Source Test Report

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

Source Tested: VEN Carbon Bed
Test Dates: January 18, 2023
Report Submittal Date: February 1, 2023

Project No. AST-2023-0503

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

Regulatory Information

Permit No. Title V Permit No. 03735T48

Source Information

Source ID	*Target Parameter*
VEN Carbon Bed (Inlet / Outlet)	HFPO-DA

Contact Information

Test Location
The Chemours Company, FC, LLC
22828 Highway 87W
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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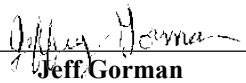

Jeff Gorman
Alliance Technical Group, LLC

2/16/23
Date

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attached documents and, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate and complete. I am aware that there are significant civil and criminal penalties, including the possibility of fine or imprisonment or both, for submitting false, inaccurate or incomplete information.

Christel E. Compton
The Chemours Company, FC, LLC

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, North Carolina facility. The facility operates under Title V Permit No. 03735T48. Testing was conducted to evaluate emissions of hexafluoro-propylene oxide-dimer acid (HFPO-DA) at the inlet and outlet of Vinyl Ethers North (VEN) carbon bed.

1.1 Facility Description

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

Facility Personnel	Eddie Vega – Chemours Christel Compton – Chemours
Regulatory Personnel	Gary Saunders – NCDENR
Alliance Personnel	Patrick Grady Antonio Anderson Ted LaBonte Jeff Sheldon Samantha Waters

Summary of Results

2.0 Summary of Results

Alliance conducted compliance testing at the Chemours facility in Fayetteville, North Carolina on January 18, 2023. Testing consisted of determining the emission rates of HFPO-DA at the inlet and exhaust of 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	**1/18/23**	**1/18/23**	**1/18/23**	**--**
HFPO-DA Data				
Outlet Emission Rate, lb/hr	8.2E-04	1.4E-03	5.5E-04	9.3E-04
Inlet Emission Rate, lb/hr	3.1E-02	1.3E-02	1.3E-02	1.9E-02
Reduction Efficiency, %	**97**	**89**	**96**	**94**

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: The Chemours Company - Fayetteville, NC
Source: VEN Carbon Bed Outlet
Project No.: 2023-0503
Run No.: 1
Parameter: HFPO-DA

Meter Pressure (Pm), in. Hg

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

where,

Pb	30.05	= barometric pressure, in. Hg
ΔH	1.883	= pressure differential of orifice, in H_2O
Pm	30.19	= in. Hg

Absolute Stack Gas Pressure (Ps), in. Hg

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

where,

Pb	30.05	= barometric pressure, in. Hg
Pg	2.30	= static pressure, in. H_2O
Ps	30.22	= in. Hg

Standard Meter Volume (Vmstd), dscf

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

where,

Y	1.003	= meter correction factor
Vm	71.579	= meter volume, cf
Pm	30.19	= absolute meter pressure, in. Hg
Tm	520.0	= absolute meter temperature, ^oR
Vmstd	73.512	= dscf

Standard Wet Volume (Vwstd), scf

$$Vwstd = 0.04716 \times Vlc$$

where,

Vlc	61.1	= volume of H_2O collected, ml
Vwstd	2.881	= scf

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

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

where,

Ts	88.9	= stack temperature, °F
Ps	30.22	= absolute stack gas pressure, in. Hg
BWSsat	0.045	= dimensionless

Moisture Fraction (BWS), dimensionless (measured)

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

where,

Vwstd	2.881	= standard wet volume, scf
Vmstd	73.512	= standard meter volume, dscf
BWS	0.038	= dimensionless

Moisture Fraction (BWS), dimensionless

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

where,

BWSsat	0.045	= moisture fraction (theoretical at saturated conditions)
BWSmsd	0.038	= moisture fraction (measured)
BWS	0.038	

Location: The Chemours Company - Fayetteville, NC
Source: VEN Carbon Bed Outlet
Project No.: 2023-0503
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	0.038	= moisture fraction, dimensionless
Ms	28.44	= 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
$\Delta P^{1/2}$	0.685	= velocity head of stack gas, $(in.\ H_2O)^{1/2}$
Ts	548.5	= absolute stack temperature, °R
Ps	30.22	= absolute stack gas pressure, in. Hg
Ms	28.44	= molecular weight of stack gas, lb/lb mol
Vs	39.3	= ft/sec

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

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

where,

Vs	39.3	= stack gas velocity, ft/sec
As	7.07	= cross-sectional area of stack, ft^2
Qa	16,660	= acfm

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

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

where,

Qa	16,660	= average stack gas flow at stack conditions, acfm
BWS	0.038	= moisture fraction, dimensionless
Ps	30.22	= absolute stack gas pressure, in. Hg
Ts	548.5	= absolute stack temperature, °R
Qs	15,576	= 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	1.003	= meter correction factor, dimensionless
Θ	96	= run time, min.
Vm	71.579	= total meter volume, dcf
Tm	520.0	= absolute meter temperature, °R
ΔH@	1.85	= orifice meter calibration coefficient, in. H_2O
Pb	30.05	= barometric pressure, in. Hg
ΔH avg	1.883	= average pressure differential of orifice, in H_2O
Md	28.85	= molecular weight (DRY), lb/lb mol
$(\Delta H)^{1/2}$	1.362	= average squareroot pressure differential of orifice, $(in.\ H2O)^{1/2}$
Yqa	0.5	= dimensionless

Location: The Chemours Company - Fayetteville, NC
Source: VEN Carbon Bed Outlet
Project No.: 2023-0503
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	548.5	= absolute stack temperature, °R
Ps	30.22	= absolute stack gas pressure, in. Hg
Vlc	61.1	= volume of H_2O collected, ml
Vm	71.579	= meter volume, cf
Pm	30.19	= absolute meter pressure, in. Hg
Y	1.003	= meter correction factor, unitless
Tm	520.0	= absolute meter temperature, °R
Vn	78.624	= volume of nozzle, ft^3

Isokinetic Sampling Rate (I), %

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

where,

Vn	78.624	= nozzle volume, ft3
θ	96.0	= run time, minutes
An	0.00034	= area of nozzle, ft^2
Vs	39.3	= average velocity, ft/sec
I	101.9	= %

HFPO-DA Concentration (C), ng/dscm

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

where,

M	29,395	= HFPO-DA mass, ng
Vmstd	73.512	= standard meter volume, dscf
C_{NH3}	1.4E+04	= ng/dscm

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

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

where,

FR	29,395	= HFPO-DA mass, ng
Qs	15,576	= average stack gas flow at standard conditions, dscfm
Vmstd	73.512	= standard meter volume, dscf
ER	8.2E-04	= lb/hr

Appendix B

Cyclonic Flow Check

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Inlet
Project No. 2023-0503
Date 01/18/23

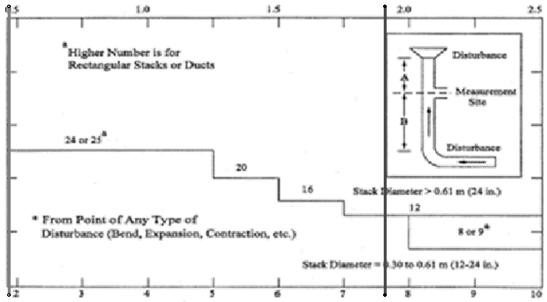
Sample Point	Angle (ΔP=0)
1	2
2	4
3	6
4	4
5	4
6	2
7	0
8	2
9	2
10	0
11	2
12	4
13	5
14	5
15	0
16	0
17	0
18	2
19	2
20	2
21	2
22	2
23	4
24	2
Average	2

Method 1 Data

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Inlet
Project No. 2023-0503
Date: 01/17/23

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	ft^2
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):	JLS 1/17/23	
Reviewer (Initial and Date):	PJG 1/17/23	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

Number of traverse points on a diameter

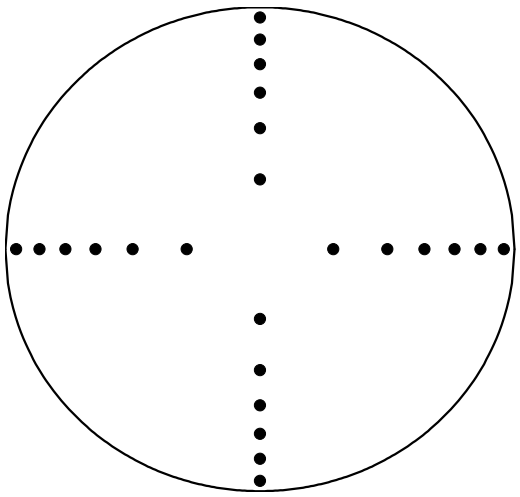
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--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

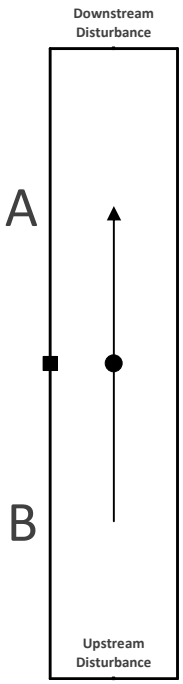
**Percent of stack diameter from inside wall to traverse point.*

Traverse Point	% of Diameter	Distance from inside wall	Distance from outside of port
1	2.1	1.00	16.13
2	6.7	2.41	17.54
3	11.8	4.25	19.38
4	17.7	6.37	21.50
5	25.0	9.00	24.13
6	35.6	12.82	27.95
7	64.4	23.18	38.31
8	75.0	27.00	42.13
9	82.3	29.63	44.76
10	88.2	31.75	46.88
11	93.3	33.59	48.72
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





Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Inlet
Project No. 2023-0503
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		1/18/23	1/18/23	1/18/23	--
Start Time		8:50	11:45	14:15	--
Stop Time		10:58	13:38	16:13	--
Run Time, min		96.0	96.0	96.0	96.0
VELOCITY HEAD, in. WC					
Point 1		0.26	0.25	0.26	0.26
Point 2		0.28	0.25	0.28	0.27
Point 3		0.28	0.26	0.28	0.27
Point 4		0.28	0.26	0.26	0.27
Point 5		0.28	0.26	0.28	0.27
Point 6		0.42	0.42	0.32	0.39
Point 7		0.42	0.41	0.41	0.41
Point 8		0.43	0.42	0.42	0.42
Point 9		0.43	0.42	0.42	0.42
Point 10		0.44	0.42	0.42	0.43
Point 11		0.44	0.42	0.42	0.43
Point 12		0.44	0.40	0.42	0.42
Point 13		0.26	0.26	0.26	0.26
Point 14		0.26	0.26	0.26	0.26
Point 15		0.32	0.28	0.26	0.29
Point 16		0.34	0.30	0.32	0.32
Point 17		0.37	0.30	0.32	0.33
Point 18		0.41	0.38	0.40	0.40
Point 19		0.39	0.40	0.40	0.40
Point 20		0.33	0.33	0.32	0.33
Point 21		0.30	0.33	0.32	0.32
Point 22		0.30	0.30	0.30	0.30
Point 23		0.30	0.30	0.30	0.30
Point 24		0.28	0.30	0.30	0.29
CALCULATED DATA					
Square Root of ΔP, $(in. WC)^{1/2}$	(ΔP)	0.584	0.572	0.573	0.576
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	30.05	30.05	30.02	30.04
Static Pressure, in. WC	(Pg)	-4.50	-4.40	-4.20	-4.37
Stack Pressure, in. Hg	(Ps)	29.72	29.73	29.71	29.72
Stack Cross-sectional Area, ft^2	(As)	7.07	7.07	7.07	7.07
Temperature, °F	(Ts)	81.3	84.8	86.8	84.3
Temperature, °R	(Ts)	540.9	544.4	546.4	543.920
Moisture Fraction Measured	(BWSmsd)	0.036	0.034	0.037	0.036
Moisture Fraction @ Saturation	(BWSsat)	0.036	0.040	0.043	0.040
Moisture Fraction	(BWS)	0.036	0.034	0.037	0.036
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)	28.46	28.48	28.45	28.47
Velocity, ft/sec	(Vs)	33.5	32.9	33.1	33.2
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	14,220	13,970	14,032	14,074
At Standard Conditions, dscfm	(Qs)	13,284	12,992	12,962	13,080

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Inlet
Project No. 2023-0503
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		1/18/23	1/18/23	1/18/23	--
Start Time		8:50	11:45	14:15	--
Stop Time		10:58	13:38	16:13	--
Run Time, min	(θ)	96.0	96.0	96.0	96.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	30.05	30.05	30.02	30.04
Meter Correction Factor	(Y)	0.983	0.983	0.983	0.983
Orifice Calibration Value	(ΔH @)	1.866	1.866	1.866	1.866
Meter Volume, ft^3	(Vm)	63.040	62.146	61.793	62.326
Meter Temperature, °F	(Tm)	69.3	73.0	75.2	72.5
Meter Temperature, °R	(Tm)	529.0	532.6	534.8	532.2
Meter Orifice Pressure, in. WC	(ΔH)	1.411	1.355	1.369	1.378
Volume H_2O Collected, mL	(Vlc)	49.1	45.8	48.8	47.9
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	$M_{(HFPODA)}$	765,000.0	207,000.0	150,000.0	374000.00
BH HFPO-DA Mass, ng	$M_{(HFPODA)}$	300,000.0	247,000.0	299,000.0	282000.00
Imp HFPO-DA Mass, ng	$M_{(HFPODA)}$	16,600.0	9,950.0	6,580.0	11043.33
Breakthrough HFPO-DA Mass, ng	$M_{(HFPODA)}$	318.0	460.0	167.0	315.00
Total HFPO-DA Mass, ng	$M_{(HFPODA)}$	1,081,918.0	464,410.0	455,747.0	667358.33
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	62.295	60.985	60.330	61.203
Standard Water Volume, ft^3	(Vwstd)	2.316	2.160	2.301	2.259
Moisture Fraction Measured	(BWSmsd)	0.036	0.034	0.037	0.036
Moisture Fraction @ Saturation	(BWSsat)	0.036	0.040	0.043	0.040
Moisture Fraction	(BWS)	0.036	0.034	0.037	0.036
Meter Pressure, in Hg	(Pm)	30.15	30.15	30.12	30.14
Volume at Nozzle, ft^3	(Vn)	66.676	65.570	65.309	65.85
Isokinetic Sampling Rate, (%)	(I)	101.3	101.4	100.5	101.1
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	-0.6	-0.3	-1.7	-0.9
EMISSION CALCULATIONS					
HFPO-DA Concentration, ng/dscm	$C_{(HFPODA)}$	6.1E+05	2.7E+05	2.7E+05	3.8E+05
HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	3.1E-02	1.3E-02	1.3E-02	1.9E-02

Alliance TECHNICAL GROUP

Isokinetic Field Data

Location:	The Chemours Company - Fayetteville, NC			**Start Time:**	8:50	**Source:**	VEN Carbon Bed Inlet
Date:	1/18/23	**Run 1**	**VALID**	**End Time:**	10:58	**Project No.:**	2023-0503

Parameter: HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.		STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	5		Est. Tm:	75	°F	NA		Pb:	30.05	in. Hg	Vlc (ml)
Barometric:	30.08	in. Hg	Y:	0.983		Est. Ts:	81	°F			Pg:	-4.50	in. WC	49.1
Static Press:	-3.00	in. WC	ΔH @ (in.WC):	1.866		Est. ΔP:	0.34	in. WC			O_2:	20.9	%	K-FACTOR
Stack Press:	29.86	in. Hg	Probe ID:	P4/7-D		Est. Dn:	0.268	in.			CO_2:	0.1	%	4.116
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.75	scfm						
O_2:	20.9	%	Pitot ID:	p4-1		LEAK CHECKS	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt.	Initial	Final	Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.001	0.000	--	--	0.000	Mid 1 (cf)	369.054	######	0.198
Md:	28.85	lb/lb-mole	Nozzle ID:	GN-2	glass	Vacuum (in Hg):	8	11	--	--	9	Mid 2 (cf)			--
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	--	--	--	Pass	Mid 3 (cf)			--
												Mid-Point Leak Check Vol (cf):			0.198

