Source Test Report

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

Source Tested: Vinyl Ethers North (VEN) Carbon Bed
Test Date: September 28, 2022

Project No. AST-2022-3359

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

Regulatory Information

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

Source Information

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

Contact Information

Test Location
The Chemours Company, FC, LLC
Fayetteville Works
22828 Highway 87W
Fayetteville, North Carolina

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

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

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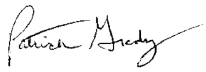

November 1, 2022

Patrick Grady, QSTI
Project Manager
Alliance Technical Group, 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 Works facility in Fayetteville, North Carolina. The facility operates under North Carolina Department of Air Quality (NCDAQ) Title V Air Permit No. 03735T48. Source emissions testing were conducted at the inlet and outlet of the Vinyl Ethers North (VEN) carbon bed. The testing was conducted to evaluate emissions of hexafluoro-propylene oxide-dimer acid (HFPO-DA).

1.1 Source and Control System Descriptions

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

1.2 Project Team

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

Table 1-1: Project Team

Alliance Personnel	Patrick Grady Antonio Andersen Jacob Cavallo Brian Goodhile Jeff Sheldon

Summary of Results

2.0 Summary of Results

Alliance conducted compliance testing at the Fayetteville Works Facility in Fayetteville, NC on September 28, 2022. Testing consisted of determining the emission rates of HFPO-DA at the inlet and outlet of the VEN carbon bed.

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

Table 2-1: Summary of Results

Run Number	Run 1	Run 2	Run 3	Average
Date	**9/28/22**	**9/28/22**	**9/28/22**	**--**
HFPO-DA Data				
Outlet Emission Rate, lb/hr	7.8E-05	2.6E-05	6.0E-05	5.5E-05
Inlet Emission Rate, lb/hr	1.0E-02	9.4E-03	9.3E-03	9.6E-03
Reduction Efficiency, %	99.2	99.7	99.4	99.4

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	OTM-45	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 two 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 the second and third impingers was measured for moisture determinations and then placed in Container #4. Impingers #2 and #3 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 second condensate trap was rinsed with the MeOH/ 5% NH_4OH solution and placed in Container #5. The contents of the fifth impinger were placed in its original container and weighed for moisture determinations.

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

Appendix A

Location: Chemours Company - Fayetteville Works Facility, NC
Source: VEN Carbon Bed Outlet
Project No.: 2022-3359
Run No.: 1
Parameter: HFPO-DA

Meter Pressure (Pm), in. Hg

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

where,

Pb	30.16	= barometric pressure, in. Hg
ΔH	1.454	= pressure differential of orifice, in H_2O
Pm	30.27	= in. Hg

Absolute Stack Gas Pressure (Ps), in. Hg

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

where,

Pb	30.16	= barometric pressure, in. Hg
Pg	2.00	= static pressure, in. H_2O
Ps	30.31	= in. Hg

Standard Meter Volume (Vmstd), dscf

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

where,

Y	1.001	= meter correction factor
Vm	64.682	= meter volume, cf
Pm	30.27	= absolute meter pressure, in. Hg
Tm	527.6	= absolute meter temperature, °R
Vmstd	65.508	= dscf

Standard Wet Volume (Vwstd), scf

$$Vwstd = 0.04716 \times Vlc$$

where,

Vlc	21.8	= volume of H_2O collected, ml
Vwstd	1.028	= scf

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

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

where,

Ts	77.3	= stack temperature, °F
Ps	30.31	= absolute stack gas pressure, in. Hg
BWSsat	0.031	= dimensionless

Moisture Fraction (BWS), dimensionless (measured)

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

where,

Vwstd	1.028	= standard wet volume, scf
Vmstd	65.508	= standard meter volume, dscf
BWS	0.015	= dimensionless

Moisture Fraction (BWS), dimensionless

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

where,

BWSsat	0.031	= moisture fraction (theoretical at saturated conditions)
BWSmsd	0.015	= moisture fraction (measured)
BWS	0.015	

Location: Chemours Company - Fayetteville Works Facility, NC
Source: VEN Carbon Bed Outlet
Project No.: 2022-3359
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	0.015	= moisture fraction, dimensionless
Ms	28.68	= 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
$\Delta P^{1/2}$	0.583	= velocity head of stack gas, $(in.\ H_2O)^{1/2}$
Ts	536.9	= absolute stack temperature, °R
Ps	30.31	= absolute stack gas pressure, in. Hg
Ms	28.68	= molecular weight of stack gas, lb/lb mol
Vs	32.9	= ft/sec

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

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

where,

Vs	32.9	= stack gas velocity, ft/sec
As	7.07	= cross-sectional area of stack, ft^2
Qa	13,943	= acfm

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

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

where,

Qa	13,943	= average stack gas flow at stack conditions, acfm
BWS	0.015	= moisture fraction, dimensionless
Ps	30.31	= absolute stack gas pressure, in. Hg
Ts	536.9	= absolute stack temperature, °R
Qs	13,666	= 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	1.001	= meter correction factor, dimensionless
Θ	96	= run time, min.
Vm	64.682	= total meter volume, dcf
Tm	527.6	= absolute meter temperature, °R
ΔH@	1.841	= orifice meter calibration coefficient, in. H_2O
Pb	30.16	= barometric pressure, in. Hg
ΔH avg	1.454	= average pressure differential of orifice, in H_2O
Md	28.85	= molecular weight (DRY), lb/lb mol
$(\Delta H)^{1/2}$	1.178	= average squareroot pressure differential of orifice, $(in.\ H2O)^{1/2}$
Yqa	3.8	= dimensionless

Location: Chemours Company - Fayetteville Works Facility, NC
Source: VEN Carbon Bed Outlet
Project No.: 2022-3359
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	536.9	= absolute stack temperature, °R
Ps	30.31	= absolute stack gas pressure, in. Hg
Vlc	21.8	= volume of H_2O collected, ml
Vm	64.682	= meter volume, cf
Pm	30.27	= absolute meter pressure, in. Hg
Y	1.001	= meter correction factor, unitless
Tm	527.6	= absolute meter temperature, °R
Vn	66.836	= 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	66.836	= nozzle volume, ft3
θ	96.0	= run time, minutes
An	0.00034	= area of nozzle, ft^2
Vs	32.9	= average velocity, ft/sec
I	103.5	= %

