTM-45 BH PBT	87
140-28602-3	T-2468 QC OTM-45 IMPINGER 1,2&3 CONDENSATE PBT	76
140-28602-4	T-2470 QC OTM-45 BREAKTHROUGH XAD-2 RESI TUBE PBT	88
140-28602-5	T-2471 QC OTM-45 DI WATER RB	103
140-28602-6	T-2472 QC OTM-45 MEOH WITH 5% NH4OH RB	88
140-28602-7	T-2473,T-2474 QC OTM-45 FH BT	95
140-28602-8	T-2475,T-2476,2478 QC OTM-45 BH BT	91
140-28602-9	T-2477 QC OTM-45 IMPINGER 1,2&3 CONDENSATE BT	106
140-28602-10	T-2479 QC OTM-45 BREAKTHROUGH XAD-2 RESI TUBE BT	93
140-28602-11	C-1498 OTM-45 MEDIA CHECK XAD	96
140-28602-12	C-1499 OTM-45 MEDIA CHECK FILTER	91
LCS 140-64692/2-B	Lab Control Sample	76
LCS 140-64694/2-B	Lab Control Sample	89
LCS 140-64704/2-A	Lab Control Sample	103
LCSD 140-64692/3-B	Lab Control Sample Dup	88
LCSD 140-64694/3-B	Lab Control Sample Dup	91
LCSD 140-64704/3-A	Lab Control Sample Dup	105
MB 140-64692/14-B	Method Blank	98
MB 140-64692/1-B	Method Blank	91
MB 140-64694/1-B	Method Blank	90
MB 140-64704/1-A	Method Blank	101

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-64692/14-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64692

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		08/26/22 09:53	09/10/22 03:35	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*98*		*25 - 150*	*08/26/22 09:53*	*09/10/22 03:35*	*1*

Lab Sample ID: MB 140-64692/1-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64692

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		08/26/22 09:53	09/10/22 01:04	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*25 - 150*	*08/26/22 09:53*	*09/10/22 01:04*	*1*

Lab Sample ID: LCS 140-64692/2-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64692

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.03046	*+	ug/Sample		152	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*76*		*25 - 150*

Lab Sample ID: LCSD 140-64692/3-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64692

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02534		ug/Sample		127	60 - 140	18	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*88*		*25 - 150*

Lab Sample ID: MB 140-64694/1-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64694

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		08/26/22 10:38	09/09/22 23:01	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*08/26/22 10:38*	*09/09/22 23:01*	*1*

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

Lab Sample ID: LCS 140-64694/2-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64694

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.01761		ug/Sample		88	60 - 140		

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

Lab Sample ID: LCSD 140-64694/3-B
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64694

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.01852		ug/Sample		93	60 - 140	5	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*91*		*25 - 150*

Lab Sample ID: MB 140-64704/1-A
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 64704

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		08/26/22 14:00	09/09/22 20:31	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*101*		*25 - 150*	*08/26/22 14:00*	*09/09/22 20:31*	*1*

Lab Sample ID: LCS 140-64704/2-A
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 64704

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.008720		ug/Sample		87	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*103*		*25 - 150*

Lab Sample ID: LCSD 140-64704/3-A
Matrix: Air
Analysis Batch: 65151

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 64704

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.009491		ug/Sample		95	60 - 140	8	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*105*		*25 - 150*

QC Association Summary

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Field QC

Job ID: 140-28602-1

LCMS

Prep Batch: 64692

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28602-2	T-2466,T-2467,2469 QC OTM-45 BH PBT	Total/NA	Air	None	
140-28602-4	T-2470 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	None	
140-28602-6	T-2472 QC OTM-45 MEOH WITH 5% NH4OH RE	Total/NA	Air	None	
140-28602-8	T-2475,T-2476,2478 QC OTM-45 BH BT	Total/NA	Air	None	
140-28602-10	T-2479 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	None	
140-28602-11	C-1498 OTM-45 MEDIA CHECK XAD	Total/NA	Air	None	
MB 140-64692/14-B	Method Blank	Total/NA	Air	None	
MB 140-64692/1-B	Method Blank	Total/NA	Air	None	
LCS 140-64692/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-64692/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 64694