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.		
					60	60				60	60	60	-		
A1	0.00	4.00	336.676	0.26	58	80	1.04	1.05	5	80	80	50	38	103.1	29.09
2	4.00	8.00	339.000	0.28	61	80	1.13	1.15	6	80	80	42	37	102.1	30.19
3	8.00	12.00	341.400	0.28	64	80	1.13	1.15	6	80	80	41	37	105.7	30.19
4	12.00	16.00	343.900	0.28	64	80	1.13	1.15	6	80	80	41	37	109.9	30.19
5	16.00	20.00	346.500	0.28	64	80	1.13	1.15	5	80	80	41	37	101.5	30.19
6	20.00	24.00	348.900	0.42	66	81	1.70	1.70	5	80	80	41	37	96.5	37.01
7	24.00	28.00	351.700	0.42	68	81	1.71	1.70	5	80	80	41	37	99.6	37.01
8	28.00	32.00	354.600	0.43	68	81	1.75	1.76	5	80	80	41	37	98.4	37.45
9	32.00	36.00	357.500	0.43	71	81	1.76	1.75	5	80	80	42	37	94.5	37.45
10	36.00	40.00	360.300	0.44	71	81	1.80	1.80	7	80	80	41	37	106.8	37.88
11	40.00	44.00	363.500	0.44	71	81	1.80	1.80	7	80	80	42	37	90.1	37.88
12	44.00	48.00	366.200	0.44	73	81	1.81	1.80	7	80	80	42	37	94.9	37.88
B1	48.00	52.00	369.252	0.26	64	80	1.05	1.05	5	80	80	47	37	98.6	29.09
2	52.00	56.00	371.500	0.26	70	80	1.06	1.05	5	80	80	40	37	108.4	29.09
3	56.00	60.00	374.000	0.32	70	82	1.30	1.30	5	80	80	40	37	90.1	32.33
4	60.00	64.00	376.300	0.34	71	82	1.39	1.40	6	80	80	41	37	98.7	33.33
5	64.00	68.00	378.900	0.37	72	82	1.51	1.50	6	80	80	41	37	94.4	34.77
6	68.00	72.00	381.500	0.41	74	83	1.68	1.70	7	80	80	41	37	103.3	36.63
7	72.00	76.00	384.500	0.39	74	83	1.60	1.60	7	80	80	42	37	98.8	35.73
8	76.00	80.00	387.300	0.33	74	83	1.35	1.40	7	80	80	42	37	99.7	32.86
9	80.00	84.00	389.900	0.30	74	82	1.23	1.25	7	80	80	42	37	104.4	31.31
10	84.00	88.00	392.500	0.30	74	82	1.23	1.25	7	80	80	42	37	100.4	31.31
11	88.00	92.00	395.000	0.30	74	82	1.23	1.25	7	80	80	42	37	100.4	31.31
12	92.00	96.00	397.500	0.28	74	82	1.15	1.15	7	80	80	42	37	100.3	30.24
	Final DGM:		399.914												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	63.040	ft^3	0.34	in. WC	69.3	°F	81.3	°F	7	1.411	in. WC	101.3	0.036	-0.6

Alliance TECHNICAL GROUP

Isokinetic Field Data

Location:	The Chemours Company - Fayetteville, NC		**Start Time:**	11:45	**Source:**	VEN Carbon Bed Inlet	
Date:	1/18/23	Run 2 VALID	**End Time:**	13:38	**Project No.:**	2023-0503	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	5		Est. Tm:	69	°F	NA	Pb:	30.05	in. Hg	Vlc (ml)
Barometric:	30.08	in. Hg	Y:	0.983		Est. Ts:	81	°F		Pg:	-4.40	in. WC	45.8
Static Press:	-3.00	in. WC	ΔH @ (in.WC):	1.866		Est. ΔP:	0.34	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	29.86	in. Hg	Probe ID:	P4/7-D		Est. Dn:	0.224	in.		CO_2:	0.1	%	4.07
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.52	scfm					
O_2:	20.9	%	Pitot ID:	p4-1		LEAK CHECKS	Pre	Mid 1	Mid 2 / Mid 3 / Post	Check Pt.	Initial	Final	Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000	0.001	-- / -- / 0.000	Mid 1 (cf)	432.045	432.272	0.227
Md:	28.85	lb/lb-mole	Nozzle ID:	GN-2	glass	Vacuum (in Hg):	9	11	-- / -- / 10	Mid 2 (cf)			--
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	--	-- / -- / Pass	Mid 3 (cf)			--
										Mid-Point Leak Check Vol (cf):			0.227

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)
					--	--				--	--	--	--		
A1	0.00	4.00	400.260	0.25	67	83	1.01	1.00	6	82	82	60	46	98.1	28.61
2	4.00	8.00	402.460	0.25	68	84	1.01	1.00	6	81	84	52	43	101.1	28.63
3	8.00	12.00	404.730	0.26	69	84	1.05	1.10	6	80	82	52	43	102.1	29.20
4	12.00	16.00	407.070	0.26	69	84	1.05	1.10	6	80	81	53	45	100.8	29.20
5	16.00	20.00	409.380	0.26	70	84	1.06	1.10	6	80	80	53	43	108.0	29.20
6	20.00	24.00	411.860	0.42	70	84	1.70	1.70	7	80	80	53	45	97.8	37.11
7	24.00	28.00	414.710	0.41	72	85	1.67	1.70	7	80	80	54	43	103.5	36.70
8	28.00	32.00	417.700	0.42	72	85	1.71	1.70	7	82	82	54	44	106.0	37.14
9	32.00	36.00	420.800	0.42	74	85	1.71	1.70	7	85	85	54	44	102.2	37.14
10	36.00	40.00	423.800	0.42	74	85	1.71	1.70	7	85	85	54	44	95.4	37.14
11	40.00	44.00	426.600	0.42	74	85	1.71	1.70	7	85	85	55	44	91.1	37.14
12	44.00	48.00	429.500	0.40	74	85	1.63	1.65	7	85	85	55	44	96.8	36.25
B1	48.00	52.00	432.272	0.26	74	85	1.06	1.10	7	85	85	58	44	92.0	29.23
2	52.00	56.00	434.400	0.26	73	84	1.06	1.10	6	85	85	49	45	95.2	29.20
3	56.00	60.00	436.600	0.28	73	84	1.14	1.15	6	85	85	49	45	96.0	30.30
4	60.00	64.00	438.900	0.30	74	84	1.23	1.20	6	85	85	49	45	104.6	31.36
5	64.00	68.00	441.500	0.30	74	84	1.23	1.20	6	85	85	49	45	108.6	31.36
6	68.00	72.00	444.200	0.38	74	84	1.55	1.56	6	85	85	49	45	103.8	35.30
7	72.00	76.00	447.100	0.40	75	86	1.63	1.60	6	85	85	52	45	108.1	36.28
8	76.00	80.00	450.200	0.33	75	86	1.35	1.35	6	85	85	52	45	95.9	32.96
9	80.00	84.00	452.700	0.33	76	86	1.35	1.35	7	85	85	52	45	95.8	32.96
10	84.00	88.00	455.200	0.30	76	86	1.23	1.25	7	85	85	52	45	108.4	31.42
11	88.00	92.00	457.900	0.30	77	86	1.23	1.25	7	85	85	53	46	96.2	31.42
12	92.00	96.00	460.300	0.30	77	86	1.23	1.25	6	85	85	55	44	93.5	31.42
	Final DGM:		462.633												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	62.146	ft^3	0.33	in. WC	73.0	°F	84.8	°F	7	1.355	in. WC	101.4	0.034	-0.3

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Isokinetic Field Data

Location:	The Chemours Company - Fayetteville, NC		**Start Time:**	14:15	**Source:**	VEN Carbon Bed Inlet	
Date:	1/18/23	Run 3 VALID	**End Time:**	16:13	**Project No.:**	2023-0503	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.			STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	5		Est. Tm:	73	°F	NA			Pb:	30.02	in. Hg	Vlc (ml)
Barometric:	30.08	in. Hg	Y:	0.983		Est. Ts:	85	°F				Pg:	-4.20	in. WC	48.8
Static Press:	-3.00	in. WC	ΔH @ (in.WC):	1.866		Est. ΔP:	0.33	in. WC				O_2:	20.9	%	K-FACTOR
Stack Press:	29.86	in. Hg	Probe ID:	P4/7-D		Est. Dn:	0.226	in.				CO_2:	0.1	%	4.074
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.52	scfm					Check Pt.	Initial	Final	Corr.
O_2:	20.9	%	Pitot ID:	p4-1		LEAK CHECKS	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)	494.975	495.300	0.325
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.001	0.020	--	--	0.002	Mid 2 (cf)			--
Md:	28.85	lb/lb-mole	Nozzle ID:	GN-2	glass	Vacuum (in Hg):	10	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):			0.325

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (fps)
					DGM Average	Stack				Probe	Filter	Imp Exit	Aux		
					Amb.	Amb.				Amb.	Amb.	Amb.	Amb.		
	Begin	End			--	--	Ideal	Actual		--	--	--	--		
A1	0.00	4.00	463.305	0.26	73	86	1.06	1.10	5	87	85	60	59	108.2	29.25
2	4.00	8.00	465.800	0.28	73	86	1.14	1.15	5	87	85	49	39	92.0	30.36
3	8.00	12.00	468.000	0.28	73	86	1.14	1.15	5	88	85	49	39	92.0	30.36
4	12.00	16.00	470.200	0.26	75	86	1.06	1.10	5	88	85	49	39	108.0	29.25
5	16.00	20.00	472.700	0.28	75	86	1.14	1.15	5	85	85	45	37	108.3	30.36
6	20.00	24.00	475.300	0.32	75	86	1.31	1.30	5	85	85	45	39	97.4	32.45
7	24.00	28.00	477.800	0.41	75	87	1.67	1.70	6	85	85	45	39	106.9	36.77
8	28.00	32.00	480.900	0.42	75	87	1.71	1.70	6	85	85	45	39	92.0	37.21
9	32.00	36.00	483.600	0.42	75	87	1.71	1.70	6	85	85	45	40	98.8	37.21
10	36.00	40.00	486.500	0.42	78	87	1.72	1.75	6	85	85	45	40	91.5	37.21
11	40.00	44.00	489.200	0.42	78	87	1.72	1.75	6	85	85	45	40	91.5	37.21
12	44.00	48.00	491.900	0.42	78	87	1.72	1.75	6	85	85	45	40	104.2	37.21
B1	48.00	52.00	495.300	0.26	74	86	1.06	1.10	5	88	87	50	50	99.6	29.25
2	52.00	56.00	497.600	0.26	74	86	1.06	1.10	5	88	86	43	41	108.2	29.25
3	56.00	60.00	500.100	0.26	74	86	1.06	1.10	5	88	86	43	41	108.2	29.25
4	60.00	64.00	502.600	0.32	74	86	1.31	1.30	5	87	85	44	41	93.7	32.45
5	64.00	68.00	505.000	0.32	74	86	1.31	1.30	6	87	85	44	41	93.7	32.45
6	68.00	72.00	507.400	0.40	75	86	1.63	1.65	6	87	85	44	41	90.3	36.28
7	72.00	76.00	509.990	0.40	76	88	1.63	1.65	6	87	85	44	41	91.0	36.35
8	76.00	80.00	512.600	0.32	76	88	1.31	1.30	6	87	85	44	41	105.2	32.51
9	80.00	84.00	515.300	0.32	76	88	1.31	1.30	6	87	85	44	41	97.4	32.51
10	84.00	88.00	517.800	0.30	76	88	1.22	1.25	6	87	85	44	41	92.5	31.48
11	88.00	92.00	520.100	0.30	76	88	1.22	1.25	6	87	85	44	41	108.6	31.48
12	92.00	96.00	522.800	0.30	76	88	1.22	1.25	6	87	85	44	41	105.5	31.48
	Final DGM:		525.423												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	61.793	ft^3	0.33	in. WC	75.2	°F	86.8	°F	6	1.369	in. WC	100.5	0.037	-1.7

Method 4 Data

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Inlet
Project No. 2023-0503
Parameter HFPO-DA
Analysis Gravimetric

Run 1	Date:	1/18/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	315.7	497.0	788.4	743.5	762.4	445.7	315.4	810.8	4678.9
Final Mass, g	332.5	504.2	787.7	743.5	763.9	447.1	326.4	822.7	4728.0
Gain	16.8	7.2	-0.7	0.0	1.5	1.4	11.0	11.9	49.1
Run 2	**Date:**	1/18/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	308.8	490.2	753.1	703.2	715.9	466.9	317.1	854.1	4609.3
Final Mass, g	324.8	496.1	751.4	702.9	717.4	468.9	327.9	865.7	4655.1
Gain	16.0	5.9	-1.7	-0.3	1.5	2.0	10.8	11.6	45.8
Run 3	**Date:**	1/18/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	301.7	529.6	765.1	782.9	735.6	512.4	294.8	822.6	4744.7
Final Mass, g	321.6	531.9	765.1	782.7	737.3	513.6	308.7	832.6	4793.5
Gain	19.9	2.3	0.0	-0.2	1.7	1.2	13.9	10.0	48.8

Method 2 Data

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Inlet
Project No. 2023-0503
Date 1/18/23

Saturation Moisture Content Check	Traverse Point	Δ P (in. WC)	Ts (°F)
Stack Temperature (Ts): 81.3 °F	**1**	0.26	80
Moisture Fraction @ Sat.: 0.036	**2**	0.28	80
	3	0.28	80
	4	0.28	80
	5	0.28	80
	6	0.42	81
	7	0.42	81
	8	0.43	81
	9	0.43	81
	10	0.44	81
	11	0.44	81
	12	0.44	81
Stack Parameters	**13**	0.26	80
Pitot Tube ID#: P4-1	**14**	0.26	80
Pitot Tube Coefficient (Cp): 0.840	**15**	0.32	82
Barometric Pressure (Pb): 30.08 in. Hg	**16**	0.34	82
Static Pressure(Pg): -3.00 in. WC	**17**	0.37	82
Stack Pressure (Ps): 29.86 in. Hg	**18**	0.41	83
	19	0.39	83
	20	0.33	83
	21	0.30	82
	22	0.30	82
	23	0.30	82
	24	0.28	82

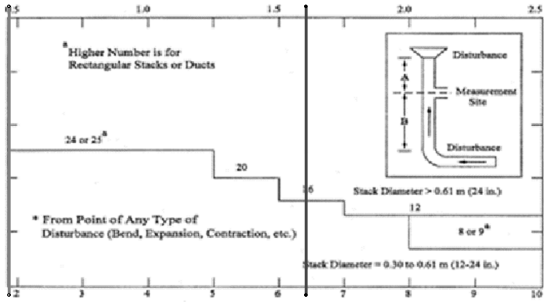
Square Root of ΔP, (in. W.C.) $^{1/2}$	0.584
Average ΔP, (in. W.C.)	0.34
Average Temperature (Ts), °F	81.3
Average Temperature (Ts), °R	540.9
Moisture (BWS), %	1.8
O_2 Concentration, %	20.9
CO_2 Concentration, %	0.1
Molecular Weight (Md), lb/lb-mole (dry)	28.85
Molecular Weight (Ms), lb/lb-mole (wet)	28.66
Velocity (Vs), ft/sec	33.3
VFR at stack conditions (Qa), acfm	14,138
VFR at standard conditions (Qs), dscfm	13,516

Method 1 Data

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Outlet
Project No. 2023-0503
Date: 01/17/23

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	ft^2
No. of Test Ports:	2	
Distance A:	4.8	ft
Distance A Duct Diameters:	1.6	**(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):	KW 01/17/2023	
Reviewer (Initial and Date):	JL 01/17/2023	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