HFPO-DA Concentration (C), ng/dscm

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

where,

M	2,832	= HFPO-DA mass, ng
Vmstd	65.508	= standard meter volume, dscf
C_{NH3}	1.5E+03	= ng/dscm

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

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

where,

M	2,832	= HFPO-DA mass, ng
Qs	13,666	= average stack gas flow at standard conditions, dscfm
Vmstd	65.508	= standard meter volume, dscf
ER	7.8E-05	= lb/hr

Appendix B

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3359
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		9/28/22	9/28/22	9/28/22	--
Start Time		8:15	10:46	13:25	--
Stop Time		10:10	12:48	15:24	--
Run Time, min	(θ)	96.0	96.0	96.0	96.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	30.16	30.16	30.17	30.16
Meter Correction Factor	(Y)	1.001	1.001	1.001	1.001
Orifice Calibration Value	(ΔH @)	1.841	1.841	1.841	1.841
Meter Volume, ft^3	(Vm)	64.682	64.195	63.922	64.266
Meter Temperature, °F	(Tm)	67.9	78.5	82.7	76.4
Meter Temperature, °R	(Tm)	527.6	538.2	542.3	536.0
Meter Orifice Pressure, in. WC	(ΔH)	1.454	1.433	1.427	1.438
Volume H_2O Collected, mL	(Vlc)	21.8	26.2	28.3	25.4
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	$M_{(HFPODA)}$	1,690.0	7.0	1,410.0	1,035.7
BH HFPO-DA Mass, ng	$M_{(HFPODA)}$	1,130.0	917.0	730.0	925.7
Imp HFPO-DA Mass, ng	$M_{(HFPODA)}$	--	--	--	--
Breakthrough HFPO-DA Mass, ng	$M_{(HFPODA)}$	12.1	--	--	12.10
Total HFPO-DA Mass, ng	$M_{(HFPODA)}$	2,832.1	924.0	2,140.0	1,965.4
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	65.508	63.733	62.994	64.078
Standard Water Volume, ft^3	(Vwstd)	1.028	1.236	1.334	1.199
Moisture Fraction Measured	(BWSmsd)	0.015	0.019	0.021	0.018
Moisture Fraction @ Saturation	(BWSsat)	0.031	0.034	0.037	0.034
Moisture Fraction	(BWS)	0.015	0.019	0.021	0.018
Meter Pressure, in Hg	(Pm)	30.27	30.27	30.27	30.27
Volume at Nozzle, ft^3	(Vn)	66.836	65.610	65.243	65.90
Isokinetic Sampling Rate, (%)	(I)	103.5	102.7	102.4	102.9
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	3.8	2.8	2.2	2.9
EMISSION CALCULATIONS					
HFPO-DA Concentration, ng/dscm	$C_{(HFPODA)}$	1.5E+03	5.1E+02	1.2E+03	1.1E+03
HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	7.8E-05	2.6E-05	6.0E-05	5.5E-05
REDUCTION CALCULATIONS					
Inlet HFPO-DA Emission Rate, lb/hr	$RE_{(HFPODA)}$	1.0E-02	9.4E-03	9.3E-03	9.6E-03
HFPO-DA Reduction Efficiency, %	$RE_{(HFPODA)}$	99.2	99.7	99.4	99.4

Underlined values are non-detect and reported as the reporting limit.

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3359
Parameter HFPO-DA

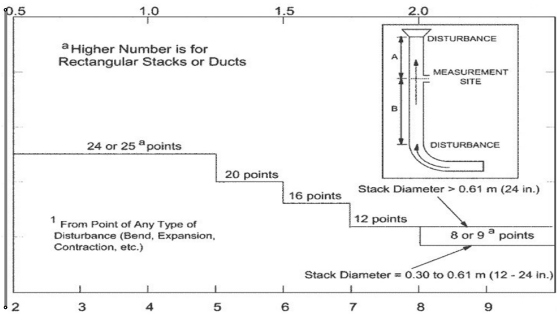
Run Number		Run 1	Run 2	Run 3	Average
Date		9/28/22	9/28/22	9/28/22	--
Start Time		8:15	10:46	13:25	--
Stop Time		10:10	12:48	15:24	--
Run Time, min		96.0	96.0	96.0	96.0
VELOCITY HEAD, in. WC					
Point 1		0.40	0.41	0.40	0.40
Point 2		0.40	0.41	0.40	0.40
Point 3		0.39	0.40	0.40	0.40
Point 4		0.43	0.41	0.45	0.43
Point 5		0.45	0.42	0.45	0.44
Point 6		0.41	0.40	0.44	0.42
Point 7		0.29	0.25	0.29	0.28
Point 8		0.27	0.25	0.25	0.26
Point 9		0.25	0.26	0.25	0.25
Point 10		0.26	0.27	0.25	0.26
Point 11		0.24	0.26	0.26	0.25
Point 12		0.24	0.24	0.25	0.24
Point 13		0.57	0.53	0.49	0.53
Point 14		0.55	0.55	0.50	0.53
Point 15		0.56	0.56	0.49	0.54
Point 16		0.67	0.61	0.63	0.64
Point 17		0.61	0.56	0.58	0.58
Point 18		0.46	0.45	0.43	0.45
Point 19		0.22	0.23	0.20	0.22
Point 20		0.17	0.19	0.17	0.18
Point 21		0.18	0.16	0.16	0.17
Point 22		0.18	0.16	0.15	0.16
Point 23		0.16	0.16	0.16	0.16
Point 24		0.18	0.16	0.16	0.17
CALCULATED DATA					
Square Root of ΔP, $(\text{in. WC})^{1/2}$	(ΔP)	0.583	0.575	0.571	0.576
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	30.16	30.16	30.17	30.16
Static Pressure, in. WC	(Pg)	2.00	2.00	2.00	2.00
Stack Pressure, in. Hg	(Ps)	30.31	30.31	30.32	30.31
Stack Cross-sectional Area, ft^2	(As)	7.07	7.07	7.07	7.07
Temperature, °F	(Ts)	77.3	80.1	82.6	80.0
Temperature, °R	(Ts)	536.9	539.8	542.3	539.670
Moisture Fraction Measured	(BWSmsd)	0.015	0.019	0.021	0.018
Moisture Fraction @ Saturation	(BWSsat)	0.031	0.034	0.037	0.034
Moisture Fraction	(BWS)	0.015	0.019	0.021	0.018
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)	28.68	28.65	28.63	28.65
Velocity, ft/sec	(Vs)	32.9	32.6	32.4	32.6
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	13,943	13,806	13,758	13,836
At Standard Conditions, dscfm	(Qs)	13,666	13,410	13,284	13,453