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28602-1	T-2464,T-2465 QC OTM-45 FH PBT	Total/NA	Air	None	
140-28602-7	T-2473,T-2474 QC OTM-45 FH BT	Total/NA	Air	None	
140-28602-12	C-1499 OTM-45 MEDIA CHECK FILTER	Total/NA	Air	None	
MB 140-64694/1-B	Method Blank	Total/NA	Air	None	
LCS 140-64694/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-64694/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 64704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28602-3	T-2468 QC OTM-45 IMPINGER 1,2&3 CONDEN	Total/NA	Air	PFAS Prep	
140-28602-5	T-2471 QC OTM-45 DI WATER RB	Total/NA	Air	PFAS Prep	
140-28602-9	T-2477 QC OTM-45 IMPINGER 1,2&3 CONDEN	Total/NA	Air	PFAS Prep	
MB 140-64704/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-64704/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-64704/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Cleanup Batch: 64772

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28602-1	T-2464,T-2465 QC OTM-45 FH PBT	Total/NA	Air	Split	64694
140-28602-7	T-2473,T-2474 QC OTM-45 FH BT	Total/NA	Air	Split	64694
140-28602-12	C-1499 OTM-45 MEDIA CHECK FILTER	Total/NA	Air	Split	64694
MB 140-64694/1-B	Method Blank	Total/NA	Air	Split	64694
LCS 140-64694/2-B	Lab Control Sample	Total/NA	Air	Split	64694
LCSD 140-64694/3-B	Lab Control Sample Dup	Total/NA	Air	Split	64694

Cleanup Batch: 64793

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28602-2	T-2466,T-2467,2469 QC OTM-45 BH PBT	Total/NA	Air	Split	64692
140-28602-4	T-2470 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	Split	64692
140-28602-6	T-2472 QC OTM-45 MEOH WITH 5% NH4OH RE	Total/NA	Air	Split	64692
140-28602-8	T-2475,T-2476,2478 QC OTM-45 BH BT	Total/NA	Air	Split	64692
140-28602-10	T-2479 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	Split	64692
140-28602-11	C-1498 OTM-45 MEDIA CHECK XAD	Total/NA	Air	Split	64692
MB 140-64692/14-B	Method Blank	Total/NA	Air	Split	64692
MB 140-64692/1-B	Method Blank	Total/NA	Air	Split	64692
LCS 140-64692/2-B	Lab Control Sample	Total/NA	Air	Split	64692
LCSD 140-64692/3-B	Lab Control Sample Dup	Total/NA	Air	Split	64692

QC Association Summary

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Field QC

Job ID: 140-28602-1

LCMS

Analysis Batch: 65151

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28602-1	T-2464,T-2465 QC OTM-45 FH PBT	Total/NA	Air	537 (modified)	64772
140-28602-2	T-2466,T-2467,2469 QC OTM-45 BH PBT	Total/NA	Air	537 (modified)	64793
140-28602-3	T-2468 QC OTM-45 IMPINGER 1,2&3 CONDEN	Total/NA	Air	537 (modified)	64704
140-28602-4	T-2470 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	537 (modified)	64793
140-28602-5	T-2471 QC OTM-45 DI WATER RB	Total/NA	Air	537 (modified)	64704
140-28602-6	T-2472 QC OTM-45 MEOH WITH 5% NH4OH RE	Total/NA	Air	537 (modified)	64793
140-28602-7	T-2473,T-2474 QC OTM-45 FH BT	Total/NA	Air	537 (modified)	64772
140-28602-8	T-2475,T-2476,2478 QC OTM-45 BH BT	Total/NA	Air	537 (modified)	64793
140-28602-9	T-2477 QC OTM-45 IMPINGER 1,2&3 CONDEN	Total/NA	Air	537 (modified)	64704
140-28602-10	T-2479 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	537 (modified)	64793
140-28602-11	C-1498 OTM-45 MEDIA CHECK XAD	Total/NA	Air	537 (modified)	64793
140-28602-12	C-1499 OTM-45 MEDIA CHECK FILTER	Total/NA	Air	537 (modified)	64772
MB 140-64692/14-B	Method Blank	Total/NA	Air	537 (modified)	64793
MB 140-64692/1-B	Method Blank	Total/NA	Air	537 (modified)	64793
MB 140-64694/1-B	Method Blank	Total/NA	Air	537 (modified)	64772
MB 140-64704/1-A	Method Blank	Total/NA	Air	537 (modified)	64704
LCS 140-64692/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	64793
LCS 140-64694/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	64772
LCS 140-64704/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	64704
LCSD 140-64692/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	64793
LCSD 140-64694/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	64772
LCSD 140-64704/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	64704