Number of traverse points on a diameter

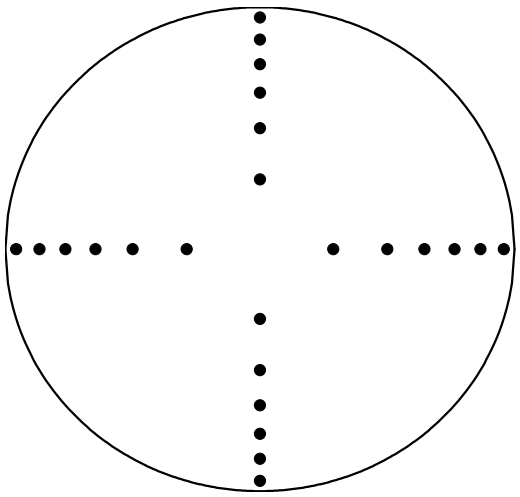
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--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

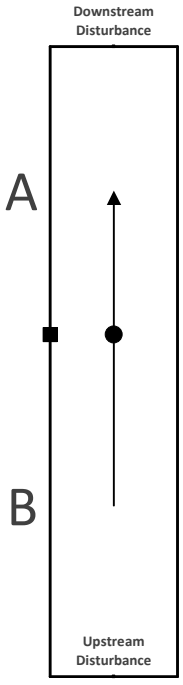
**Percent of stack diameter from inside wall to traverse point.*

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	19.38
4	17.7	6.37	21.50
5	25.0	9.00	24.13
6	35.6	12.82	27.95
7	64.4	23.18	38.31
8	75.0	27.00	42.13
9	82.3	29.63	44.76
10	88.2	31.75	46.88
11	93.3	33.59	48.72
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





Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Outlet
Project No. 2023-0503
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		1/18/23	1/18/23	1/18/23	--
Start Time		8:50	11:45	14:15	--
Stop Time		10:58	13:38	16:13	--
Run Time, min		96.0	96.0	96.0	96.0
VELOCITY HEAD, in. WC					
Point 1		0.42	0.40	0.40	0.41
Point 2		0.45	0.39	0.41	0.42
Point 3		0.43	0.40	0.40	0.41
Point 4		0.43	0.40	0.41	0.41
Point 5		0.42	0.32	0.40	0.38
Point 6		0.43	0.31	0.45	0.40
Point 7		0.39	0.31	0.45	0.38
Point 8		0.35	0.31	0.60	0.42
Point 9		0.36	0.32	0.58	0.42
Point 10		0.36	0.31	0.31	0.33
Point 11		0.35	0.32	0.32	0.33
Point 12		0.36	0.32	0.30	0.33
Point 13		0.40	0.30	0.32	0.34
Point 14		0.36	0.30	0.31	0.32
Point 15		0.43	0.29	0.33	0.35
Point 16		0.43	0.30	0.32	0.35
Point 17		0.43	0.32	0.35	0.37
Point 18		0.61	0.35	0.36	0.44
Point 19		0.68	0.35	0.37	0.47
Point 20		0.68	0.36	0.58	0.54
Point 21		0.68	0.60	0.60	0.63
Point 22		0.66	0.60	0.68	0.65
Point 23		0.66	0.60	0.68	0.65
Point 24		0.66	0.60	0.67	0.64
CALCULATED DATA					
Square Root of ΔP, $(\text{in. WC})^{1/2}$	(ΔP)	0.685	0.610	0.658	0.651
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	30.05	30.06	30.06	30.06
Static Pressure, in. WC	(Pg)	2.30	2.30	2.30	2.30
Stack Pressure, in. Hg	(Ps)	30.22	30.23	30.23	30.23
Stack Cross-sectional Area, ft^2	(As)	7.07	7.07	7.07	7.07
Temperature, °F	(Ts)	88.9	89.0	89.3	89.1
Temperature, °R	(Ts)	548.5	548.7	548.9	548.726
Moisture Fraction Measured	(BWSmsd)	0.038	0.037	0.033	0.036
Moisture Fraction @ Saturation	(BWSsat)	0.045	0.045	0.046	0.045
Moisture Fraction	(BWS)	0.038	0.037	0.033	0.036
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)	28.44	28.45	28.50	28.46
Velocity, ft/sec	(Vs)	39.3	35.0	37.7	37.3
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	16,660	14,841	15,998	15,833
At Standard Conditions, dscfm	(Qs)	15,576	13,883	15,027	14,829

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Outlet
Project No. 2023-0503
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		1/18/23	1/18/23	1/18/23	--
Start Time		8:50	11:45	14:15	--
Stop Time		10:58	13:38	16:13	--
Run Time, min	(θ)	96.0	96.0	96.0	96.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	30.05	30.06	30.06	30.06
Meter Correction Factor	(Y)	1.003	1.003	1.003	1.003
Orifice Calibration Value	(ΔH @)	1.850	1.850	1.850	1.850
Meter Volume, ft^3	(Vm)	71.579	64.498	69.255	68.444
Meter Temperature, °F	(Tm)	60.3	65.9	69.9	65.4
Meter Temperature, °R	(Tm)	520.0	525.6	529.6	525.0
Meter Orifice Pressure, in. WC	(ΔH)	1.883	1.513	1.780	1.725
Volume H_2O Collected, mL	(Vlc)	61.1	53.6	50.3	55.0
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	$M_{(HFPODA)}$	23,500.00	45,000.00	10,700.00	26,400.00
BH HFPO-DA Mass, ng	$M_{(HFPODA)}$	5,500.00	4,680.00	8,290.00	6,156.67
Imp HFPO-DA Mass, ng	$M_{(HFPODA)}$	383.00	262.00	347.00	330.67
Breakthrough HFPO-DA Mass, ng	$M_{(HFPODA)}$	<u>12.40</u>	29.10	--	20.75
Total HFPO-DA Mass, ng	$M_{(HFPODA)}$	29,395.40	49,971.10	19,337.00	32,901.17
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	73.512	65.493	69.838	69.614
Standard Water Volume, ft^3	(Vwstd)	2.881	2.528	2.372	2.594
Moisture Fraction Measured	(BWSmsd)	0.038	0.037	0.033	0.036
Moisture Fraction @ Saturation	(BWSsat)	0.045	0.045	0.046	0.045
Moisture Fraction	(BWS)	0.038	0.037	0.033	0.036
Meter Pressure, in Hg	(Pm)	30.19	30.17	30.19	30.18
Volume at Nozzle, ft^3	(Vn)	78.624	70.005	74.345	74.32
Isokinetic Sampling Rate, (%)	(I)	101.9	101.9	100.4	101.4
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	0.5	0.5	-0.7	0.1
EMISSION CALCULATIONS					
HFPO-DA Concentration, ng/dscm	$C_{(HFPODA)}$	1.4E+04	2.7E+04	9.8E+03	1.7E+04
HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	8.2E-04	1.4E-03	5.5E-04	9.3E-04
REDUCTION EFFICIENCY CALCULATIONS					
Inlet HFPO-DA Emission Rate, lb/hr	$RE_{(HFPODA)}$	3.1E-02	1.3E-02	1.3E-02	1.9E-02
HFPO-DA Reduction Efficiency, %	$RE_{(HFPODA)}$	**97**	**89**	**96**	**94**

*Underlined values are "J" flagged by the lab - less than the RL, but greater than or equal to the MDL
**Blank cell represent non-detect from the lab

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Isokinetic Field Data

Location:	The Chemours Company - Fayetteville, NC			**Start Time:**	8:50	**Source:**	VEN Carbon Bed Outlet
Date:	1/18/23	**Run 1**	**VALID**	**End Time:**	10:58	**Project No.:**	2023-0503

Parameter: HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.		STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	16		Est. Tm:	75	°F	NA		Pb:	30.05	in. Hg	Vlc (ml)
Barometric:	30.10	in. Hg	Y:	1.003		Est. Ts:	89	°F			Pg:	2.30	in. WC	61.1
Static Press:	2.30	in. WC	ΔH @ (in.WC):	1.850		Est. ΔP:	0.48	in. WC			O_2:	20.9	%	K-FACTOR
Stack Press:	30.27	in. Hg	Probe ID:	5D		Est. Dn:	0.252	in.			CO_2:	0.1	%	4.077
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm						
O_2:	20.9	%	Pitot ID:	P4-2		LEAK CHECKS	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt.	Initial	Final	Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.001	0.001	--	--	0.001	Mid 1 (cf)	424.444	424.855	0.411
Md:	28.85	lb/lb-mole	Nozzle ID:	GN-1	glass	Vacuum (in Hg):	10	10	--	--	10	Mid 2 (cf)			--
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	Pass	--	--	Pass	Mid 3 (cf)			--
												Mid-Point Leak Check Vol (cf):			0.411

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (fps)
					DGM Average	Stack				Probe	Filter	Imp Exit	Aux		
					Amb.	Amb.				Amb.	Amb.	Amb.	Amb.		
	Begin	End					Ideal	Actual					-		
A1	0.00	4.00	391.186	0.42	56	90	1.65	1.70	4	98	96	48	43	98.9	37.06
2	4.00	8.00	393.940	0.45	56	89	1.77	1.80	5	98	98	44	43	102.3	38.33
3	8.00	12.00	396.890	0.43	57	90	1.69	1.70	5	98	97	44	43	98.9	37.50
4	12.00	16.00	399.680	0.43	57	89	1.69	1.70	5	98	98	43	42	100.2	37.47
5	16.00	20.00	402.510	0.42	57	90	1.65	1.70	5	98	98	43	43	104.3	37.06
6	20.00	24.00	405.420	0.43	58	89	1.70	1.70	5	98	99	44	43	102.1	37.47
7	24.00	28.00	408.310	0.39	58	89	1.54	1.50	4	98	95	44	43	105.3	35.68
8	28.00	32.00	411.150	0.35	58	88	1.39	1.40	4	98	93	44	43	99.3	33.77
9	32.00	36.00	413.690	0.36	59	89	1.42	1.40	4	98	98	44	43	103.2	34.28
10	36.00	40.00	416.370	0.36	60	88	1.43	1.40	4	98	97	44	43	102.9	34.25
11	40.00	44.00	419.050	0.35	60	88	1.39	1.40	4	98	97	44	43	103.2	33.77
12	44.00	48.00	421.700	0.36	60	88	1.43	1.40	4	98	98	44	43	105.4	34.25
B1	48.00	52.00	424.444	0.40	62	89	1.59	1.60	5	108	98	52	45	98.0	36.14
2	52.00	56.00	427.550	0.36	62	89	1.43	1.40	4	103	99	43	44	99.6	34.28
3	56.00	60.00	430.150	0.43	62	89	1.71	1.70	5	98	98	44	44	97.1	37.47
4	60.00	64.00	432.920	0.43	62	89	1.71	1.70	5	98	98	44	43	96.8	37.47
5	64.00	68.00	435.680	0.43	62	89	1.71	1.70	5	98	98	45	43	96.4	37.47
6	68.00	72.00	438.430	0.61	62	89	2.42	2.40	6	98	98	45	43	91.4	44.62
7	72.00	76.00	441.530	0.68	62	89	2.70	2.70	8	98	98	45	44	95.6	47.11
8	76.00	80.00	444.950	0.68	63	89	2.70	2.70	8	98	98	46	43	104.1	47.11
9	80.00	84.00	448.680	0.68	63	89	2.70	2.70	8	98	98	45	44	104.9	47.11
10	84.00	88.00	452.440	0.66	63	89	2.62	2.60	7	97	98	46	44	100.2	46.42
11	88.00	92.00	455.980	0.66	64	88	2.63	2.60	7	98	98	47	43	101.9	46.37
12	92.00	96.00	459.590	0.66	64	88	2.63	2.60	7	98	99	46	43	101.2	46.37
	Final DGM:		463.176												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	71.579	ft^3	0.48	in. WC	60.3	°F	88.9	°F	8	1.883	in. WC	101.9	0.038	0.5

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Isokinetic Field Data

Location:	The Chemours Company - Fayetteville, NC		**Start Time:**	11:45	**Source:**	VEN Carbon Bed Outlet	
Date:	1/18/23	Run 2 VALID	**End Time:**	13:38	**Project No.:**	2023-0503	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	16		Est. Tm:	60	°F	NA	Pb:	30.06	in. Hg	Vlc (ml)
Barometric:	30.10	in. Hg	Y:	1.003		Est. Ts:	89	°F		Pg:	2.30	in. WC	53.6
Static Press:	2.30	in. WC	ΔH @ (in.WC):	1.850		Est. ΔP:	0.48	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	30.27	in. Hg	Probe ID:	5D		Est. Dn:	0.255	in.		CO_2:	0.1	%	3.96
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm					
O_2:	20.9	%	Pitot ID:	P4-2		LEAK CHECKS	Pre	Mid 1	Mid 2 / Mid 3	Post	Check Pt.	Initial	Final / Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000	0.001	-- / --	0.001	Mid 1 (cf)	494.875	495.183 / 0.308
Md:	28.85	lb/lb-mole	Nozzle ID:	GN-1	glass	Vacuum (in Hg):	10	10	-- / --	10	Mid 2 (cf)		--
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	Pass	-- / --	Pass	Mid 3 (cf)		--
											Mid-Point Leak Check Vol (cf):		0.308

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (fps)
					DGM Average	Stack				Probe	Filter	Imp Exit	Aux		
					Amb.	Amb.				Amb.	Amb.	Amb.	Amb.		
	Begin	End			--	--	Ideal	Actual		--	--	--	--		
A1	0.00	4.00	463.710	0.40	63	89	1.59	1.60	5	98	100	60	45	98.0	36.14
2	4.00	8.00	466.410	0.39	63	89	1.55	1.60	5	98	98	47	42	101.8	35.68
3	8.00	12.00	469.180	0.40	63	89	1.59	1.60	5	98	99	42	43	100.1	36.14
4	12.00	16.00	471.940	0.40	63	89	1.59	1.60	5	98	98	41	43	100.1	36.14
5	16.00	20.00	474.700	0.32	63	89	1.28	1.30	5	98	98	41	44	108.2	32.32
6	20.00	24.00	477.370	0.31	63	89	1.24	1.20	4	98	98	41	45	101.3	31.81
7	24.00	28.00	479.830	0.31	64	89	1.24	1.20	4	99	100	42	47	103.5	31.81
8	28.00	32.00	482.350	0.31	64	89	1.24	1.20	4	97	99	42	47	101.5	31.81
9	32.00	36.00	484.820	0.32	64	89	1.28	1.30	4	98	99	43	46	100.7	32.32
10	36.00	40.00	487.310	0.31	64	89	1.24	1.20	4	97	97	43	46	102.7	31.81
11	40.00	44.00	489.810	0.32	65	90	1.28	1.30	4	98	98	43	44	101.0	32.35
12	44.00	48.00	492.310	0.32	66	89	1.28	1.30	4	98	98	43	44	103.4	32.32
B1	48.00	52.00	494.875	0.30	67	89	1.21	1.20	4	99	98	44	49	102.5	31.29
2	52.00	56.00	497.650	0.30	67	89	1.21	1.20	4	98	99	44	49	102.6	31.29
3	56.00	60.00	500.120	0.29	67	89	1.17	1.20	4	99	97	44	49	99.7	30.77
4	60.00	64.00	502.480	0.30	67	89	1.21	1.20	4	98	98	44	47	93.0	31.29
5	64.00	68.00	504.720	0.32	68	89	1.29	1.30	5	98	100	45	40	102.8	32.32
6	68.00	72.00	507.280	0.35	68	89	1.41	1.40	5	98	102	44	40	94.5	33.80
7	72.00	76.00	509.740	0.35	68	89	1.41	1.40	6	98	98	45	41	95.2	33.80
8	76.00	80.00	512.220	0.36	68	89	1.45	1.50	6	98	98	46	41	101.9	34.28
9	80.00	84.00	514.910	0.60	69	89	2.41	2.40	9	97	98	46	40	95.7	44.26
10	84.00	88.00	518.170	0.60	69	89	2.41	2.40	9	98	99	46	40	102.1	44.26
11	88.00	92.00	521.650	0.60	69	89	2.42	2.30	9	98	98	46	40	102.4	44.26
12	92.00	96.00	525.140	0.60	70	89	2.42	2.40	9	97	98	46	40	98.9	44.26
	Final DGM:		528.516												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	64.498	ft^3	0.38	in. WC	65.9	°F	89.0	°F	9	1.513	in. WC	101.9	0.037	0.5