Method 1 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3359
Date: 09/28/22

Stack Parameters

Duct Orientation:	Horizontal	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	51.13	in
Nipple Length:	15.13	in
Depth of Duct:	36.00	in
Cross Sectional Area of Duct:	7.07	ft^2
No. of Test Ports:	2	
Distance A:	4.8	ft
Distance A Duct Diameters:	4.8	**(must be > 0.5)**
Distance B:	5.7	ft
Distance B Duct Diameters:	1.9	**(must be > 2)**
Minimum Number of Traverse Points:	24	
Actual Number of Traverse Points:	24	
Number of Readings per Point:	1	
Measurer (Initial and Date):	JS 9/28/22	
Reviewer (Initial and Date):	BAG 9/28/22	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

Number of traverse points on a diameter

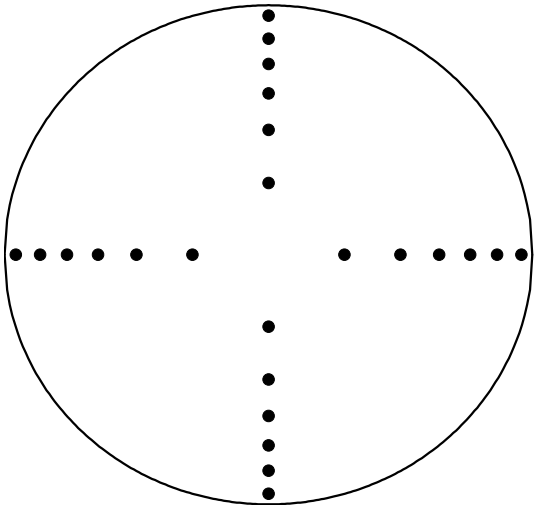
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--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

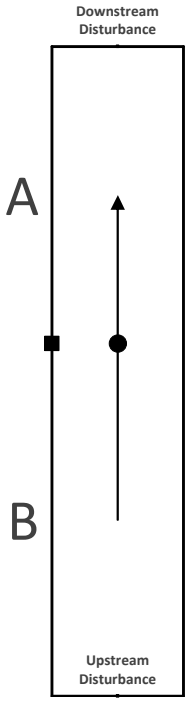
**Percent of stack diameter from inside wall to traverse point.*

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

Stack Diagram
A = 4.8 ft.
B = 5.7 ft.
Depth of Duct = 36 in.

Cross Sectional Area





Cyclonic Flow Check

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3359
Date 09/28/22

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

Method 4 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3359
Parameter HFPO-DA
Analysis Gravimetric

Run 1	Date:	9/28/22							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	313.6	484.2	735.2	759.4	752.3	476.6	306.0	856.4	4683.7
Final Mass, g	313.9	484.5	733.3	759.2	753.7	478.4	315.8	866.7	4705.5
Gain	0.3	0.3	-1.9	-0.2	1.4	1.8	9.8	10.3	21.8
Run 2	**Date:**	9/28/22							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	307.4	499.8	744.0	758.9	718.6	498.1	314.6	840.6	4682.0
Final Mass, g	315.5	500.4	741.5	759.7	719.5	499.9	322.4	849.3	4708.2
Gain	8.1	0.6	-2.5	0.8	0.9	1.8	7.8	8.7	26.2
Run 3	**Date:**	9/28/22							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	341.4	484.7	718.7	772.3	752.5	476.9	312.5	861.3	4720.3
Final Mass, g	357.1	484.9	716.4	773.3	754.1	478.4	313.2	871.2	4748.6
Gain	15.7	0.2	-2.3	1.0	1.6	1.5	0.7	9.9	28.3

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	8:15	**Source:**	VEN Carbon Bed Outlet	
Date:	9/28/22	Run 1 VALID	**End Time:**	10:10	**Project No.:**	2022-3359	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.			STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	7		Est. Tm:	85	°F				Pb:	30.16	in. Hg	Vlc (ml)
Barometric:	30.31	in. Hg	Y:	1.001		Est. Ts:	93	°F				Pg:	2.00	in. WC	21.8
Static Press:	2.80	in. WC	ΔH @ (in.WC):	1.841		Est. ΔP:	0.67	in. WC				O_2:	20.9	%	K-FACTOR
Stack Press:	30.52	in. Hg	Probe ID:	P4-2		Est. Dn:	0.230	in.				CO_2:	0.1	%	4.107
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm					Check Pt.	Initial	Final	Corr.
O_2:	20.9	%	Pitot ID:	P4-2		LEAK CHECKS	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)	731.600	######		0.376
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.001	0.001	--	--	0.000	Mid 2 (cf)				--
Md:	28.85	lb/lb-mole	Nozzle ID:	G-1	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):				0.376