Client Sample ID: T-2464,T-2465 QC OTM-45 FH PBT

Lab Sample ID: 140-28602-1

Date Collected: 08/22/22 00:00

Matrix: Air

Date Received: 08/22/22 18:30

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	54 mL	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			27 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 00:38	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2466,T-2467,2469 QC OTM-45 BH PBT

Lab Sample ID: 140-28602-2

Date Collected: 08/22/22 00:00

Matrix: Air

Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 04:02	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2468 QC OTM-45 IMPINGER 1,2&3 CONDENSATE PBT

Lab Sample ID: 140-28602-3

Date Collected: 08/22/22 00:00

Matrix: Air

Date Received: 08/22/22 18:30

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			0.00647 Sample	10 mL	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 22:08	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2470 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE PBT

Lab Sample ID: 140-28602-4

Date Collected: 08/22/22 00:00

Matrix: Air

Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 04:10	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2471 QC OTM-45 DI WATER RB

Lab Sample ID: 140-28602-5

Date Collected: 08/22/22 00:00

Matrix: Air

Date Received: 08/22/22 18:30

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			0.0132 Sample	10 mL	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 22:17	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2472 QC OTM-45 MEOH WITH 5% NH4OH RB

Lab Sample ID: 140-28602-6

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 04:19	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2473,T-2474 QC OTM-45 FH BT

Lab Sample ID: 140-28602-7

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 00:46	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2475,T-2476,2478 QC OTM-45 BH BT

Lab Sample ID: 140-28602-8

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 04:28	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2477 QC OTM-45 IMPINGER 1,2&3 CONDENSATE BT

Lab Sample ID: 140-28602-9

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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			0.00678 Sample	10 mL	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 22:25	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2479 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE BT

Lab Sample ID: 140-28602-10

Date Collected: 08/22/22 00:00
Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 04:37	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: C-1498 OTM-45 MEDIA CHECK XAD

Lab Sample ID: 140-28602-11

Date Collected: 08/22/22 00:00

Matrix: Air

Date Received: 08/22/22 18:30

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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 04:46	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: C-1499 OTM-45 MEDIA CHECK FILTER

Lab Sample ID: 140-28602-12

Date Collected: 08/22/22 00:00

Matrix: Air

Date Received: 08/22/22 18:30

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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 00:55	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-64692/14-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 03:35	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-64692/1-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 01:04	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-64694/1-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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:01	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-64704/1-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	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 20:31	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-64692/2-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 01:13	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-64694/2-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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:09	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-64704/2-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	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 20:40	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-64692/3-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	64692	08/26/22 09:53	CAC	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	64793	08/30/22 10:21	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/10/22 01:39	JRC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Field QC

Job ID: 140-28602-1

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-64694/3-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	64694	08/26/22 10:38	CAC	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	64772	08/30/22 07:46	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 23:18	JRC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-64704/3-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	64704	08/26/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	65151	09/09/22 20:49	JRC	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: 140-28602-1
Project/Site: VEN Carbon Bed Field QC

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	06-16-23
California	State	2423	06-30-22 *
Colorado	State	TN00009	02-28-23
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-23
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-22
Kansas	NELAP	E-10349	10-31-22
Kentucky (DW)	State	90101	12-31-22
Louisiana	NELAP	83979	06-30-23
Louisiana (All)	NELAP	83979	06-30-23
Louisiana (DW)	State	LA019	12-31-22
Maryland	State	277	03-31-23
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-23
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-23
New York	NELAP	10781	03-31-23
North Carolina (DW)	State	21705	07-31-23
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-22 *
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-22-17	08-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-19-00236	12-31-22
Utah	NELAP	TN00009	07-31-23
Virginia	NELAP	460176	09-14-22
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-23
Wisconsin	State	998044300	08-31-23