Alliance TECHNICAL GROUP

Isokinetic Field Data

Location:	The Chemours Company - Fayetteville, NC			**Start Time:**	14:15	**Source:**	VEN Carbon Bed Outlet
Date:	1/18/23	**Run 3**	VALID	**End Time:**	16:13	**Project No.:**	2023-0503

Parameter: HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)		MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	16		Est. Tm:	66	°F	NA	Pb:	30.06 in. Hg	Vlc (ml)
Barometric:	30.10	in. Hg	Y:	1.003		Est. Ts:	89	°F		Pg:	2.30 in. WC	50.3
Static Press:	2.30	in. WC	ΔH @ (in.WC):	1.850		Est. ΔP:	0.38	in. WC		O_2:	20.9 %	K-FACTOR
Stack Press:	30.27	in. Hg	Probe ID:	5D		Est. Dn:	0.220	in.		CO_2:	0.1 %	4.006
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.52	scfm				
O_2:	20.9	%	Pitot ID:	P4-2		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):	0.001	0.001	-- / --	0.001		
Md:	28.85	lb/lb-mole	Nozzle ID:	GN-1	glass	Vacuum (in Hg):	10	10	-- / --	10		
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	Pass	-- / --	Pass		

Check Pt.	Initial	Final	Corr.
Mid 1 (cf)	563.200	563.680	0.480
Mid 2 (cf)			--
Mid 3 (cf)			--
Mid-Point Leak Check Vol (cf):			0.480

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)
					--	--				--	--	--	--		
A1	0.00	4.00	528.965	0.40	69	89	1.61	1.62	5	98	100	62	51	97.4	36.14
2	4.00	8.00	531.680	0.41	69	89	1.65	1.70	5	98	99	52	48	100.6	36.58
3	8.00	12.00	534.520	0.40	69	89	1.61	1.60	5	98	98	49	46	100.8	36.14
4	12.00	16.00	537.330	0.41	69	89	1.65	1.70	5	98	99	46	47	101.0	36.58
5	16.00	20.00	540.180	0.40	69	89	1.61	1.60	5	98	99	46	47	101.1	36.14
6	20.00	24.00	543.000	0.45	69	89	1.81	1.80	5	98	98	46	46	97.8	38.33
7	24.00	28.00	545.890	0.45	69	89	1.81	1.80	5	98	97	45	47	97.4	38.33
8	28.00	32.00	548.770	0.60	69	89	2.41	2.40	8	98	98	46	47	99.2	44.26
9	32.00	36.00	552.150	0.58	70	89	2.34	2.30	7	98	98	45	46	99.2	43.51
10	36.00	40.00	555.480	0.31	70	89	1.25	1.30	5	97	99	45	46	109.7	31.81
11	40.00	44.00	558.180	0.32	70	89	1.29	1.30	5	98	98	45	46	102.8	32.32
12	44.00	48.00	560.750	0.30	70	89	1.21	1.20	5	97	98	45	46	106.1	31.29
B1	48.00	52.00	563.320	0.32	70	89	1.29	1.30	5	107	104	56	45	94.0	32.32
2	52.00	56.00	566.150	0.31	70	90	1.25	1.30	5	102	104	47	43	91.1	31.84
3	56.00	60.00	568.390	0.33	70	90	1.33	1.30	5	98	104	47	43	92.6	32.85
4	60.00	64.00	570.740	0.32	70	90	1.29	1.30	6	98	97	47	42	93.7	32.35
5	64.00	68.00	573.080	0.35	70	90	1.41	1.40	6	98	100	47	43	100.7	33.83
6	68.00	72.00	575.710	0.36	70	90	1.45	1.50	6	98	98	48	43	100.1	34.31
7	72.00	76.00	578.360	0.37	71	90	1.50	1.50	6	98	98	48	43	99.3	34.79
8	76.00	80.00	581.030	0.58	71	89	2.34	2.30	9	98	98	48	42	99.3	43.51
9	80.00	84.00	584.370	0.60	71	89	2.42	2.40	9	99	98	48	42	100.6	44.26
10	84.00	88.00	587.810	0.68	71	89	2.75	2.70	9	99	99	48	42	100.0	47.11
11	88.00	92.00	591.450	0.68	71	89	2.75	2.70	9	99	98	48	42	98.4	47.11
12	92.00	96.00	595.030	0.67	71	89	2.70	2.70	9	98	98	49	42	101.6	46.77
	Final DGM:		598.700												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	69.255 ft^3	0.44 in. WC	69.9 °F	89.3 °F	9	1.780 in. WC	100.4	0.033	-0.7

Method 4 Data

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Outlet
Project No. 2023-0503
Parameter HFPO-DA
Analysis Gravimetric

Run 1	Date:	1/18/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	302.7	528.5	762.9	785.1	743.9	511.1	297.2	809.6	4741.0
Final Mass, g	325.6	533.5	760.5	786.8	744.2	512.9	315.6	823.0	4802.1
Gain	22.9	5.0	-2.4	1.7	0.3	1.8	18.4	13.4	61.1
Run 2	**Date:**	1/18/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	305.8	483.5	755.3	717.9	725.4	481.2	296.2	882.8	4648.1
Final Mass, g	325.5	488.6	754.2	718.1	725.8	483.1	311.3	895.1	4701.7
Gain	19.7	5.1	-1.1	0.2	0.4	1.9	15.1	12.3	53.6
Run 3	**Date:**	1/18/23							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	316.8	478.2	755.5	740.6	733.6	469.4	312.2	876.2	4682.5
Final Mass, g	335.2	485.4	754.8	741.0	735.2	471.1	321.2	888.9	4732.8
Gain	18.4	7.2	-0.7	0.4	1.6	1.7	9.0	12.7	50.3

Method 2 Data

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Outlet
Project No. 2023-0503
Date 1/18/23

Saturation Moisture Content Check	Traverse Point	Δ P (in. WC)	Ts (°F)
Stack Temperature (Ts): 88.9 °F	1	0.42	90
Moisture Fraction @ Sat.: 0.045	2	0.45	89
	3	0.43	90
	4	0.43	89
	5	0.42	90
	6	0.43	89
	7	0.39	89
	8	0.35	88
	9	0.36	89
	10	0.36	88
	11	0.35	88
	12	0.36	88
Stack Parameters	13	0.40	89
Pitot Tube ID#: P4-2	14	0.36	89
Pitot Tube Coefficient (Cp): 0.840	15	0.43	89
Barometric Pressure (Pb): 30.10 in. Hg	16	0.43	89
Static Pressure(Pg): 2.30 in. WC	17	0.43	89
Stack Pressure (Ps): 30.27 in. Hg	18	0.61	89
	19	0.68	89
	20	0.68	89
	21	0.68	89
	22	0.66	89
	23	0.66	88
	24	0.66	88

Square Root of ΔP, (in. W.C.) $^{1/2}$	0.685
Average ΔP, (in. W.C.)	0.48
Average Temperature (Ts), °F	88.9
Average Temperature (Ts), °R	548.5
Moisture (BWS), %	2.1
O_2 Concentration, %	20.9
CO_2 Concentration, %	0.1
Molecular Weight (Md), lb/lb-mole (dry)	28.85
Molecular Weight (Ms), lb/lb-mole (wet)	28.62
Velocity (Vs), ft/sec	39.1
VFR at stack conditions (Qa), acfm	16,594
VFR at standard conditions (Qs), dscfm	15,809

Appendix C

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/26/2023 1:19:34 PM

JOB DESCRIPTION

VEN Carbon Bed Inlet

JOB NUMBER

140-30280-1

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville TN 37921

See page two for job notes and contact information.

Job Notes

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

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

Authorization

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1/26/2023 1:19:34 PM

Authorized for release by
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Table of Contents

Definitions/Glossary

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

Job ID: 140-30280-1

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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: 140-30280-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-30280-1

Receipt

The samples were received on 1/18/2023 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 0.6º C.

LCMS

Method 537 (modified): Results for sample V-1105 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE (140-30280-3) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: V-1105 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE (140-30280-3). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): V-1101,1102 VEN CB INLET R1 OTM-45 FH (140-30280-1), V-1108,1109 VEN CB INLET R2 OTM-45 FH (140-30280-5) and V-1115,1116 VEN CB INLET R3 OTM-45 FH (140-30280-9). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: V-1101,1102 VEN CB INLET R1 OTM-45 FH (140-30280-1), V-1108,1109 VEN CB INLET R2 OTM-45 FH (140-30280-5) and V-1115,1116 VEN CB INLET R3 OTM-45 FH (140-30280-9). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): Results for samples V-1107 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-30280-4), V-1114 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-30280-8) and V-1120 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-30280-12) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): V-1103,1104,1106 VEN CB INLET R1 OTM-45 BH (140-30280-2), V-1110,1111,1113 VEN CB INLET R2 OTM-45 BH (140-30280-6) and V-1117,1118,1120 VEN CB INLET R3 OTM-45 BH (140-30280-10). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: V-1103,1104,1106 VEN CB INLET R1 OTM-45 BH (140-30280-2), V-1107 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-30280-4), V-1110,1111,1113 VEN CB INLET R2 OTM-45 BH (140-30280-6), V-1114 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-30280-8), V-1117,1118,1120 VEN CB INLET R3 OTM-45 BH (140-30280-10) and V-1120 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-30280-12). The sample was analyzed at a dilution based on screening results.

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

Organic Prep

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

Client Sample ID: V-1101,1102 VEN CB INLET R1 OTM-45 FH

Lab Sample ID: 140-30280-1

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	765		50.0	47.0	ug/Sample		01/19/23 14:27	01/22/23 16:07	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*104*		*25 - 150*	*01/19/23 14:27*	*01/22/23 16:07*	*1*

Client Sample ID: V-1103,1104,1106 VEN CB INLET R1 OTM-45 BH

Lab Sample ID: 140-30280-2

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	300		100	55.0	ug/Sample		01/19/23 14:18	01/25/23 12:58	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*108*		*25 - 150*	*01/19/23 14:18*	*01/25/23 12:58*	*1*

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

Lab Sample ID: 140-30280-3

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	16.6		0.140	0.0560	ug/Sample		01/20/23 08:39	01/20/23 13:21	2

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*25 - 150*	*01/20/23 08:39*	*01/20/23 13:21*	*2*

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

Lab Sample ID: 140-30280-4

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.318		0.200	0.110	ug/Sample		01/19/23 14:18	01/25/23 13:07	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*86*		*25 - 150*	*01/19/23 14:18*	*01/25/23 13:07*	*10*

Client Sample ID: V-1108,1109 VEN CB INLET R2 OTM-45 FH

Lab Sample ID: 140-30280-5

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	207		50.0	47.0	ug/Sample		01/19/23 14:27	01/22/23 16:16	1

Client Sample ID: V-1108,1109 VEN CB INLET R2 OTM-45 FH

Lab Sample ID: 140-30280-5

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	100		25 - 150	01/19/23 14:27	01/22/23 16:16	1

Client Sample ID: V-1110,1111,1113 VEN CB INLET R2 OTM-45 BH

Lab Sample ID: 140-30280-6

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	247		100	55.0	ug/Sample		01/19/23 14:18	01/25/23 13:16	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	107		25 - 150	01/19/23 14:18	01/25/23 13:16	1

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

Lab Sample ID: 140-30280-7

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	9.95		0.0712	0.0285	ug/Sample		01/20/23 08:39	01/20/23 13:30	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	94		25 - 150	01/20/23 08:39	01/20/23 13:30	1

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

Lab Sample ID: 140-30280-8

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.460		0.200	0.110	ug/Sample		01/19/23 14:18	01/25/23 13:25	10

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	87		25 - 150	01/19/23 14:18	01/25/23 13:25	10

Client Sample ID: V-1115,1116 VEN CB INLET R3 OTM-45 FH

Lab Sample ID: 140-30280-9

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	150		10.0	9.40	ug/Sample		01/19/23 14:27	01/22/23 16:25	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	97		25 - 150	01/19/23 14:27	01/22/23 16:25	1

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

Job ID: 140-30280-1

Client Sample ID: V-1117,1118,1120 VEN CB INLET R3 OTM-45 BH

Lab Sample ID: 140-30280-10

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	299		100	55.0	ug/Sample		01/19/23 14:18	01/25/23 13:33	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	106		25 - 150	01/19/23 14:18	01/25/23 13:33	1

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

Lab Sample ID: 140-30280-11

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	6.58		0.0725	0.0290	ug/Sample		01/20/23 08:39	01/20/23 13:39	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		25 - 150	01/20/23 08:39	01/20/23 13:39	1

Client Sample ID: V-1120 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-30280-12

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.167		0.0400	0.0220	ug/Sample		01/19/23 14:18	01/25/23 13:42	2

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	84		25 - 150	01/19/23 14:18	01/25/23 13:42	2

Default Detection Limits

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

Job ID: 140-30280-1

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: 140-30280-1

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)						
140-30280-1	V-1101,1102 VEN CB INLET R1	104						
140-30280-2	V-1103,1104,1106 VEN CB INLET R1 OTM-45 BH	108						
140-30280-3	V-1105 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	91						
140-30280-4	V-1107 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	86						
140-30280-5	V-1108,1109 VEN CB INLET R2 OTM-45 FH	100						
140-30280-6	V-1110,1111,1113 VEN CB INLET R2 OTM-45 BH	107						
140-30280-7	V-1112 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	94						
140-30280-8	V-1114 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	87						
140-30280-9	V-1115,1116 VEN CB INLET R3 OTM-45 FH	97						
140-30280-10	V-1117,1118,1120 VEN CB INLET R3 OTM-45 BH	106						
140-30280-11	V-1119 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	96						
140-30280-12	V-1120 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	84						
LCS 140-69537/2-B	Lab Control Sample	97						
LCS 140-69538/2-B	Lab Control Sample	81						
LCS 140-69554/2-A	Lab Control Sample	100						
LCSD 140-69537/3-B	Lab Control Sample Dup	91						
LCSD 140-69538/3-B	Lab Control Sample Dup	80						
LCSD 140-69554/3-A	Lab Control Sample Dup	92						
MB 140-69537/1-B	Method Blank	92						
MB 140-69538/1-B	Method Blank	84						
MB 140-69554/1-A	Method Blank	93						

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-69537/1-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 12:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*01/19/23 14:18*	*01/25/23 12:32*	*1*

Lab Sample ID: LCS 140-69537/2-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69537

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.01975	J	ug/Sample		99	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*97*		*25 - 150*

Lab Sample ID: LCSD 140-69537/3-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69537

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.01894	J	ug/Sample		95	60 - 140	4	30

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

Lab Sample ID: MB 140-69538/1-B
Matrix: Air
Analysis Batch: 69586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		01/19/23 14:27	01/22/23 15:41	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*84*		*25 - 150*	*01/19/23 14:27*	*01/22/23 15:41*	*1*

Lab Sample ID: LCS 140-69538/2-B
Matrix: Air
Analysis Batch: 69586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69538

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02060		ug/Sample		103	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*81*		*25 - 150*

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

Lab Sample ID: LCSD 140-69538/3-B
Matrix: Air
Analysis Batch: 69586

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69538

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02063		ug/Sample		103	60 - 140	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*80*		*25 - 150*

Lab Sample ID: MB 140-69554/1-A
Matrix: Air
Analysis Batch: 69565

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69554

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		01/20/23 08:39	01/20/23 12:55	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*93*		*25 - 150*	*01/20/23 08:39*	*01/20/23 12:55*	*1*