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. 58	Amb. 58	Ideal	Actual		Amb. 58	Amb. 58	Amb. 58	Amb. 58		
A1	0.00	4.00	699.773	0.40	58	75	1.61	1.60	2	82	82	54	43	103.8	35.53
2	4.00	8.00	702.640	0.40	61	76	1.62	1.60	2	82	83	46	42	103.0	35.56
3	8.00	12.00	705.500	0.39	62	76	1.58	1.60	2	83	82	45	42	103.8	35.11
4	12.00	16.00	708.350	0.43	63	76	1.75	1.75	2	83	82	45	40	102.1	36.87
5	16.00	20.00	711.300	0.45	65	77	1.83	1.85	2	83	82	44	39	103.3	37.75
6	20.00	24.00	714.360	0.41	65	77	1.67	1.70	2	84	84	44	40	105.3	36.04
7	24.00	28.00	717.340	0.29	66	77	1.19	1.20	2	83	83	44	41	106.4	30.31
8	28.00	32.00	719.880	0.27	66	77	1.10	1.10	2	84	84	43	39	103.7	29.24
9	32.00	36.00	722.270	0.25	67	78	1.02	1.00	2	84	84	45	40	104.1	28.17
10	36.00	40.00	724.580	0.26	67	77	1.07	1.05	2	85	85	45	41	103.3	28.70
11	40.00	44.00	726.920	0.24	68	78	0.98	1.00	2	85	83	45	41	106.9	27.60
12	44.00	48.00	729.250	0.24	68	78	0.98	1.00	2	85	85	45	40	107.9	27.60
B1	48.00	52.00	731.976	0.57	68	76	2.34	2.30	4	84	85	47	41	97.6	42.45
2	52.00	56.00	735.250	0.55	68	76	2.26	2.25	4	83	85	47	41	102.9	41.70
3	56.00	60.00	738.640	0.56	69	76	2.30	2.30	4	83	82	47	41	101.8	42.08
4	60.00	64.00	742.030	0.67	69	76	2.75	2.75	5	83	84	45	41	102.2	46.02
5	64.00	68.00	745.750	0.61	72	76	2.52	2.50	5	83	82	44	41	104.5	43.91
6	68.00	72.00	749.400	0.46	73	78	1.90	1.90	4	83	83	45	42	105.3	38.20
7	72.00	76.00	752.600	0.22	73	79	0.91	0.90	2	85	85	47	42	109.3	26.45
8	76.00	80.00	754.900	0.17	73	79	0.70	0.70	2	85	87	46	41	108.1	23.25
9	80.00	84.00	756.900	0.18	72	79	0.74	0.75	2	85	86	47	46	109.4	23.92
10	84.00	88.00	758.980	0.18	72	79	0.74	0.70	2	85	87	48	45	105.7	23.92
11	88.00	92.00	760.990	0.16	72	79	0.66	0.65	2	85	83	49	41	106.6	22.55
12	92.00	96.00	762.900	0.18	73	79	0.74	0.75	2	85	85	48	45	101.4	23.92
	Final DGM:		764.831												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	64.682 ft^3	0.36 in. WC	67.9 °F	77.3 °F	5	1.454 in. WC	103.5	0.015	3.8

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	10:46	**Source:**	VEN Carbon Bed Outlet	
Date:	9/28/22	Run 2 VALID	**End Time:**	12:48	**Project No.:**	2022-3359	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.		STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	7		Est. Tm:	68	°F			Pb:	30.16	in. Hg	Vlc (ml)
Barometric:	30.31	in. Hg	Y:	1.001		Est. Ts:	77	°F			Pg:	2.00	in. WC	26.2
Static Press:	2.80	in. WC	ΔH @ (in.WC):	1.841		Est. ΔP:	0.36	in. WC			O_2:	20.9	%	K-FACTOR
Stack Press:	30.52	in. Hg	Probe ID:	P4-2		Est. Dn:	0.272	in.			CO_2:	0.1	%	4.09
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	--	--	--	0.000	Mid 1 (cf)	796.755	######	0.214
Md:	28.85	lb/lb-mole	Nozzle ID:	G-1	glass	Vacuum (in Hg):	10	--	--	--	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):			0.214

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	765.226	0.41	72	79	1.69	1.70	2	85	86	65	57	99.0	36.10
2	4.00	8.00	768.060	0.41	73	79	1.69	1.70	2	85	85	64	51	100.8	36.10
3	8.00	12.00	770.950	0.40	74	79	1.65	1.65	2	85	86	63	50	102.5	35.66
4	12.00	16.00	773.860	0.41	75	79	1.70	1.70	2	85	85	63	49	102.9	36.10
5	16.00	20.00	776.820	0.42	75	80	1.73	1.75	2	86	86	61	49	104.8	36.57
6	20.00	24.00	779.870	0.40	76	80	1.66	1.65	2	86	87	60	47	101.9	35.69
7	24.00	28.00	782.770	0.25	76	80	1.04	1.00	2	86	86	59	48	106.1	28.22
8	28.00	32.00	785.160	0.25	77	80	1.04	1.00	2	87	87	59	51	104.5	28.22
9	32.00	36.00	787.520	0.26	77	80	1.08	1.10	2	87	87	59	52	100.8	28.78
10	36.00	40.00	789.840	0.27	77	80	1.12	1.10	2	87	86	59	52	99.3	29.32
11	40.00	44.00	792.170	0.26	77	80	1.08	1.10	2	87	87	60	52	102.1	28.78
12	44.00	48.00	794.520	0.24	78	81	1.00	1.00	2	86	86	59	51	101.0	27.67
B1	48.00	52.00	796.969	0.53	77	81	2.19	2.20	4	87	86	64	51	98.1	41.12
2	52.00	56.00	800.180	0.55	78	81	2.28	2.30	4	87	86	55	50	103.9	41.89
3	56.00	60.00	803.650	0.56	78	81	2.32	2.30	4	87	87	54	51	103.5	42.27
4	60.00	64.00	807.140	0.61	81	81	2.54	2.55	4	88	88	54	51	100.7	44.12
5	64.00	68.00	810.700	0.56	81	81	2.33	2.30	5	88	88	55	51	103.2	42.27
6	68.00	72.00	814.200	0.45	81	81	1.87	1.90	4	87	88	53	49	104.9	37.89
7	72.00	76.00	817.390	0.23	83	80	0.97	0.95	2	87	88	52	49	104.1	27.07
8	76.00	80.00	819.670	0.19	84	80	0.80	0.80	2	87	88	53	49	109.3	24.60
9	80.00	84.00	821.850	0.16	85	80	0.67	0.68	2	87	89	50	47	106.3	22.57
10	84.00	88.00	823.800	0.16	83	80	0.67	0.65	2	87	88	53	50	104.0	22.57
11	88.00	92.00	825.700	0.16	83	80	0.67	0.65	2	87	88	51	49	107.8	22.57
12	92.00	96.00	827.670	0.16	83	80	0.67	0.65	2	87	88	51	49	107.5	22.57
	Final DGM:		829.635												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	64.195	ft^3	0.35	in. WC	78.5	°F	80.1	°F	5	1.433	in. WC	102.7	0.019	2.8