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Method Summary

Client: The Chemours Company FC, LLC
Project/Site: VEN Carbon Bed Field QC

Job ID: 140-28602-1

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: VEN Carbon Bed Field QC

Job ID: 140-28602-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-28602-1	T-2464,T-2465 QC OTM-45 FH PBT	Air	08/22/22 00:00	08/22/22 18:30
140-28602-2	T-2466,T-2467,2469 QC OTM-45 BH PBT	Air	08/22/22 00:00	08/22/22 18:30
140-28602-3	T-2468 QC OTM-45 IMPINGER 1,2&3 CONDENSATE PBT	Air	08/22/22 00:00	08/22/22 18:30
140-28602-4	T-2470 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE PBT	Air	08/22/22 00:00	08/22/22 18:30
140-28602-5	T-2471 QC OTM-45 DI WATER RB	Air	08/22/22 00:00	08/22/22 18:30
140-28602-6	T-2472 QC OTM-45 MEOH WITH 5% NH4OH RB	Air	08/22/22 00:00	08/22/22 18:30
140-28602-7	T-2473,T-2474 QC OTM-45 FH BT	Air	08/22/22 00:00	08/22/22 18:30
140-28602-8	T-2475,T-2476,2478 QC OTM-45 BH BT	Air	08/22/22 00:00	08/22/22 18:30
140-28602-9	T-2477 QC OTM-45 IMPINGER 1,2&3 CONDENSATE BT	Air	08/22/22 00:00	08/22/22 18:30
140-28602-10	T-2479 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE BT	Air	08/22/22 00:00	08/22/22 18:30
140-28602-11	C-1498 OTM-45 MEDIA CHECK XAD	Air	08/22/22 00:00	08/22/22 18:30
140-28602-12	C-1499 OTM-45 MEDIA CHECK FILTER	Air	08/22/22 00:00	08/22/22 18:30

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:	Christel Compton Office: (910) 678-1213 Cell: (910) 975-3386
TestAmerica Project Manager:	Courtney Adkins Office: (865) 291-3019
TestAmerica Program Manager:	Billy Anderson Office: (865) 291-3080 Cell: (865) 206-9004

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 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 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
T-2464 QC OTM-45 Filter PBT (Combine with *T-2465*)	QC	8/22/22	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.
T-2465 QC OTM-45 FH of Filter Holder & Probe MeOH Rinse PBT (Combine with *T-2464*)	QC	8/22/22	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.
T-2466 QC OTM-45 XAD-2 Resin Tube PBT	QC	8/22/22	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.

140-28602 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
T-2467 QC OTM-45 BH of Filter Holder & Coil Condenser MeOH Rinse PBT (Combine with *T-2466*)	QC	8/22/22	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.
T-2468 QC OTM-45 Impingers 1,2 & 3 Condensate PBT	QC	8/22/22	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.
T-2469 QC OTM-45 Impinger Glassware MeOH Rinse PBT (Combine with *T-2466)*	QC	8/22/22	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.
T-2470 QC OTM-45 Breakthrough XAD-2 Resin Tube PBT	QC	8/22/22	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.
T-2471 QC OTM-45 DI Water RB	QC	8/22/22	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.
T-2472 QC OTM-45 MeOH with 5% NH_4OH RB	QC	8/22/22	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.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2473 QC OTM-45 Filter BT (Combine with *T-2474*)	QC	8/22/22	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.
T-2474 QC OTM-45 FH of Filter Holder & Probe MeOH Rinse BT (Combine with *T-2473*)	QC	8/22/22	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.
T-2475 QC OTM-45 XAD-2 Resin Tube BT	QC	8/22/22	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.
T-2476 QC OTM-45 BH of Filter Holder & Coil Condenser MeOH Rinse BT (Combine with *T-2475*)	QC	8/22/22	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.
T-2477 QC OTM-45 Impingers 1,2 & 3 Condensate BT	QC	8/22/22	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.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2473 QC OTM-45 Filter BT (Combine with *T-2474*)	QC	8/22/22	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.
T-2474 QC OTM-45 FH of Filter Holder & Probe MeOH Rinse BT (Combine with *T-2473*)	QC	8/22/22	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.
T-2475 QC OTM-45 XAD-2 Resin Tube BT	QC	8/22/22	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.
T-2476 QC OTM-45 BH of Filter Holder & Coil Condenser MeOH Rinse BT (Combine with *T-2475*)	QC	8/22/22	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.
T-2477 QC OTM-45 Impingers 1,2 & 3 Condensate BT	QC	8/22/22	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.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2478 QC OTM-45 Impinger Glassware MeOH Rinse BT (Combine with *T-2475)*	QC	8/22/22	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.
T-2479 QC OTM-45 Breakthrough XAD-2 Resin Tube BT	QC	8/22/22	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.