Lab Sample ID: LCS 140-69554/2-A
Matrix: Air
Analysis Batch: 69565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69554

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
HFPO-DA			0.0100	0.01049		ug/Sample		105	60 - 140

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*100*		*25 - 150*

Lab Sample ID: LCSD 140-69554/3-A
Matrix: Air
Analysis Batch: 69565

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69554

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.01043		ug/Sample		104	60 - 140	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*92*		*25 - 150*

LCMS

Prep Batch: 69537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-2	V-1103,1104,1106 VEN CB INLET R1 OTM-45 BI	Total/NA	Air	None	
140-30280-4	V-1107 VEN CB INLET R1 OTM-45 BREAKTHRC	Total/NA	Air	None	
140-30280-6	V-1110,1111,1113 VEN CB INLET R2 OTM-45 BI	Total/NA	Air	None	
140-30280-8	V-1114 VEN CB INLET R2 OTM-45 BREAKTHRC	Total/NA	Air	None	
140-30280-10	V-1117,1118,1120 VEN CB INLET R3 OTM-45 BI	Total/NA	Air	None	
140-30280-12	V-1120 VEN CB INLET R3 OTM-45 BREAKTHRC	Total/NA	Air	None	
MB 140-69537/1-B	Method Blank	Total/NA	Air	None	
LCS 140-69537/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-69537/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 69538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-1	V-1101,1102 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	None	
140-30280-5	V-1108,1109 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	None	
140-30280-9	V-1115,1116 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	None	
MB 140-69538/1-B	Method Blank	Total/NA	Air	None	
LCS 140-69538/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-69538/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 69554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-3	V-1105 VEN CB INLET R1 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
140-30280-7	V-1112 VEN CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
140-30280-11	V-1119 VEN CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
MB 140-69554/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-69554/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-69554/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Cleanup Batch: 69564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-1	V-1101,1102 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	Split	69538
140-30280-5	V-1108,1109 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	Split	69538
140-30280-9	V-1115,1116 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	Split	69538
MB 140-69538/1-B	Method Blank	Total/NA	Air	Split	69538
LCS 140-69538/2-B	Lab Control Sample	Total/NA	Air	Split	69538
LCSD 140-69538/3-B	Lab Control Sample Dup	Total/NA	Air	Split	69538

Analysis Batch: 69565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-3	V-1105 VEN CB INLET R1 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	69554
140-30280-7	V-1112 VEN CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	69554
140-30280-11	V-1119 VEN CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	69554
MB 140-69554/1-A	Method Blank	Total/NA	Air	537 (modified)	69554
LCS 140-69554/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	69554
LCSD 140-69554/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	69554

Cleanup Batch: 69579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-2	V-1103,1104,1106 VEN CB INLET R1 OTM-45 BI	Total/NA	Air	Split	69537
140-30280-4	V-1107 VEN CB INLET R1 OTM-45 BREAKTHRC	Total/NA	Air	Split	69537
140-30280-6	V-1110,1111,1113 VEN CB INLET R2 OTM-45 BI	Total/NA	Air	Split	69537

LCMS (Continued)

Cleanup Batch: 69579 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-8	V-1114 VEN CB INLET R2 OTM-45 BREAKTHRC	Total/NA	Air	Split	69537
140-30280-10	V-1117,1118,1120 VEN CB INLET R3 OTM-45 BH	Total/NA	Air	Split	69537
140-30280-12	V-1120 VEN CB INLET R3 OTM-45 BREAKTHRC	Total/NA	Air	Split	69537
MB 140-69537/1-B	Method Blank	Total/NA	Air	Split	69537
LCS 140-69537/2-B	Lab Control Sample	Total/NA	Air	Split	69537
LCSD 140-69537/3-B	Lab Control Sample Dup	Total/NA	Air	Split	69537

Analysis Batch: 69586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-1	V-1101,1102 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	537 (modified)	69621
140-30280-5	V-1108,1109 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	537 (modified)	69621
140-30280-9	V-1115,1116 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	537 (modified)	69621
MB 140-69538/1-B	Method Blank	Total/NA	Air	537 (modified)	69564
LCS 140-69538/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	69564
LCSD 140-69538/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	69564

Cleanup Batch: 69621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-1	V-1101,1102 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	Dilution	69564
140-30280-5	V-1108,1109 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	Dilution	69564
140-30280-9	V-1115,1116 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	Dilution	69564

Analysis Batch: 69684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-2	V-1103,1104,1106 VEN CB INLET R1 OTM-45 BH	Total/NA	Air	537 (modified)	69697
140-30280-4	V-1107 VEN CB INLET R1 OTM-45 BREAKTHRC	Total/NA	Air	537 (modified)	69579
140-30280-6	V-1110,1111,1113 VEN CB INLET R2 OTM-45 BH	Total/NA	Air	537 (modified)	69697
140-30280-8	V-1114 VEN CB INLET R2 OTM-45 BREAKTHRC	Total/NA	Air	537 (modified)	69579
140-30280-10	V-1117,1118,1120 VEN CB INLET R3 OTM-45 BH	Total/NA	Air	537 (modified)	69697
140-30280-12	V-1120 VEN CB INLET R3 OTM-45 BREAKTHRC	Total/NA	Air	537 (modified)	69579
MB 140-69537/1-B	Method Blank	Total/NA	Air	537 (modified)	69579
LCS 140-69537/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	69579
LCSD 140-69537/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	69579

Cleanup Batch: 69697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30280-2	V-1103,1104,1106 VEN CB INLET R1 OTM-45 BH	Total/NA	Air	Dilution	69579
140-30280-6	V-1110,1111,1113 VEN CB INLET R2 OTM-45 BH	Total/NA	Air	Dilution	69579
140-30280-10	V-1117,1118,1120 VEN CB INLET R3 OTM-45 BH	Total/NA	Air	Dilution	69579

Lab Chronicle

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

Job ID: 140-30280-1

Client Sample ID: V-1101,1102 VEN CB INLET R1 OTM-45 FH
Lab Sample ID: 140-30280-1

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Cleanup	Dilution			1 uL	10000 uL	69621	01/22/23 11:45	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 16:07	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1103,1104,1106 VEN CB INLET R1 OTM-45 BH
Lab Sample ID: 140-30280-2

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Cleanup	Dilution			2 uL	10000 uL	69697	01/25/23 08:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 12:58	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1105 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE
Lab Sample ID: 140-30280-3

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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			0.00714 Sample	10 mL	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		2	1 mL	1 mL	69565	01/20/23 13:21	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1107 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE
Lab Sample ID: 140-30280-4

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		10	1 mL	1 mL	69684	01/25/23 13:07	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1108,1109 VEN CB INLET R2 OTM-45 FH

Lab Sample ID: 140-30280-5

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Cleanup	Dilution			1 uL	10000 uL	69621	01/22/23 11:45	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 16:16	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1110,1111,1113 VEN CB INLET R2 OTM-45 BH

Lab Sample ID: 140-30280-6

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Cleanup	Dilution			2 uL	10000 uL	69697	01/25/23 08:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 13:16	CAC	EET KNX
	Instrument ID: LCA									

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

Lab Sample ID: 140-30280-7

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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			0.00702 Sample	10 mL	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 13:30	CAC	EET KNX
	Instrument ID: LCA									

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

Lab Sample ID: 140-30280-8

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		10	1 mL	1 mL	69684	01/25/23 13:25	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1115,1116 VEN CB INLET R3 OTM-45 FH

Lab Sample ID: 140-30280-9

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Cleanup	Dilution			5 uL	10000 uL	69621	01/22/23 11:45	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 16:25	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1117,1118,1120 VEN CB INLET R3 OTM-45 BH

Lab Sample ID: 140-30280-10

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Cleanup	Dilution			2 uL	10000 uL	69697	01/25/23 08:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 13:33	CAC	EET KNX
	Instrument ID: LCA									

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

Lab Sample ID: 140-30280-11

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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			0.00690 Sample	10 mL	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 13:39	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1120 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-30280-12

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		2	1 mL	1 mL	69684	01/25/23 13:42	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

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

Job ID: 140-30280-1

Client Sample ID: Method Blank
Lab Sample ID: MB 140-69537/1-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 12:32	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-69538/1-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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 15:41	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-69554/1-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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 12:55	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-69537/2-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 12:40	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-69538/2-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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 15:50	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

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

Job ID: 140-30280-1

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-69554/2-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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 13:03	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-69537/3-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 12:49	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-69538/3-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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 15:58	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-69554/3-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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 13:12	CAC	EET KNX
	Instrument ID: LCA									

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

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC
Job ID: 140-30280-1
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	06-30-23
Colorado	State	TN00009	02-28-23
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-23
Georgia (DW)	State	906	07-27-25
Hawaii	State	NA	07-27-23
Kansas	NELAP	E-10349	10-31-23
Kentucky (DW)	State	90101	12-31-22 *
Louisiana	NELAP	83979	06-30-23
Louisiana (All)	NELAP	83979	06-30-23
Louisiana (DW)	State	LA019	12-31-23
Maryland	State	277	03-31-23
Michigan	State	9933	07-27-25
Nevada	State	TN00009	07-31-23
New Hampshire	NELAP	2999	01-17-24
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	12-31-23
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-23
Oregon	NELAP	TNI0189	01-01-24
Pennsylvania	NELAP	68-00576	12-01-23
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	525-22-279-18762	10-06-25
Utah	NELAP	TN00009	07-31-23
Virginia	NELAP	460176	09-14-23
Washington	State	C593	01-19-23 *
West Virginia (DW)	State	9955C	12-31-23
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: 140-30280-1

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: 140-30280-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-30280-1	V-1101,1102 VEN CB INLET R1 OTM-45 FH	Air	01/18/23 00:00	01/18/23 18:30
140-30280-2	V-1103,1104,1106 VEN CB INLET R1 OTM-45 BH	Air	01/18/23 00:00	01/18/23 18:30
140-30280-3	V-1105 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	01/18/23 00:00	01/18/23 18:30
140-30280-4	V-1107 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	01/18/23 00:00	01/18/23 18:30
140-30280-5	V-1108,1109 VEN CB INLET R2 OTM-45 FH	Air	01/18/23 00:00	01/18/23 18:30
140-30280-6	V-1110,1111,1113 VEN CB INLET R2 OTM-45 BH	Air	01/18/23 00:00	01/18/23 18:30
140-30280-7	V-1112 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	01/18/23 00:00	01/18/23 18:30
140-30280-8	V-1114 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	01/18/23 00:00	01/18/23 18:30
140-30280-9	V-1115,1116 VEN CB INLET R3 OTM-45 FH	Air	01/18/23 00:00	01/18/23 18:30
140-30280-10	V-1117,1118,1120 VEN CB INLET R3 OTM-45 BH	Air	01/18/23 00:00	01/18/23 18:30
140-30280-11	V-1119 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	01/18/23 00:00	01/18/23 18:30
140-30280-12	V-1120 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	01/18/23 00:00	01/18/23 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 ProjecV-Specific Quality Control Testing is designated in the "QC" column as follows: "BT" = Blank Train, "RB" = Reagent Blank, "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PB" = Proof Blank, "TB" = Trip Blank

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

Laboratory Destination:	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:
HFPO-DA (CAS No. 13252-13-6)	14 Days to Extraction; 40 Days to Analysis

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1101 VEN CB INLET R1 OTM-45 Particulate Filter (Combine with *V-1102*)	1	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
V-1102 VEN CB INLET R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse (Combine with *V-1101*)	1	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
V-1103 VEN CB INLET R1 OTM-45 XAD-2 Resin Tube	1	1/18/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1104 VEN CB INLET R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *V-1103*)	1	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.
V-1105 VEN CB INLET R1 OTM-45 Impingers 1,2 & 3 Condensate	1	1/18/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
V-1106 VEN CB INLET R1 OTM-45 Impinger Glassware MeOH Rinse (Combine with *V-1103*)	1	1/18/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
V-1107 VEN CB INLET R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	1/18/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.
V-1108 VEN CB INLET R2 OTM-45 Particulate Filter (Combine with *V-1109*)	2	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
V-1109 VEN CB INLET R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *V-1108*)	2	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1110 VEN CB INLET R2 OTM-45 XAD-2 Resin Tube	2	1/18/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO. Analyze.
V-1111 VEN CB INLET R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *V-1110*)	2	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.
V-1112 VEN CB INLET R2 OTM-45 Impingers 1,2 & 3 Condensate	2	1/18/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
V-1113 VEN CB INLET R2 OTM-45 Impinger Glassware MeOH Rinse (Combine with *V-1110*)	2	1/18/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
V-1114 VEN CB INLET R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	1/18/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1115 VEN CB INLET R3 OTM-45 Particulate Filter (Combine with *V-1116*)	3	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
V-1116 VEN CB INLET R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *V-1115*)	3	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
V-1117 VEN CB INLET R3 OTM-45 XAD-2 Resin Tube	3	1/18/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO.
V-1118 VEN CB INLET R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *V-1117*)	3	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using method 8321A-HFPO.
V-1119 VEN CB INLET R3 OTM-45 Impingers 1,2 & 3 Condensate	3	1/18/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
V-1120 VEN CB INLET R3 OTM-45 Impinger Glassware MeOH Rinse (Combine with *V-1117*)	3	1/18/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1121 VEN CB INLET R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	1/18/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	NONE
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	RT 0.4/CT 0.6°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 TG	1/18/23/1830
Accepted By:	[signature]	EUROFINS	1-18-23 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 : 5674 Correction factor: +0.2°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: Amy Dorman Date: 1-19-23

QA026R32.doc, 062719

eurofins | Environment Testing

ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/26/2023 1:20:19 PM

JOB DESCRIPTION

VEN Carbon Bed Outlet

JOB NUMBER

140-30284-1

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville TN 37921

See page two for job notes and contact information.

Job Notes

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

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

Authorization

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1/26/2023 1:20:19 PM

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

Definitions/Glossary

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

Job ID: 140-30284-1

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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: 140-30284-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-30284-1

Receipt

The samples were received on 1/18/2023 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 0.7º C.

LCMS

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): V-1129,1130 VEN CB OUTLET R1 OTM-45 FH (140-30284-1), V-1136,1137 VEN CB OUTLET R2 OTM-45 FH (140-30284-5) and V-1143,1144 VEN CB OUTLET R3 OTM-45 FH (140-30284-9). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: V-1129,1130 VEN CB OUTLET R1 OTM-45 FH (140-30284-1), V-1136,1137 VEN CB OUTLET R2 OTM-45 FH (140-30284-5) and V-1143,1144 VEN CB OUTLET R3 OTM-45 FH (140-30284-9). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): V-1131,1132,1134 VEN CB OUTLET R1 OTM-45 BH (140-30284-2), V-1138,1139,1141 VEN CB OUTLET R2 OTM-45 BH (140-30284-6) and V-1145,1146,1148 VEN CB OUTLET R3 OTM-45 BH (140-30284-10). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: V-1131,1132,1134 VEN CB OUTLET R1 OTM-45 BH (140-30284-2), V-1138,1139,1141 VEN CB OUTLET R2 OTM-45 BH (140-30284-6) and V-1145,1146,1148 VEN CB OUTLET R3 OTM-45 BH (140-30284-10). The sample was analyzed at a dilution based on screening results.