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	13:25	**Source:**	VEN Carbon Bed Outlet	
Date:	9/28/22	Run 3 VALID	**End Time:**	15:24	**Project No.:**	2022-3359	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.		STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	7		Est. Tm:	79	°F			Pb:	30.17	in. Hg	Vlc (ml)
Barometric:	30.31	in. Hg	Y:	1.001		Est. Ts:	80	°F			Pg:	2.00	in. WC	28.3
Static Press:	2.80	in. WC	ΔH @ (in.WC):	1.841		Est. ΔP:	0.35	in. WC			O_2:	20.9	%	K-FACTOR
Stack Press:	30.52	in. Hg	Probe ID:	P4-2		Est. Dn:	0.271	in.			CO_2:	0.1	%	4.155
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	--	--	--	0.000	Mid 1 (cf)	862.537	######	0.194
Md:	28.85	lb/lb-mole	Nozzle ID:	G-1	glass	Vacuum (in Hg):	10	--	--	--	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):			0.194

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	829.955	0.40	80	81	1.66	1.65	3	87	90	63	58	101.8	35.73
2	4.00	8.00	832.870	0.40	80	81	1.66	1.65	3	88	89	54	48	101.6	35.73
3	8.00	12.00	835.780	0.40	80	81	1.66	1.65	3	87	87	51	48	101.9	35.73
4	12.00	16.00	838.700	0.45	82	81	1.88	1.90	3	87	88	51	50	101.7	37.89
5	16.00	20.00	841.800	0.45	83	81	1.88	1.90	3	87	88	51	45	104.2	37.89
6	20.00	24.00	844.980	0.44	83	81	1.84	1.85	3	87	88	50	46	106.6	37.47
7	24.00	28.00	848.200	0.29	83	82	1.21	1.20	2	87	88	50	46	101.9	30.45
8	28.00	32.00	850.700	0.25	83	82	1.05	1.05	2	88	87	50	45	104.5	28.27
9	32.00	36.00	853.080	0.25	84	82	1.05	1.05	2	88	89	50	48	103.8	28.27
10	36.00	40.00	855.450	0.25	83	82	1.05	1.05	2	87	88	50	47	103.6	28.27
11	40.00	44.00	857.810	0.26	83	82	1.09	1.10	2	87	87	50	46	101.8	28.83
12	44.00	48.00	860.175	0.25	83	82	1.05	1.05	2	87	88	50	48	103.7	28.27
B1	48.00	52.00	862.731	0.49	80	82	2.03	2.00	4	90	90	60	53	97.9	39.58
2	52.00	56.00	865.830	0.50	81	82	2.08	2.10	4	87	89	50	46	103.7	39.98
3	56.00	60.00	869.150	0.49	83	83	2.04	2.05	4	88	88	51	46	102.2	39.61
4	60.00	64.00	872.400	0.63	83	83	2.62	2.60	5	90	90	51	47	101.7	44.92
5	64.00	68.00	876.060	0.58	83	83	2.41	2.40	4	89	90	51	50	99.6	43.10
6	68.00	72.00	879.500	0.43	85	83	1.80	1.80	4	89	88	51	52	107.0	37.11
7	72.00	76.00	882.700	0.20	84	84	0.84	0.85	2	89	89	52	51	103.0	25.33
8	76.00	80.00	884.800	0.17	84	85	0.71	0.70	2	90	92	53	48	102.7	23.38
9	80.00	84.00	886.730	0.16	84	85	0.67	0.67	2	90	90	52	49	104.8	22.68
10	84.00	88.00	888.640	0.15	84	85	0.63	0.63	2	89	90	54	49	102.6	21.96
11	88.00	92.00	890.450	0.16	83	85	0.67	0.67	2	89	90	54	50	100.6	22.68
12	92.00	96.00	892.280	0.16	83	85	0.67	0.67	2	89	89	55	51	98.5	22.68
	Final DGM:		894.071												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	63.922	ft^3	0.34	in. WC	82.7	°F	82.6	°F	5	1.427	in. WC	102.4	0.021	2.2

Emission Calculations

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3359
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		9/28/22	9/28/22	9/28/22	--
Start Time		8:15	10:46	13:25	--
Stop Time		10:09	12:48	15:24	--
Run Time, min	(θ)	96.0	96.0	96.0	96.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	30.16	30.16	30.17	30.16
Meter Correction Factor	(Y)	1.032	1.032	1.032	1.032
Orifice Calibration Value	(ΔH @)	1.699	1.699	1.699	1.699
Meter Volume, ft^3	(Vm)	56.700	56.795	58.384	57.293
Meter Temperature, °F	(Tm)	62.0	73.6	78.2	71.3
Meter Temperature, °R	(Tm)	521.7	533.3	537.9	530.9
Meter Orifice Pressure, in. WC	(ΔH)	1.175	1.188	1.251	1.205
Volume H_2O Collected, mL	(Vlc)	29.9	22.1	22.0	24.7
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	$M_{(HFPODA)}$	133,000.0	184,000.0	101,000.0	139,333.3
BH HFPO-DA Mass, ng	$M_{(HFPODA)}$	221,000.0	135,000.0	213,000.0	189,666.7
Imp HFPO-DA Mass, ng	$M_{(HFPODA)}$	36.4	34.5	105.0	58.6
Breakthrough HFPO-DA Mass, ng	$M_{(HFPODA)}$	17.7	14.3	122.0	51.33
Total HFPO-DA Mass, ng	$M_{(HFPODA)}$	354,054.1	319,048.8	314,227.0	329,110.0
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	59.833	58.629	59.784	59.415
Standard Water Volume, ft^3	(Vwstd)	1.410	1.042	1.037	1.163
Moisture Fraction Measured	(BWSmsd)	0.023	0.017	0.017	0.019
Moisture Fraction @ Saturation	(BWSsat)	0.026	0.032	0.037	0.032
Moisture Fraction	(BWS)	0.023	0.017	0.017	0.019
Meter Pressure, in Hg	(Pm)	30.25	30.25	30.26	30.25
Volume at Nozzle, ft^3	(Vn)	61.762	60.860	62.493	61.71
Isokinetic Sampling Rate, (%)	(I)	99.0	97.0	96.9	97.6
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	-1.4	-2.6	-3.0	-2.3
EMISSION CALCULATIONS					
HFPO-DA Concentration, ng/dscm	$C_{(HFPODA)}$	2.1E+05	1.9E+05	1.9E+05	2.0E+05
HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	1.0E-02	9.4E-03	9.3E-03	9.6E-03

Underlined values are non-detect and reported as the reporting limit.