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:	RTD 3/CT 0.4
(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:	[signature]	Alliance	8/22/22 1830
Accepted By:	[signature]	ETA KNX	8-22-22 18:30
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?
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 : SC73 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: 8.24.22

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Appendix D

QA/QC Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3051
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
8/22/22	GL-4	0.250	0.250	0.250	0.250	0.000	≤ 0.004 in.	glass

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
8/22/22	P4-1	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
8/22/22	TC 7D	76.0	77.0	0.2%	± 1.5 % (absolute)	5 '

Field Balance Check

Date	**08/22/22**					
Balance ID:	**MyWeigh 5500**					
Test Weight ID:	**SYR-1**					
Certified Weight (g):	**1000.0**					
Measured Weight (g):	**999.8**					
Weight Difference (g):	**0.2**	--	--	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
8/22/22	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
8/22/22	MB #4	Pass

Reagent	Lot#	Field Prep performed	Field Lot	Date	By
DiH2O	TA/Eurofins	No	NA	NA	NA
Methanol/Ammonia Mix	TA/Eurofins	No	NA	NA	NA

QA/QC Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3051
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
8/22/22	GL-3	0.248	0.250	0.250	0.249	0.002	≤ 0.004 in.	glass

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
8/22/22	P4-2	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
8/22/22	TC-5D	76.0	76.0	0.0%	± 1.5 % (absolute)	5 '

Field Balance Check

Date	**08/22/22**					
Balance ID:	**MyWeigh 5500**					
Test Weight ID:	**SYR-1**					
Certified Weight (g):	**1000.0**					
Measured Weight (g):	**999.8**					
Weight Difference (g):	**0.2**	--	--	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
8/22/22	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
8/22/22	MB7	Pass

Reagent	Lot#	Field Prep performed	Field Lot	Date	By
DiH2O	TA/Eurofins	No	NA	NA	NA
Methanol/Ammonia Mix	TA/Eurofins	No	NA	NA	NA

Equipment Detail - Dry Gas Meter

Console ID: 4
Meter S/N: 3477777
Critical Orifice S/N: 1393

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	30.07					
Final Barometric Pressure, in. Hg	(Pb_F)	30.07					
Average Barometric Pressure, in. Hg	(Pb)	30.07					
Critifcal Orifice ID	(Y)	11	11	18	18	31	31
K' Factor, $ft^3 \cdot R^{1/2}$ / in. WC·min	(K')	0.3060	0.306	0.4961	0.4961	0.8358	0.8358
Vacuum Pressure, in. Hg	(V_P)	23.5	23.5	21.0	21.0	17.0	17.0
Initial DGM Volume, ft^3	(Vm_I)	763.145	769.214	775.302	785.163	803.252	819.496
Final DGM Volume, ft^3	(Vm_F)	769.214	775.302	785.163	795.034	819.496	835.760
Total DGM Volume, ft^3	(Vm)	6.069	6.088	9.861	9.871	16.244	16.264
Ambient Temperature, °F	(Ta)	77	78	78	78	77	79
Initial DGM Temperature, °F	(Tm_I)	77	78	78	79	77	79
Final DGM Temperature, °F	(Tm_F)	78	79	79	80	79	81
Average DGM Temperature, °F	(Tm)	77	79	79	80	78	80
Elapsed Time	(Θ)	15.00	15.00	15.00	15.00	15.00	15.00
Meter Orifice Pressure, in. WC	(ΔH)	0.43	0.43	1.20	1.20	3.40	3.40
Standard Meter volume, ft^3	(Vmstd)	6.0018	6.0066	9.7474	9.7392	16.1580	16.1180
Standard Critical Orifice Volume, ft^3	(Vcr)	5.9606	5.9522	9.650	9.650	16.2729	16.2427
Meter Correction Factor	(Y)	0.993	0.991	0.990	0.991	1.007	1.008
Tolerance	--	0.003	0.006	0.007	0.006	0.010	0.011
Orifice Calibration Value	(ΔH @)	1.515	1.516	1.612	1.609	1.616	1.616
Tolerance	--	0.066	0.065	0.031	0.028	0.036	0.036
Orifice Cal Check	--	1.53		1.69		1.72	
Meter Correction Factor	**(Y)**	**0.997**					
Orifice Calibration Value	**(ΔH @)**	**1.581**					
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	99	559	0.2	1
200	660	198	658	0.3	2
300	760	297	757	0.4	3
400	860	398	858	0.2	2
500	960	496	956	0.4	4
600	1,060	596	1,056	0.4	4
700	1,160	697	1,157	0.3	3
800	1,260	797	1,257	0.2	3
900	1,360	896	1,356	0.3	4
1,000	1,460	995	1,455	0.3	5
1,100	1,560	1,097	1,557	0.2	3
1,200	1,660	1,195	1,655	0.3	5