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

Organic Prep

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

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

Job ID: 140-30284-1

Client Sample ID: V-1129,1130 VEN CB OUTLET R1 OTM-45 FH

Lab Sample ID: 140-30284-1

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	23.5		2.50	2.35	ug/Sample		01/19/23 14:27	01/22/23 16:34	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		25 - 150	01/19/23 14:27	01/22/23 16:34	1

Client Sample ID: V-1131,1132,1134 VEN CB OUTLET R1 OTM-45 BH

Lab Sample ID: 140-30284-2

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	5.50		2.00	1.10	ug/Sample		01/19/23 14:18	01/25/23 13:51	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	111		25 - 150	01/19/23 14:18	01/25/23 13:51	1

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

Lab Sample ID: 140-30284-3

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.383		0.137	0.0548	ug/Sample		01/20/23 08:39	01/20/23 13:48	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	94		25 - 150	01/20/23 08:39	01/20/23 13:48	1

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

Lab Sample ID: 140-30284-4

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0124	J	0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 14:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	84		25 - 150	01/19/23 14:18	01/25/23 14:17	1

Client Sample ID: V-1136,1137 VEN CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-30284-5

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	45.0		5.00	4.70	ug/Sample		01/19/23 14:27	01/22/23 16:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*97*		*25 - 150*	*01/19/23 14:27*	*01/22/23 16:42*	*1*

Client Sample ID: V-1138,1139,1141 VEN CB OUTLET R2 OTM-45 BH

Lab Sample ID: 140-30284-6

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	4.68		2.00	1.10	ug/Sample		01/19/23 14:18	01/25/23 14:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*101*		*25 - 150*	*01/19/23 14:18*	*01/25/23 14:26*	*1*

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

Lab Sample ID: 140-30284-7

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.262		0.0737	0.0295	ug/Sample		01/20/23 08:39	01/20/23 13:56	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*95*		*25 - 150*	*01/20/23 08:39*	*01/20/23 13:56*	*1*

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

Lab Sample ID: 140-30284-8

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0291		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 14:35	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*88*		*25 - 150*	*01/19/23 14:18*	*01/25/23 14:35*	*1*

Client Sample ID: V-1143,1144 VEN CB OUTLET R3 OTM-45 FH

Lab Sample ID: 140-30284-9

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	10.7		0.494	0.465	ug/Sample		01/19/23 14:27	01/22/23 16:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*101*		*25 - 150*	*01/19/23 14:27*	*01/22/23 16:51*	*1*

Client Sample ID: V-1145,1146,1148 VEN CB OUTLET R3 OTM-45 BH

Lab Sample ID: 140-30284-10

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	8.29		2.00	1.10	ug/Sample		01/19/23 14:18	01/25/23 14:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*101*		*25 - 150*	*01/19/23 14:18*	*01/25/23 14:53*	*1*

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

Lab Sample ID: 140-30284-11

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.347		0.0775	0.0310	ug/Sample		01/20/23 08:39	01/20/23 14:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96*		*25 - 150*	*01/20/23 08:39*	*01/20/23 14:05*	*1*

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

Lab Sample ID: 140-30284-12

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 15:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*95*		*25 - 150*	*01/19/23 14:18*	*01/25/23 15:02*	*1*

Default Detection Limits

Client: The Chemours Company FC, LLC
Job ID: 140-30284-1
Project/Site: VEN Carbon Bed Outlet

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: 140-30284-1

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)
140-30284-1	V-1129,1130 VEN CB OUTLET I	96
140-30284-2	V-1131,1132,1134 VEN CB OUTLET R1 OTM-45 BH	111
140-30284-3	V-1133 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	94
140-30284-4	V-1135 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	84
140-30284-5	V-1136,1137 VEN CB OUTLET R2 OTM-45 FH	97
140-30284-6	V-1138,1139,1141 VEN CB OUTLET R2 OTM-45 BH	101
140-30284-7	V-1140 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	95
140-30284-8	V-1142 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	88
140-30284-9	V-1143,1144 VEN CB OUTLET R3 OTM-45 FH	101
140-30284-10	V-1145,1146,1148 VEN CB OUTLET R3 OTM-45 BH	101
140-30284-11	V-1147 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	96
140-30284-12	V-1149 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	95
LCS 140-69537/2-B	Lab Control Sample	97
LCS 140-69538/2-B	Lab Control Sample	81
LCS 140-69554/2-A	Lab Control Sample	100
LCSD 140-69537/3-B	Lab Control Sample Dup	91
LCSD 140-69538/3-B	Lab Control Sample Dup	80
LCSD 140-69554/3-A	Lab Control Sample Dup	92
MB 140-69537/14-B	Method Blank	97
MB 140-69537/1-B	Method Blank	92
MB 140-69538/1-B	Method Blank	84
MB 140-69554/1-A	Method Blank	93

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-69537/14-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 14:44	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*97*		*25 - 150*	*01/19/23 14:18*	*01/25/23 14:44*	*1*

Lab Sample ID: MB 140-69537/1-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 12:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*01/19/23 14:18*	*01/25/23 12:32*	*1*

Lab Sample ID: LCS 140-69537/2-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69537

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.01975	J	ug/Sample		99	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*97*		*25 - 150*

Lab Sample ID: LCSD 140-69537/3-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69537

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.01894	J	ug/Sample		95	60 - 140	4	30

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

Lab Sample ID: MB 140-69538/1-B
Matrix: Air
Analysis Batch: 69586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		01/19/23 14:27	01/22/23 15:41	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*84*		*25 - 150*	*01/19/23 14:27*	*01/22/23 15:41*	*1*

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

Lab Sample ID: LCS 140-69538/2-B
Matrix: Air
Analysis Batch: 69586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69538

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02060		ug/Sample		103	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*81*		*25 - 150*

Lab Sample ID: LCSD 140-69538/3-B
Matrix: Air
Analysis Batch: 69586

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69538

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02063		ug/Sample		103	60 - 140	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*80*		*25 - 150*

Lab Sample ID: MB 140-69554/1-A
Matrix: Air
Analysis Batch: 69565

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69554

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		01/20/23 08:39	01/20/23 12:55	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*93*		*25 - 150*	*01/20/23 08:39*	*01/20/23 12:55*	*1*

Lab Sample ID: LCS 140-69554/2-A
Matrix: Air
Analysis Batch: 69565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69554

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.01049		ug/Sample		105	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*100*		*25 - 150*

Lab Sample ID: LCSD 140-69554/3-A
Matrix: Air
Analysis Batch: 69565

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69554

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.01043		ug/Sample		104	60 - 140	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*92*		*25 - 150*

LCMS

Prep Batch: 69537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-2	V-1131,1132,1134 VEN CB OUTLET R1 OTM-45	Total/NA	Air	None	
140-30284-4	V-1135 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	None	
140-30284-6	V-1138,1139,1141 VEN CB OUTLET R2 OTM-45	Total/NA	Air	None	
140-30284-8	V-1142 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	None	
140-30284-10	V-1145,1146,1148 VEN CB OUTLET R3 OTM-45	Total/NA	Air	None	
140-30284-12	V-1149 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	None	
MB 140-69537/14-B	Method Blank	Total/NA	Air	None	
MB 140-69537/1-B	Method Blank	Total/NA	Air	None	
LCS 140-69537/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-69537/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 69538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-1	V-1129,1130 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	None	
140-30284-5	V-1136,1137 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	None	
140-30284-9	V-1143,1144 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	None	
MB 140-69538/1-B	Method Blank	Total/NA	Air	None	
LCS 140-69538/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-69538/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 69554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-3	V-1133 VEN CB OUTLET R1 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
140-30284-7	V-1140 VEN CB OUTLET R2 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
140-30284-11	V-1147 VEN CB OUTLET R3 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
MB 140-69554/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-69554/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-69554/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Cleanup Batch: 69564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-1	V-1129,1130 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	Split	69538
140-30284-5	V-1136,1137 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	Split	69538
140-30284-9	V-1143,1144 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	Split	69538
MB 140-69538/1-B	Method Blank	Total/NA	Air	Split	69538
LCS 140-69538/2-B	Lab Control Sample	Total/NA	Air	Split	69538
LCSD 140-69538/3-B	Lab Control Sample Dup	Total/NA	Air	Split	69538

Analysis Batch: 69565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-3	V-1133 VEN CB OUTLET R1 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	69554
140-30284-7	V-1140 VEN CB OUTLET R2 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	69554
140-30284-11	V-1147 VEN CB OUTLET R3 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	69554
MB 140-69554/1-A	Method Blank	Total/NA	Air	537 (modified)	69554
LCS 140-69554/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	69554
LCSD 140-69554/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	69554

Cleanup Batch: 69579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-2	V-1131,1132,1134 VEN CB OUTLET R1 OTM-45	Total/NA	Air	Split	69537
140-30284-4	V-1135 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	Split	69537

LCMS (Continued)

Cleanup Batch: 69579 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-6	V-1138,1139,1141 VEN CB OUTLET R2 OTM-45	Total/NA	Air	Split	69537
140-30284-8	V-1142 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	Split	69537
140-30284-10	V-1145,1146,1148 VEN CB OUTLET R3 OTM-45	Total/NA	Air	Split	69537
140-30284-12	V-1149 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	Split	69537
MB 140-69537/14-B	Method Blank	Total/NA	Air	Split	69537
MB 140-69537/1-B	Method Blank	Total/NA	Air	Split	69537
LCS 140-69537/2-B	Lab Control Sample	Total/NA	Air	Split	69537
LCSD 140-69537/3-B	Lab Control Sample Dup	Total/NA	Air	Split	69537

Analysis Batch: 69586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-1	V-1129,1130 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	537 (modified)	69621
140-30284-5	V-1136,1137 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	537 (modified)	69621
140-30284-9	V-1143,1144 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	537 (modified)	69621
MB 140-69538/1-B	Method Blank	Total/NA	Air	537 (modified)	69564
LCS 140-69538/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	69564
LCSD 140-69538/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	69564

Cleanup Batch: 69621

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-1	V-1129,1130 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	Dilution	69564
140-30284-5	V-1136,1137 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	Dilution	69564
140-30284-9	V-1143,1144 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	Dilution	69564

Analysis Batch: 69684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-2	V-1131,1132,1134 VEN CB OUTLET R1 OTM-45	Total/NA	Air	537 (modified)	69697
140-30284-4	V-1135 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	69579
140-30284-6	V-1138,1139,1141 VEN CB OUTLET R2 OTM-45	Total/NA	Air	537 (modified)	69697
140-30284-8	V-1142 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	69579
140-30284-10	V-1145,1146,1148 VEN CB OUTLET R3 OTM-45	Total/NA	Air	537 (modified)	69697
140-30284-12	V-1149 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	69579
MB 140-69537/14-B	Method Blank	Total/NA	Air	537 (modified)	69579
MB 140-69537/1-B	Method Blank	Total/NA	Air	537 (modified)	69579
LCS 140-69537/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	69579
LCSD 140-69537/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	69579

Cleanup Batch: 69697

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30284-2	V-1131,1132,1134 VEN CB OUTLET R1 OTM-45	Total/NA	Air	Dilution	69579
140-30284-6	V-1138,1139,1141 VEN CB OUTLET R2 OTM-45	Total/NA	Air	Dilution	69579
140-30284-10	V-1145,1146,1148 VEN CB OUTLET R3 OTM-45	Total/NA	Air	Dilution	69579

Client Sample ID: V-1129,1130 VEN CB OUTLET R1 OTM-45 FH

Lab Sample ID: 140-30284-1

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	68 mL	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			34 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Cleanup	Dilution			20 uL	10000 uL	69621	01/22/23 11:45	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 16:34	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: V-1131,1132,1134 VEN CB OUTLET R1 OTM-45 BH

Lab Sample ID: 140-30284-2

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	69697	01/25/23 08:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 13:51	CAC	EET KNX

Instrument ID: LCA

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

Lab Sample ID: 140-30284-3

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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			0.00365 Sample	10 mL	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 13:48	CAC	EET KNX

Instrument ID: LCA

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

Lab Sample ID: 140-30284-4

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 14:17	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: V-1136,1137 VEN CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-30284-5

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	106 mL	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			53 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	69621	01/22/23 11:45	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 16:42	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: V-1138,1139,1141 VEN CB OUTLET R2 OTM-45 BH

Lab Sample ID: 140-30284-6

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	69697	01/25/23 08:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 14:26	CAC	EET KNX

Instrument ID: LCA

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

Lab Sample ID: 140-30284-7

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 13:56	CAC	EET KNX

Instrument ID: LCA

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

Lab Sample ID: 140-30284-8

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 14:35	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: V-1143,1144 VEN CB OUTLET R3 OTM-45 FH

Lab Sample ID: 140-30284-9

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	87 mL	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			44 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	69621	01/22/23 11:45	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 16:51	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: V-1145,1146,1148 VEN CB OUTLET R3 OTM-45 BH

Lab Sample ID: 140-30284-10

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	69697	01/25/23 08:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 14:53	CAC	EET KNX

Instrument ID: LCA

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

Lab Sample ID: 140-30284-11

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 14:05	CAC	EET KNX

Instrument ID: LCA

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

Lab Sample ID: 140-30284-12

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 15:02	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: Method Blank
Lab Sample ID: MB 140-69537/14-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 14:44	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-69537/1-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 12:32	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-69538/1-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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 15:41	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-69554/1-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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 12:55	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-69537/2-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 12:40	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

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

Job ID: 140-30284-1

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-69538/2-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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 15:50	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-69554/2-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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 13:03	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-69537/3-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 12:49	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-69538/3-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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 15:58	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-69554/3-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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 13:12	CAC	EET KNX
	Instrument ID: LCA									

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

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC
Job ID: 140-30284-1
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	06-30-23
Colorado	State	TN00009	02-28-23
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-23
Georgia (DW)	State	906	07-27-25
Hawaii	State	NA	07-27-23
Kansas	NELAP	E-10349	10-31-23
Kentucky (DW)	State	90101	12-31-22 *
Louisiana	NELAP	83979	06-30-23
Louisiana (All)	NELAP	83979	06-30-23
Louisiana (DW)	State	LA019	12-31-23
Maryland	State	277	03-31-23
Michigan	State	9933	07-27-25
Nevada	State	TN00009	07-31-23
New Hampshire	NELAP	2999	01-17-24
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	12-31-23
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-23
Oregon	NELAP	TNI0189	01-01-24
Pennsylvania	NELAP	68-00576	12-01-23
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	525-22-279-18762	10-06-25
Utah	NELAP	TN00009	07-31-23
Virginia	NELAP	460176	09-14-23
Washington	State	C593	01-19-23 *
West Virginia (DW)	State	9955C	12-31-23
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: 140-30284-1

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: 140-30284-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-30284-1	V-1129,1130 VEN CB OUTLET R1 OTM-45 FH	Air	01/18/23 00:00	01/18/23 18:30
140-30284-2	V-1131,1132,1134 VEN CB OUTLET R1 OTM-45 BH	Air	01/18/23 00:00	01/18/23 18:30
140-30284-3	V-1133 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	01/18/23 00:00	01/18/23 18:30
140-30284-4	V-1135 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	01/18/23 00:00	01/18/23 18:30
140-30284-5	V-1136,1137 VEN CB OUTLET R2 OTM-45 FH	Air	01/18/23 00:00	01/18/23 18:30
140-30284-6	V-1138,1139,1141 VEN CB OUTLET R2 OTM-45 BH	Air	01/18/23 00:00	01/18/23 18:30
140-30284-7	V-1140 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	01/18/23 00:00	01/18/23 18:30
140-30284-8	V-1142 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	01/18/23 00:00	01/18/23 18:30
140-30284-9	V-1143,1144 VEN CB OUTLET R3 OTM-45 FH	Air	01/18/23 00:00	01/18/23 18:30
140-30284-10	V-1145,1146,1148 VEN CB OUTLET R3 OTM-45 BH	Air	01/18/23 00:00	01/18/23 18:30
140-30284-11	V-1147 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	01/18/23 00:00	01/18/23 18:30
140-30284-12	V-1149 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	01/18/23 00:00	01/18/23 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

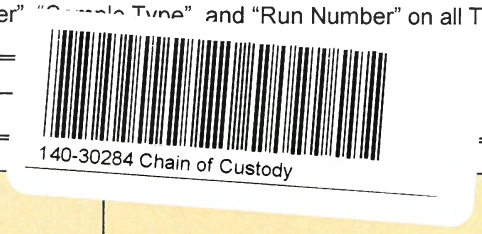
Laboratory Deliverable Turnaround Requirements:	
Analytical Due Date: (Review-Released Data)	21 Days from Lab Receipt
Data Package Due Date:	28 Days from Lab Receipt