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3359
Parameter HFPO-DA

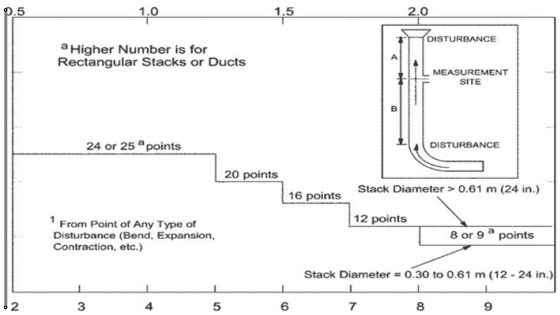
Run Number		Run 1	Run 2	Run 3	Average
Date		9/28/22	9/28/22	9/28/22	--
Start Time		8:15	10:46	13:25	--
Stop Time		10:09	12:48	15:24	--
Run Time, min		96.0	96.0	96.0	96.0
VELOCITY HEAD, in. WC					
Point 1		0.32	0.30	0.26	0.29
Point 2		0.33	0.30	0.33	0.32
Point 3		0.32	0.32	0.33	0.32
Point 4		0.33	0.34	0.32	0.33
Point 5		0.32	0.32	0.32	0.32
Point 6		0.30	0.31	0.31	0.31
Point 7		0.30	0.30	0.29	0.30
Point 8		0.29	0.30	0.29	0.29
Point 9		0.30	0.33	0.30	0.31
Point 10		0.32	0.34	0.32	0.33
Point 11		0.29	0.33	0.35	0.32
Point 12		0.32	0.35	0.36	0.34
Point 13		0.30	0.22	0.23	0.25
Point 14		0.29	0.19	0.37	0.28
Point 15		0.30	0.37	0.36	0.34
Point 16		0.36	0.39	0.42	0.39
Point 17		0.37	0.41	0.40	0.39
Point 18		0.38	0.41	0.40	0.40
Point 19		0.34	0.32	0.34	0.33
Point 20		0.32	0.30	0.32	0.31
Point 21		0.30	0.30	0.34	0.31
Point 22		0.29	0.29	0.34	0.31
Point 23		0.29	0.29	0.34	0.31
Point 24		0.29	0.29	0.34	0.31
CALCULATED DATA					
Square Root of ΔP, $(\text{in. WC})^{1/2}$	(ΔP)	0.561	0.562	0.575	0.566
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	30.16	30.16	30.17	30.16
Static Pressure, in. WC	(Pg)	-3.80	-3.70	-3.60	-3.70
Stack Pressure, in. Hg	(Ps)	29.88	29.89	29.91	29.89
Stack Cross-sectional Area, ft^2	(As)	7.07	7.07	7.07	7.07
Temperature, °F	(Ts)	71.8	78.0	82.3	77.3
Temperature, °R	(Ts)	531.5	537.6	541.9	537.003
Moisture Fraction Measured	(BWSmsd)	0.023	0.017	0.017	0.019
Moisture Fraction @ Saturation	(BWSsat)	0.026	0.032	0.037	0.032
Moisture Fraction	(BWS)	0.023	0.017	0.017	0.019
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)	28.60	28.66	28.67	28.64
Velocity, ft/sec	(Vs)	31.8	32.0	32.9	32.2
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	13,478	13,552	13,935	13,655
At Standard Conditions, dscfm	(Qs)	13,056	13,055	13,330	13,147

Method 1 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3359
Date: 09/28/22

Stack Parameters

Duct Orientation:	Horizontal	
Duct Design:	Circular	
Distance from Far Wall to Outside of Port:	51.13	in
Nipple Length:	15.13	in
Depth of Duct:	36.00	in
Cross Sectional Area of Duct:	7.07	ft^2
No. of Test Ports:	2	
Distance A:	5.1	ft
Distance A Duct Diameters:	4.8	**(must be > 0.5)**
Distance B:	5.7	ft
Distance B Duct Diameters:	1.9	**(must be > 2)**
Minimum Number of Traverse Points:	24	
Actual Number of Traverse Points:	24	
Number of Readings per Point:	1	
Measurer (Initial and Date):	AA 9/28/22	
Reviewer (Initial and Date):	JS 9/28/22	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS
Number of traverse points on a diameter

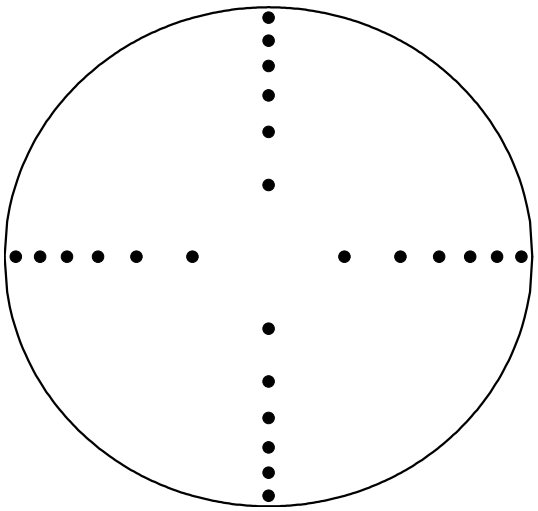
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--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

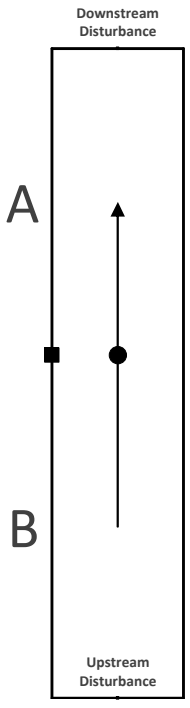
**Percent of stack diameter from inside wall to traverse point.*

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

Stack Diagram
A = 5.1 ft.
B = 5.7 ft.
Depth of Duct = 36 in.