Personnel

Calibration By: Jacob Cavallo
Calibration Date: 7/20/2022
Expiration Date: 1/20/2023

Equipment Detail - Dry Gas Meter

Console ID: 6
Meter S/N: 2355
Critical Orifice S/N: 1393

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	30.07					
Final Barometric Pressure, in. Hg	(Pb_F)	30.07					
Average Barometric Pressure, in. Hg	(Pb)	30.07					
Critifcal Orifice ID	(Y)	11	11	18	18	31	31
K' Factor, $ft^3 \cdot R^{1/2}$ / in. WC·min	(K')	0.3060	0.306	0.4961	0.4961	0.8358	0.8358
Vacuum Pressure, in. Hg	(V_P)	22.5	22.5	20.0	20.0	16.0	16.0
Initial DGM Volume, ft^3	(Vm_I)	975.311	991.147	981.359	930.841	0.002	16.132
Final DGM Volume, ft^3	(Vm_F)	981.359	997.245	991.147	940.602	16.132	32.328
Total DGM Volume, ft^3	(Vm)	6.048	6.098	9.788	9.761	16.130	16.196
Ambient Temperature, °F	(Ta)	76	75	76	76	75	74
Initial DGM Temperature, °F	(Tm_I)	78	75	78	76	77	76
Final DGM Temperature, °F	(Tm_F)	78	77	79	77	79	77
Average DGM Temperature, °F	(Tm)	78	76	79	77	78	77
Elapsed Time	(Θ)	15.00	15.00	15.00	15.00	15.00	15.00
Meter Orifice Pressure, in. WC	(ΔH)	0.51	0.51	1.40	1.40	3.90	3.90
Standard Meter volume, ft^3	(Vmstd)	5.9738	6.0457	9.6800	9.6893	16.0641	16.1750
Standard Critical Orifice Volume, ft^3	(Vcr)	5.9633	5.9689	9.6680	9.6680	16.3033	16.3186
Meter Correction Factor	(Y)	0.998	0.987	0.999	0.998	1.015	1.009
Tolerance	--	0.003	0.014	0.002	0.003	0.014	0.008
Orifice Calibration Value	(ΔH @)	1.793	1.796	1.875	1.882	1.849	1.851
Tolerance	--	0.048	0.045	0.034	0.041	0.008	0.010
Orifice Cal Check	--	1.89		1.34		1.93	
Meter Correction Factor	**(Y)**	**1.001**					
Orifice Calibration Value	**(ΔH @)**	**1.841**					
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	99	559	0.2	1
200	660	198	658	0.3	2
300	760	297	757	0.4	3
400	860	398	858	0.2	2
500	960	496	956	0.4	4
600	1,060	596	1,056	0.4	4
700	1,160	697	1,157	0.3	3
800	1,260	797	1,257	0.2	3
900	1,360	896	1,356	0.3	4
1,000	1,460	995	1,455	0.3	5
1,100	1,560	1,097	1,557	0.2	3
1,200	1,660	1,195	1,655	0.3	5

Personnel

Calibration By: Jacob Cavallo
Calibration Date: 7/14/2022
Expiration Date: 1/14/2022

Appendix E

Date **8/22/2022**

Time	800	900	1000	1100	1200	1300	1400	1500	1600
Stack Testing			Run 1: 920-1117		Run 2: 1157-1348			Run 3: 1415-1618	
VEN Product	PSEPVE								
VEN Precursor									
VEN Condensation (HFPO)									
VEN ABR									
VEN Refining									
Stripper Column Vent									

Last Page of Report