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

Laboratory Destination:	Eurofins TestAmerica 5815 Middlebrook Pike Knoxville, TN
Lab Phone Number:	(865) 291-3000
Courier:	Hand Deliver

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

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



Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1129 VEN CB OUTLET R1 OTM-45 Filter (Combine with *V-1130*)	1	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using Method 8321A-HFPO.
V-1130 VEN CB OUTLET R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse (Combine with *V-1129*)	1	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
V-1131 VEN CB OUTLET R1 OTM-45 XAD-2 Resin Tube	1	1/18/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using Method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1132 VEN CB OUTLET R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *V-1131*)	1	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
V-1133 VEN CB OUTLET R1 OTM-45 Impingers 1,2 & 3 Condensate	1	1/18/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
V-1134 VEN CB OUTLET R1 OTM-45 Impinger Glassware MeOH Rinse (Combine with *V-1131*)	1	1/18/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
V-1135 VEN CB OUTLET R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	1/18/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
V-1136 VEN CB OUTLET R2 OTM-45 Filter (Combine with *V-1137*)	2	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using Method 8321A-HFPO.
V-1137 VEN CB OUTLET R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *V-1136*)	2	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1138 VEN CB OUTLET R2 OTM-45 XAD-2 Resin Tube	2	1/18/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using Method 8321A-HFPO.
V-1139 VEN CB OUTLET R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *V-1138*)	2	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
V-1140 VEN CB OUTLET R2 OTM-45 Impingers 1,2 & 3 Condensate	2	1/18/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
V-1141 VEN CB OUTLET R2 OTM-45 Impinger Glassware MeOH Rinse (Combine with *V-1138*)	2	1/18/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
V-1142 VEN CB OUTLET R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	1/18/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
V-1143 VEN CB OUTLET R3 OTM-45 Filter (Combine with *V-1144*)	3	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using Method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1144 VEN CB OUTLET R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *V-1143*)	3	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
V-1145 VEN CB OUTLET R3 OTM-45 XAD-2 Resin Tube	3	1/18/23		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using Method 8321A-HFPO.
V-1146 VEN CB OUTLET R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *V-1145*)	3	1/18/23		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
V-1147 VEN CB OUTLET R3 OTM-45 Impingers 1,2 & 3 Condensate	3	1/18/23		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
V-1148 VEN CB OUTLET R3 OTM-45 Impinger Glassware MeOH Rinse (Combine with *V-1145*)	3	1/18/23		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
V-1149 VEN CB OUTLET R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	1/18/23		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using Method 8321A-HFPO.

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	NONE
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	RT 0.5 / CT 0.7°C
(3) Record any apparent sample loss/breakage.	NONE
(4) Record any unidentified samples transported with this shipment of samples:	NONE
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	HAND DELIVERED, NO CUSTODY SEALS

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	[signature]	Alliance TG	1/18/23/1830
Accepted By:	[signature]	FEDEX	1-18-23 18:30
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

Loc: 140
30284

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 : SC79 Correction factor: +0.2°C	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**	
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**	
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**	
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**	
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**	
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**	
10. Was the sampler identified on the COC?			✓	☐ **Sampler Not Listed on COC**	**Labeling Verified by: Date:**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**	
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**	**pH test strip lot number:**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**	
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**	
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**	
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**	
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**	
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **Residual Chlorine**	
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust	
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info	

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

Project #: ____________ PM Instructions: ____________

Sample Receiving Associate: [signature] Date: 1-19-23

QA026R32.doc, 062719

1/26/2023

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ANALYTICAL REPORT

PREPARED FOR

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

Generated 1/26/2023 1:21:07 PM

JOB DESCRIPTION

Carbon Bed Field QC OTM-45

JOB NUMBER

140-30287-1

Eurofins Knoxville
5815 Middlebrook Pike
Knoxville TN 37921

See page two for job notes and contact information.

myEOL

Job Notes

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

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

Authorization

Generated
1/26/2023 1:21:07 PM

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

Table of Contents

Definitions/Glossary

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

Job ID: 140-30287-1

Qualifiers

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

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: 140-30287-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-30287-1

Receipt

The samples were received on 1/18/2023 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 0.7º C.

LCMS

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

Organic Prep

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

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

Lab Sample ID: 140-30287-1

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 18:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00495	0.00466	ug/Sample		01/19/23 14:27	01/22/23 17:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*25 - 150*	*01/19/23 14:27*	*01/22/23 17:00*	*1*

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

Lab Sample ID: 140-30287-2

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 18:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 15:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*94*		*25 - 150*	*01/19/23 14:18*	*01/25/23 15:12*	*1*

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

Lab Sample ID: 140-30287-3

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 18:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0712	0.0285	ug/Sample		01/20/23 08:39	01/20/23 14:14	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*97*		*25 - 150*	*01/20/23 08:39*	*01/20/23 14:14*	*1*

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

Lab Sample ID: 140-30287-4

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 18:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 15:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*25 - 150*	*01/19/23 14:18*	*01/25/23 15:21*	*1*

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

Lab Sample ID: 140-30287-5

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 18:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0320	0.0128	ug/Sample		01/20/23 08:39	01/20/23 14:40	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*98*		*25 - 150*	*01/20/23 08:39*	*01/20/23 14:40*	*1*

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

Lab Sample ID: 140-30287-6

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 15:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*84*		*25 - 150*	*01/19/23 14:18*	*01/25/23 15:29*	*1*

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

Lab Sample ID: 140-30287-7

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	**0.0599**		0.00500	0.00470	ug/Sample		01/19/23 14:27	01/22/23 17:27	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*01/19/23 14:27*	*01/22/23 17:27*	*1*

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

Lab Sample ID: 140-30287-8

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	**0.0173**	**J**	0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 15:38	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*93*		*25 - 150*	*01/19/23 14:18*	*01/25/23 15:38*	*1*

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

Lab Sample ID: 140-30287-9

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0725	0.0290	ug/Sample		01/20/23 08:39	01/20/23 14:49	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*97*		*25 - 150*	*01/20/23 08:39*	*01/20/23 14:49*	*1*

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

Lab Sample ID: 140-30287-10

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 18:30
Sample Container: Air Train

Matrix: Air

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 16:05	1

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

Job ID: 140-30287-1

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

Lab Sample ID: 140-30287-10

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 18:30
Sample Container: Air Train

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	85		25 - 150	01/19/23 14:18	01/25/23 16:05	1

Client Sample ID: A-1250 MEDIA CHECK FILTER

Lab Sample ID: 140-30287-11

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 18:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		01/19/23 14:27	01/22/23 17:35	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	86		25 - 150	01/19/23 14:27	01/22/23 17:35	1

Client Sample ID: A-1249 MEDIA CHECK XAD

Lab Sample ID: 140-30287-12

Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 18:30
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 16:14	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	92		25 - 150	01/19/23 14:18	01/25/23 16:14	1

Default Detection Limits

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

Job ID: 140-30287-1

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: Carbon Bed Field QC OTM-45

Job ID: 140-30287-1

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)						
140-30287-1	V-1157,1158 QC OTM-45 FH PE	85						
140-30287-2	V-1159,1160,1162 QC OTM-45 BH PBT	94						
140-30287-3	V-1161 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE PBT	97						
140-30287-4	V-1163 QC OTM-45 BREAKTHROUGH XAD-2 RESI TUBE PBT	91						
140-30287-5	V-1164 QC OTM-45 DI WATER RB	98						
140-30287-6	V-1165 QC OTM-45 MEOH WITH 5% NH4OH RB	84						
140-30287-7	V-1166,1167 QC OTM-45 FH BT	90						
140-30287-8	V-1168,1169,1171 QC OTM-45 BH BT	93						
140-30287-9	V-1170 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE BT	97						
140-30287-10	V-1172 QC OTM-45 BREAKTHROUGH XAD-2 RESI TUBE BT	85						
140-30287-11	A-1250 MEDIA CHECK FILTER	86						
140-30287-12	A-1249 MEDIA CHECK XAD	92						
LCS 140-69537/2-B	Lab Control Sample	97						
LCS 140-69538/2-B	Lab Control Sample	81						
LCS 140-69554/2-A	Lab Control Sample	100						
LCSD 140-69537/3-B	Lab Control Sample Dup	91						
LCSD 140-69538/3-B	Lab Control Sample Dup	80						
LCSD 140-69554/3-A	Lab Control Sample Dup	92						
MB 140-69537/14-B	Method Blank	97						
MB 140-69537/1-B	Method Blank	92						
MB 140-69538/1-B	Method Blank	84						
MB 140-69554/1-A	Method Blank	93						

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-69537/14-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 14:44	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*97*		*25 - 150*	*01/19/23 14:18*	*01/25/23 14:44*	*1*

Lab Sample ID: MB 140-69537/1-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69537

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		01/19/23 14:18	01/25/23 12:32	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*01/19/23 14:18*	*01/25/23 12:32*	*1*

Lab Sample ID: LCS 140-69537/2-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69537

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.01975	J	ug/Sample		99	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*97*		*25 - 150*

Lab Sample ID: LCSD 140-69537/3-B
Matrix: Air
Analysis Batch: 69684

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69537

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.01894	J	ug/Sample		95	60 - 140	4	30

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

Lab Sample ID: MB 140-69538/1-B
Matrix: Air
Analysis Batch: 69586

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69538

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		01/19/23 14:27	01/22/23 15:41	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*84*		*25 - 150*	*01/19/23 14:27*	*01/22/23 15:41*	*1*

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

Lab Sample ID: LCS 140-69538/2-B
Matrix: Air
Analysis Batch: 69586

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69538

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02060		ug/Sample		103	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*81*		*25 - 150*

Lab Sample ID: LCSD 140-69538/3-B
Matrix: Air
Analysis Batch: 69586

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69538

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02063		ug/Sample		103	60 - 140	0	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*80*		*25 - 150*

Lab Sample ID: MB 140-69554/1-A
Matrix: Air
Analysis Batch: 69565

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 69554

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		01/20/23 08:39	01/20/23 12:55	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*93*		*25 - 150*	*01/20/23 08:39*	*01/20/23 12:55*	*1*

Lab Sample ID: LCS 140-69554/2-A
Matrix: Air
Analysis Batch: 69565

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 69554

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.01049		ug/Sample		105	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*100*		*25 - 150*

Lab Sample ID: LCSD 140-69554/3-A
Matrix: Air
Analysis Batch: 69565

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 69554

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.01043		ug/Sample		104	60 - 140	1	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*92*		*25 - 150*

LCMS

Prep Batch: 69537

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30287-2	V-1159,1160,1162 QC OTM-45 BH PBT	Total/NA	Air	None	
140-30287-4	V-1163 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	None	
140-30287-6	V-1165 QC OTM-45 MEOH WITH 5% NH4OH RE	Total/NA	Air	None	
140-30287-8	V-1168,1169,1171 QC OTM-45 BH BT	Total/NA	Air	None	
140-30287-10	V-1172 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	None	
140-30287-12	A-1249 MEDIA CHECK XAD	Total/NA	Air	None	
MB 140-69537/14-B	Method Blank	Total/NA	Air	None	
MB 140-69537/1-B	Method Blank	Total/NA	Air	None	
LCS 140-69537/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-69537/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 69538

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30287-1	V-1157,1158 QC OTM-45 FH PBT	Total/NA	Air	None	
140-30287-7	V-1166,1167 QC OTM-45 FH BT	Total/NA	Air	None	
140-30287-11	A-1250 MEDIA CHECK FILTER	Total/NA	Air	None	
MB 140-69538/1-B	Method Blank	Total/NA	Air	None	
LCS 140-69538/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-69538/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 69554

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30287-3	V-1161 QC OTM-45 IMPINGERS 1,2&3 CONDEI	Total/NA	Air	PFAS Prep	
140-30287-5	V-1164 QC OTM-45 DI WATER RB	Total/NA	Air	PFAS Prep	
140-30287-9	V-1170 QC OTM-45 IMPINGERS 1,2&3 CONDEI	Total/NA	Air	PFAS Prep	
MB 140-69554/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-69554/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-69554/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Cleanup Batch: 69564

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30287-1	V-1157,1158 QC OTM-45 FH PBT	Total/NA	Air	Split	69538
140-30287-7	V-1166,1167 QC OTM-45 FH BT	Total/NA	Air	Split	69538
140-30287-11	A-1250 MEDIA CHECK FILTER	Total/NA	Air	Split	69538
MB 140-69538/1-B	Method Blank	Total/NA	Air	Split	69538
LCS 140-69538/2-B	Lab Control Sample	Total/NA	Air	Split	69538
LCSD 140-69538/3-B	Lab Control Sample Dup	Total/NA	Air	Split	69538

Analysis Batch: 69565

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30287-3	V-1161 QC OTM-45 IMPINGERS 1,2&3 CONDEI	Total/NA	Air	537 (modified)	69554
140-30287-5	V-1164 QC OTM-45 DI WATER RB	Total/NA	Air	537 (modified)	69554
140-30287-9	V-1170 QC OTM-45 IMPINGERS 1,2&3 CONDEI	Total/NA	Air	537 (modified)	69554
MB 140-69554/1-A	Method Blank	Total/NA	Air	537 (modified)	69554
LCS 140-69554/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	69554
LCSD 140-69554/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	69554

Cleanup Batch: 69579

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30287-2	V-1159,1160,1162 QC OTM-45 BH PBT	Total/NA	Air	Split	69537
140-30287-4	V-1163 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	Split	69537

LCMS (Continued)

Cleanup Batch: 69579 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30287-6	V-1165 QC OTM-45 MEOH WITH 5% NH4OH RE	Total/NA	Air	Split	69537
140-30287-8	V-1168,1169,1171 QC OTM-45 BH BT	Total/NA	Air	Split	69537
140-30287-10	V-1172 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	Split	69537
140-30287-12	A-1249 MEDIA CHECK XAD	Total/NA	Air	Split	69537
MB 140-69537/14-B	Method Blank	Total/NA	Air	Split	69537
MB 140-69537/1-B	Method Blank	Total/NA	Air	Split	69537
LCS 140-69537/2-B	Lab Control Sample	Total/NA	Air	Split	69537
LCSD 140-69537/3-B	Lab Control Sample Dup	Total/NA	Air	Split	69537

Analysis Batch: 69586

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30287-1	V-1157,1158 QC OTM-45 FH PBT	Total/NA	Air	537 (modified)	69564
140-30287-7	V-1166,1167 QC OTM-45 FH BT	Total/NA	Air	537 (modified)	69564
140-30287-11	A-1250 MEDIA CHECK FILTER	Total/NA	Air	537 (modified)	69564
MB 140-69538/1-B	Method Blank	Total/NA	Air	537 (modified)	69564
LCS 140-69538/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	69564
LCSD 140-69538/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	69564

Analysis Batch: 69684

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-30287-2	V-1159,1160,1162 QC OTM-45 BH PBT	Total/NA	Air	537 (modified)	69579
140-30287-4	V-1163 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	537 (modified)	69579
140-30287-6	V-1165 QC OTM-45 MEOH WITH 5% NH4OH RE	Total/NA	Air	537 (modified)	69579
140-30287-8	V-1168,1169,1171 QC OTM-45 BH BT	Total/NA	Air	537 (modified)	69579
140-30287-10	V-1172 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	537 (modified)	69579
140-30287-12	A-1249 MEDIA CHECK XAD	Total/NA	Air	537 (modified)	69579
MB 140-69537/14-B	Method Blank	Total/NA	Air	537 (modified)	69579
MB 140-69537/1-B	Method Blank	Total/NA	Air	537 (modified)	69579
LCS 140-69537/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	69579
LCSD 140-69537/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	69579