Cross Sectional Area





Alliance SOURCE TESTING

Cyclonic Flow Check

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3359
Date 09/28/22

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

Method 4 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3359
Parameter HFPO-DA
Analysis Gravimetric

Run 1	Date:	9/28/22							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	299.7	468.2	760.5	754.4	716.3	477.6	318.9	829.1	4624.7
Final Mass, g	309.4	468.0	760.0	754.8	717.6	478.9	326.1	839.8	4654.6
Gain	9.7	-0.2	-0.5	0.4	1.3	1.3	7.2	10.7	29.9
Run 2	**Date:**	9/28/22							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	301.7	467.1	718.5	745.3	728.9	490.7	285.9	826.5	4564.6
Final Mass, g	305.9	469.4	716.7	745.5	730.1	491.9	289.9	837.3	4586.7
Gain	4.2	2.3	-1.8	0.2	1.2	1.2	4.0	10.8	22.1
Run 3	**Date:**	9/28/22							
Impinger No.	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Contents	XAD Trap	Empty	H2O	H2O	H2O	Empty	XAD Trap	Silica	--
Initial Mass, g	316.1	468.2	759.9	757.7	716.9	478.4	329.9	833.0	4660.1
Final Mass, g	325.9	468.2	757.1	757.4	718.7	480.5	330.5	843.8	4682.1
Gain	9.8	0.0	-2.8	-0.3	1.8	2.1	0.6	10.8	22.0

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	8:15	**Source:**	VEN Carbon Bed Inlet	
Date:	9/28/22	Run 1 VALID	**End Time:**	10:09	**Project No.:**	2022-3359	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.		STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	15		Est. Tm:	70	°F			Pb:	30.16	in. Hg	Vlc (ml)
Barometric:	30.09	in. Hg	Y:	1.032		Est. Ts:	93	°F			Pg:	-3.80	in. WC	29.9
Static Press:	-6.80	in. WC	ΔH @ (in.WC):	1.699		Est. ΔP:	0.62	in. WC			O_2:	20.9	%	K-FACTOR
Stack Press:	29.59	in. Hg	Probe ID:	TC-7D		Est. Dn:	0.239	in.			CO_2:	0.1	%	3.601
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm				Check Pt.	Initial	Final	Corr.
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECKS	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)	61.416	61.484	0.068
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.005	0.004	0.003	--	0.005	Mid 2 (cf)	61.484	61.569	0.085
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-4	glass	Vacuum (in Hg):	10	9	10	--	10	Mid 3 (cf)			--
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	--	--	--	Pass	Mid-Point Leak Check Vol (cf):			0.153

Sample Pt.	Sample Time (minutes)		Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F)		Orifice Press. ΔH (in. WC)		Pump Vac (in. Hg)	Gas Temperatures (°F)				% ISO	Vs (fps)
					DGM Average	Stack				Probe	Filter	Imp Exit	Aux		
	Begin	End			Amb.	Amb.	Ideal	Actual		Amb.	Amb.	Amb.	Amb.		
													-		
A-1	0.00	4.00	33.289	0.32	57	70	1.17	1.20	5	82	85	48	41	96.8	32.12
2	4.00	8.00	35.600	0.33	57	70	1.21	1.20	5	81	84	43	43	95.7	32.62
3	8.00	12.00	37.920	0.32	58	70	1.18	1.20	5	80	83	43	41	98.7	32.12
4	12.00	16.00	40.280	0.33	58	70	1.21	1.20	5	79	84	43	42	99.7	32.62
5	16.00	20.00	42.700	0.32	59	70	1.18	1.20	5	82	85	43	41	101.4	32.12
6	20.00	24.00	45.130	0.30	59	70	1.11	1.10	5	83	82	43	42	102.1	31.10
7	24.00	28.00	47.500	0.30	60	71	1.11	1.10	5	83	80	43	42	98.2	31.13
8	28.00	32.00	49.780	0.29	60	70	1.07	1.10	5	80	78	43	43	99.7	30.58
9	32.00	36.00	52.060	0.30	60	70	1.11	1.10	5	79	77	43	44	98.5	31.10
10	36.00	40.00	54.350	0.32	60	71	1.18	1.20	5	82	78	43	42	101.7	32.15
11	40.00	44.00	56.790	0.29	61	71	1.07	1.10	5	81	81	44	43	97.5	30.60
12	44.00	48.00	59.020	0.32	60	71	1.18	1.20	5	81	84	44	40	99.9	32.15
B-1	48.00	52.00	61.416	0.30	62	71	1.11	1.10	5	84	85	49	41	103.5	31.13
2	52.00	56.00	63.830	0.29	63	72	1.07	1.10	5	85	85	43	38	102.8	30.63
3	56.00	60.00	66.190	0.30	63	72	1.11	1.10	5	84	83	43	39	100.7	31.16
4	60.00	64.00	68.540	0.36	64	73	1.33	1.30	5	82	79	45	41	97.0	34.16
5	64.00	68.00	71.020	0.37	64	73	1.37	1.40	5	82	80	45	40	94.1	34.63
6	68.00	72.00	73.460	0.38	65	74	1.40	1.40	5	82	80	45	40	93.2	35.13
7	72.00	76.00	75.910	0.34	65	74	1.26	1.30	5	80	79	45	40	101.3	33.23
8	76.00	80.00	78.430	0.32	65	74	1.18	1.20	5	83	80	45	40	98.6	32.24
9	80.00	84.00	80.810	0.30	66	74	1.11	1.10	5	80	80	45	40	100.3	31.22
10	84.00	88.00	83.160	0.29	67	74	1.08	1.10	5	82	80	46	42	101.8	30.69
11	88.00	92.00	85.510	0.29	67	74	1.08	1.10	5	82	80	46	42	99.7	30.69
12	92.00	96.00	87.810	0.29	68	74	1.08	1.10	5	82	79	47	41	100.9	30.69
	Final DGM:		90.142												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	56.700	ft^3	0.32	in. WC	62.0	°F	71.8	°F	5	1.175	in. WC	99.0	0.023	-1.4

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	10:46	**Source:**	VEN Carbon Bed Inlet	
Date:	9/28/22	Run 2 VALID	**End Time:**	12:48	**Project No.:**	2022-3359	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.			STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	15		Est. Tm:	62	°F				Pb:	30.16	in. Hg	Vlc (ml)
Barometric:	30.09	in. Hg	Y:	1.032		Est. Ts:	72	°F				Pg:	-3.70	in. WC	22.1
Static Press:	-6.80	in. WC	ΔH @ (in.WC):	1.699		Est. ΔP:	0.32	in. WC				O_2:	20.9	%	K-FACTOR
Stack Press:	29.59	in. Hg	Probe ID:	TC-7D		Est. Dn:	0.282	in.				CO_2:	0.1	%	3.69
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm					Check Pt.	Initial	Final / Corr.
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECKS	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)	119.168	######	0.091
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.003	0.005	0.003	--	0.004	Mid 2 (cf)	119.259	######	0.065
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-4	glass	Vacuum (in Hg):	10	9	9	--	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):			0.156