Lab Chronicle

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

Job ID: 140-30287-1

Client Sample ID: V-1157,1158 QC OTM-45 FH PBT
Lab Sample ID: 140-30287-1
Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	105 mL	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			53 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 17:00	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1159,1160,1162 QC OTM-45 BH PBT
Lab Sample ID: 140-30287-2
Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 15:12	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1161 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE PBT
Lab Sample ID: 140-30287-3
Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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			0.00702 Sample	10 mL	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 14:14	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1163 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE PBT
Lab Sample ID: 140-30287-4
Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 15:21	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: V-1164 QC OTM-45 DI WATER RB
Lab Sample ID: 140-30287-5
Date Collected: 01/18/23 00:00
Matrix: Air
Date Received: 01/18/23 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			0.01563 Sample	10 mL	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 14:40	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

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

Job ID: 140-30287-1

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

Lab Sample ID: 140-30287-6

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 15:29	CAC	EET KNX
	Instrument ID: LCA									

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

Lab Sample ID: 140-30287-7

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	150 mL	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			75 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 17:27	CAC	EET KNX
	Instrument ID: LCA									

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

Lab Sample ID: 140-30287-8

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 15:38	CAC	EET KNX
	Instrument ID: LCA									

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

Lab Sample ID: 140-30287-9

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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			0.00690 Sample	10 mL	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 14:49	CAC	EET KNX
	Instrument ID: LCA									

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

Lab Sample ID: 140-30287-10

Date Collected: 01/18/23 00:00
Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 16:05	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: A-1250 MEDIA CHECK FILTER

Lab Sample ID: 140-30287-11

Date Collected: 01/18/23 00:00

Matrix: Air

Date Received: 01/18/23 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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 17:35	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: A-1249 MEDIA CHECK XAD

Lab Sample ID: 140-30287-12

Date Collected: 01/18/23 00:00

Matrix: Air

Date Received: 01/18/23 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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 16:14	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-69537/14-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 14:44	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-69537/1-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 12:32	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-69538/1-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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 15:41	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

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

Job ID: 140-30287-1

Client Sample ID: Method Blank
Lab Sample ID: MB 140-69554/1-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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 12:55	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-69537/2-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 12:40	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-69538/2-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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 15:50	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-69554/2-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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 13:03	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-69537/3-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	69537	01/19/23 14:18	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	69579	01/21/23 09:08	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69684	01/25/23 12:49	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-69538/3-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	69538	01/19/23 14:27	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	69564	01/20/23 11:42	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69586	01/22/23 15:58	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-69554/3-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	69554	01/20/23 08:39	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	69565	01/20/23 13:12	CAC	EET KNX
	Instrument ID: LCA									

Laboratory References:

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

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC
Job ID: 140-30287-1
Project/Site: Carbon Bed Field QC OTM-45

Laboratory: Eurofins Knoxville

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-23
California	State	2423	06-30-23
Colorado	State	TN00009	02-28-23
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-23
Georgia (DW)	State	906	07-27-25
Hawaii	State	NA	07-27-23
Kansas	NELAP	E-10349	10-31-23
Kentucky (DW)	State	90101	12-31-22 *
Louisiana	NELAP	83979	06-30-23
Louisiana (All)	NELAP	83979	06-30-23
Louisiana (DW)	State	LA019	12-31-23
Maryland	State	277	03-31-23
Michigan	State	9933	07-27-25
Nevada	State	TN00009	07-31-23
New Hampshire	NELAP	2999	01-17-24
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	12-31-23
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-23
Oregon	NELAP	TNI0189	01-01-24
Pennsylvania	NELAP	68-00576	12-01-23
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	525-22-279-18762	10-06-25
Utah	NELAP	TN00009	07-31-23
Virginia	NELAP	460176	09-14-23
Washington	State	C593	01-19-23 *
West Virginia (DW)	State	9955C	12-31-23
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: Carbon Bed Field QC OTM-45

Job ID: 140-30287-1

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

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

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

Laboratory References:

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

Sample Summary

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

Job ID: 140-30287-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-30287-1	V-1157,1158 QC OTM-45 FH PBT	Air	01/18/23 00:00	01/18/23 18:30
140-30287-2	V-1159,1160,1162 QC OTM-45 BH PBT	Air	01/18/23 00:00	01/18/23 18:30
140-30287-3	V-1161 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE PBT	Air	01/18/23 00:00	01/18/23 18:30
140-30287-4	V-1163 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE PBT	Air	01/18/23 00:00	01/18/23 18:30
140-30287-5	V-1164 QC OTM-45 DI WATER RB	Air	01/18/23 00:00	01/18/23 18:30
140-30287-6	V-1165 QC OTM-45 MEOH WITH 5% NH4OH RB	Air	01/18/23 00:00	01/18/23 18:30
140-30287-7	V-1166,1167 QC OTM-45 FH BT	Air	01/18/23 00:00	01/18/23 18:30
140-30287-8	V-1168,1169,1171 QC OTM-45 BH BT	Air	01/18/23 00:00	01/18/23 18:30
140-30287-9	V-1170 QC OTM-45 IMPINGERS 1,2&3 CONDENSATE BT	Air	01/18/23 00:00	01/18/23 18:30
140-30287-10	V-1172 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE BT	Air	01/18/23 00:00	01/18/23 18:30
140-30287-11	A-1250 MEDIA CHECK FILTER	Air	01/18/23 00:00	01/18/23 18:30
140-30287-12	A-1249 MEDIA CHECK XAD	Air	01/18/23 00:00	01/18/23 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

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

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

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

Project Deliverables:
Report analytical results on TALS Report form Std_Tal_L4. Include "Field Sample Number", "[illegible]" TALS Reports.

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

140-30287 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
V-1157 QC OTM-45 Filter PBT (Combine with *V-1158*)	QC	1/18/23	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Filter sample. Analyze for HFPO-DA.
V-1158 QC OTM-45 FH of Filter Holder & Probe MeOH Rinse PBT (Combine with *V-1157*)	QC	1/18/23	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Filter extraction.
V-1159 QC OTM-45 XAD-2 Resin Tube PBT	QC	1/18/23	Proof Blank Train	XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1160 QC OTM-45 BH of Filter Holder & Coil Condenser MeOH Rinse PBT (Combine with *V-1159*)	QC	1/18/23	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA.
V-1161 QC OTM-45 Impingers 1,2 & 3 Condensate PBT	QC	1/18/23	Proof Blank Train	1 Liter HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Analyze for HFPO-DA.
V-1162 QC OTM-45 Impinger Glassware MeOH Rinse PBT (Combine with *V-1159)*	QC	1/18/23	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
V-1163 QC OTM-45 Breakthrough XAD-2 Resin Tube PBT	QC	1/18/23	Proof Blank Train	XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Proof Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA.
V-1164 QC OTM-45 DI Water RB	QC	1/18/23	Reagent Blank	250 mL HDPE Wide-Mouth Bottle	**Deionized (DI) Water Reagent Blank** OTM-45 Reagent Blank HFPO-DA Analysis	**Knoxville**: Analyze for HFPO-DA.
V-1165 QC OTM-45 MeOH with 5% NH_4OH RB	QC	1/18/23	Reagent Blank	250 mL HDPE Wide-Mouth Bottle	**Methanol with 5% NH_4OH Reagent Blank** OTM-45 Reagent Blank HFPO-DA Analysis	**Knoxville**: Analyze for HFPO-DA.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1166 QC OTM-45 Filter BT (Combine with *V-1167*)	QC	1/18/23	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Filter sample. Analyze for HFPO-DA.
V-1167 QC OTM-45 FH of Filter Holder & Probe MeOH Rinse BT (Combine with *V-1166*)	QC	1/18/23	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Filter extraction.
V-1168 QC OTM-45 XAD-2 Resin Tube BT	QC	1/18/23	Field Blank Train	XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA.
V-1169 QC OTM-45 BH of Filter Holder & Coil Condenser MeOH Rinse BT (Combine with *V-1168*)	QC	1/18/23	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA.
V-1170 QC OTM-45 Impingers 1,2 & 3 Condensate BT	QC	1/18/23	Field Blank Train	1 Liter HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Analyze for HFPO-DA.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
V-1171 QC OTM-45 Impinger Glassware MeOH Rinse BT (Combine with *V-1168)*	QC	1/18/23	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
V-1172 QC OTM-45 Breakthrough XAD-2 Resin Tube BT	QC	1/18/23	Field Blank Train	XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Field Blank Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA.

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 0.5/CT 0.7°C
(3) Record any aQ2rent sample loss/breakage.	NONE
(4) Record any unidentified samples transported with this shipment of samples:	NONE
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	HAND DELIVERED, NO CUSTODY SEALS

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	[signature]	Alliance TG	1/18/23/1830
Accepted By:	[signature]	ETA KNX	1-18-23 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 : 5074 Correction factor: +0.2°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: Amy Adams Date: 1-19-23

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Appendix D

QA/QC Data

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Inlet
Project No. 2023-0503
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
1/17/23	GN-2	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?
1/17/23	p4-1	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
1/18/23	P4/7-D	68.0	68.0	0.0%	± 1.5 % (absolute)	4'

Field Balance Check

Date	**01/18/23**					
Balance ID:	**Acculab Sartorius**					
Test Weight ID:	**SYR-2**					
Certified Weight (g):	**1000.0**					
Measured Weight (g):	**999.6**					
Weight Difference (g):	**0.4**	--	--	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
1/18/23	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
1/18/23	5	Pass

Reagent	Lot#	Field Prep performed	Field Lot	Date	By
DI H2O	Eurofins/TA	No	NA	NA	NA
Ammonia/Methanol Mix	Eurofins/TA	No	NA	NA	NA

QA/QC Data

Location The Chemours Company - Fayetteville, NC
Source VEN Carbon Bed Outlet
Project No. 2023-0503
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
1/17/23	GN-1	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?
1/17/23	P4-2	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
1/18/23	5D	50.0	50.0	0.0%	± 1.5 % (absolute)	4'

Field Balance Check

Date	**01/18/23**					
Balance ID:	**Acculab Sartorius**					
Test Weight ID:	**SYR-2**					
Certified Weight (g):	**1000.0**					
Measured Weight (g):	**999.6**					
Weight Difference (g):	**0.4**	--	--	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
1/18/23	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
1/18/23	16	Pass

Reagent	Lot#	Field Prep performed	Field Lot	Date	By
DI H2O	Eurofins/TA	No	NA	NA	NA
Ammonia/Methanol Mix	Eurofins/TA	No	NA	NA	NA

Equipment Detail - Dry Gas Meter

Console ID: 16
Meter S/N:
Critical Orifice S/N: 1393

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	29.86					
Final Barometric Pressure, in. Hg	(Pb_F)	29.86					
Average Barometric Pressure, in. Hg	(Pb)	29.86					
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)	24.0	24.0	19.5	19.5	15.0	15.0
Initial DGM Volume, ft^3	(Vm_I)	320.886	328.812	334.783	345.053	354.692	371.405
Final DGM Volume, ft^3	(Vm_F)	328.812	334.783	345.053	354.692	371.405	389.282
Total DGM Volume, ft^3	(Vm)	7.926	5.971	10.270	9.639	16.713	17.877
Ambient Temperature, °F	(Ta)	64	64	64	64	64	64
Initial DGM Temperature, °F	(Tm_I)	66	67	67	67	67	67
Final DGM Temperature, °F	(Tm_F)	67	67	67	67	67	68
Average DGM Temperature, °F	(Tm)	67	67	67	67	67	68
Elapsed Time	(Θ)	20.00	15.00	16.00	15.00	15.50	16.50
Meter Orifice Pressure, in. WC	(ΔH)	0.51	0.51	1.40	1.40	3.90	3.90
Standard Meter volume, ft^3	(Vmstd)	7.9441	5.9790	10.3062	9.6730	16.8748	18.0329
Standard Critical Orifice Volume, ft^3	(Vcr)	7.9855	5.9892	10.3572	9.7099	16.9039	17.9945
Meter Correction Factor	(Y)	1.005	1.002	1.005	1.004	1.002	0.998
Tolerance	--	0.003	0.001	0.002	0.001	0.001	0.005
Orifice Calibration Value	(ΔH @)	1.804	1.802	1.886	1.886	1.862	1.861
Tolerance	--	0.046	0.048	0.036	0.036	0.012	0.011
Orifice Cal Check	--	0.37		0.46		0.46	
Meter Correction Factor	**(Y)**	**1.003**					
Orifice Calibration Value	**(ΔH @)**	**1.850**					
Positive Pressure Leak Check		**Yes**					

Equipment Detail - Thermocouple Sensor

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

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Difference
°F	°R	°F	°R	%	°F
0	460	0	460	0.0	0
68	528		-	-	-
100	560	100	560	0.0	0
200	660	201	661	-0.2	1
248	708		-	-	-
273	733		-	-	-
300	760	298	758	0.3	2
400	860	401	861	-0.1	1
500	960	500	960	0.0	0
600	1,060	602	1,062	-0.2	2
700	1,160	698	1,158	0.2	2
800	1,260	798	1,258	0.2	2
900	1,360	898	1,358	0.1	2
1,000	1,460	1,002	1,462	-0.1	2
1,100	1,560	1,100	1,560	0.0	0
1,200	1,660	1,201	1,661	-0.1	1

Personnel

Calibration By: Jacob Cavallo
Calibration Date: 1/4/2023
Expiration Date: 7/4/2023

Equipment Detail - Dry Gas Meter

Console ID: 3
Meter S/N: 20035532
Critical Orifice S/N: 1393

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	30.21					
Final Barometric Pressure, in. Hg	(Pb_F)	30.21					
Average Barometric Pressure, in. Hg	(Pb)	30.21					
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)	23.0	23.0	21.5	21.5	18.0	18.0
Initial DGM Volume, ft^3	(Vm_I)	271.305	277.353	283.407	293.183	303.004	319.482
Final DGM Volume, ft^3	(Vm_F)	277.353	283.407	293.183	303.004	319.482	335.971
Total DGM Volume, ft^3	(Vm)	6.048	6.054	9.776	9.821	16.478	16.489
Ambient Temperature, °F	(Ta)	66	66	66	66	66	66
Initial DGM Temperature, °F	(Tm_I)	64	65	65	66	66	68
Final DGM Temperature, °F	(Tm_F)	65	65	66	66	68	69
Average DGM Temperature, °F	(Tm)	65	65	66	66	67	69
Elapsed Time	(Θ)	15.00	15.00	15.00	15.00	15.00	15.00
Meter Orifice Pressure, in. WC	(ΔH)	0.52	0.52	1.40	1.40	4.00	4.00
Standard Meter volume, ft^3	(Vmstd)	6.1563	6.1566	9.9534	9.9897	16.8347	16.7981
Standard Critical Orifice Volume, ft^3	(Vcr)	6.0478	6.0478	9.8050	9.8050	16.5188	16.5188
Meter Correction Factor	(Y)	0.982	0.982	0.985	0.982	0.981	0.983
Tolerance	--	0.000	0.000	0.002	0.001	0.001	0.001
Orifice Calibration Value	(ΔH @)	1.832	1.830	1.877	1.875	1.895	1.890
Tolerance	--	0.035	0.037	0.010	0.008	0.029	0.024
Orifice Cal Check	--	0.10		0.10		0.10	
Meter Correction Factor	**(Y)**	**0.983**					
Orifice Calibration Value	**(ΔH @)**	**1.866**					
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: 12/20/2022
Expiration Date: 6/20/2022

Appendix E

Summary of Vinyl Ethers North Operating Data

Date **1/18/2023**

Time	800			900	1000	1100			1200		1300	1400		1500		1600		
Stack Testing				Run 1: 850-1058					Run 2: 1145-1338				Run 3: 1415-1613					
VEN Product	PSEPVE																	
VEN Precursor																		
VEN Condensation (HFPO)																		
VEN ABR	Burnout																	
VEN Refining																		
Stripper Column Vent																		

Last Page of Report