Sample Pt.	Sample Time (minutes) Begin	End	Dry Gas Meter Reading (ft^3)	Pitot Tube ΔP (in WC)	Gas Temperatures (°F) DGM Average Amb.	Stack Amb.	Orifice Press. ΔH (in. WC) Ideal	Actual	Pump Vac (in. Hg)	Gas Temperatures (°F) Probe Amb.	Filter Amb.	Imp Exit Amb.	Aux Amb.	% ISO	Vs (fps)
A-1	0.00	4.00	90.413	0.30	70	75	1.12	1.10	4	90	85	60	45	102.9	31.24
2	4.00	8.00	92.840	0.30	71	75	1.12	1.10	4	86	85	58	45	102.0	31.24
3	8.00	12.00	95.250	0.32	71	76	1.19	1.20	4	87	86	53	45	95.2	32.30
4	12.00	16.00	97.570	0.34	71	77	1.26	1.30	4	85	85	52	44	94.8	33.32
5	16.00	20.00	99.950	0.32	71	77	1.19	1.20	4	85	84	52	44	96.5	32.33
6	20.00	24.00	102.300	0.31	71	77	1.15	1.20	4	88	85	52	44	102.6	31.82
7	24.00	28.00	104.760	0.30	72	77	1.12	1.10	4	85	85	52	45	96.9	31.30
8	28.00	32.00	107.050	0.30	73	78	1.12	1.10	4	86	85	51	46	99.4	31.33
9	32.00	36.00	109.400	0.33	73	78	1.23	1.20	4	87	85	52	46	96.4	32.86
10	36.00	40.00	111.790	0.34	73	78	1.27	1.30	4	87	85	53	46	102.9	33.36
11	40.00	44.00	114.380	0.33	73	78	1.23	1.20	4	84	85	53	46	94.8	32.86
12	44.00	48.00	116.730	0.35	74	78	1.31	1.30	4	84	85	53	46	95.3	33.84
B-1	48.00	52.00	119.168	0.22	74	76	0.83	0.83	3	92	89	59	42	104.8	26.78
2	52.00	56.00	121.300	0.19	75	76	0.71	0.70	3	92	84	50	41	95.0	24.89
3	56.00	60.00	123.100	0.37	75	76	1.39	1.39	4	91	80	48	42	94.7	34.73
4	60.00	64.00	125.600	0.39	76	76	1.47	1.50	4	89	81	48	42	99.5	35.66
5	64.00	68.00	128.300	0.41	75	79	1.53	1.55	4	88	81	48	43	90.3	36.66
6	68.00	72.00	130.800	0.41	75	80	1.53	1.55	4	86	80	48	43	94.0	36.70
7	72.00	76.00	133.400	0.32	75	80	1.19	1.20	3	85	80	49	41	102.2	32.42
8	76.00	80.00	135.900	0.30	75	81	1.12	1.10	3	84	81	50	42	100.1	31.42
9	80.00	84.00	138.270	0.30	76	80	1.12	1.10	3	84	85	49	43	99.0	31.39
10	84.00	88.00	140.620	0.29	76	81	1.08	1.10	3	84	85	49	42	102.1	30.89
11	88.00	92.00	143.000	0.29	76	81	1.08	1.10	3	82	86	48	43	93.3	30.89
12	92.00	96.00	145.175	0.29	76	81	1.08	1.10	3	83	85	49	43	93.9	30.89
	Final DGM:		147.364												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	56.795	ft^3	0.32	in. WC	73.6	°F	78.0	°F	4	1.188	in. WC	97.0	0.017	-2.6

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	13:25	**Source:**	VEN Carbon Bed Inlet	
Date:	9/28/22	Run 3 VALID	**End Time:**	15:24	**Project No.:**	2022-3359	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.			STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	15		Est. Tm:	74	°F				Pb:	30.17	in. Hg	Vlc (ml)
Barometric:	30.09	in. Hg	Y:	1.032		Est. Ts:	78	°F				Pg:	-3.60	in. WC	22.0
Static Press:	-6.80	in. WC	ΔH @ (in.WC):	1.699		Est. ΔP:	0.32	in. WC				O_2:	20.9	%	K-FACTOR
Stack Press:	29.59	in. Hg	Probe ID:	TC-7D		Est. Dn:	0.279	in.				CO_2:	0.1	%	3.727
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm					Check Pt.	Initial	Final	Corr.
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECKS	Pre	Mid 1	Mid 2	Mid 3	Post	Mid 1 (cf)	175.941	######	0.099
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.003	0.002	0.003	--	0.002	Mid 2 (cf)	176.040	######	0.052
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-4	glass	Vacuum (in Hg):	8	8	9	--	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):			0.151

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		--	--	--	--		
A-1	0.00	4.00	147.543	0.26	77	80	0.97	0.97	4	90	88	66	50	95.1	29.22
2	4.00	8.00	149.650	0.33	77	81	1.23	1.20	5	87	88	56	50	99.9	32.95
3	8.00	12.00	152.140	0.33	77	82	1.23	1.20	5	90	88	53	54	95.6	32.98
4	12.00	16.00	154.520	0.32	77	82	1.19	1.20	5	90	88	53	54	97.1	32.48
5	16.00	20.00	156.900	0.32	77	82	1.19	1.20	5	88	88	52	53	99.9	32.48
6	20.00	24.00	159.350	0.31	77	82	1.16	1.20	5	89	88	52	52	100.7	31.97
7	24.00	28.00	161.780	0.29	78	82	1.08	1.10	5	89	87	52	53	100.1	30.92
8	28.00	32.00	164.120	0.29	78	82	1.08	1.10	5	88	88	52	53	99.2	30.92
9	32.00	36.00	166.440	0.30	78	82	1.12	1.10	5	90	89	53	52	99.2	31.45
10	36.00	40.00	168.800	0.32	78	82	1.19	1.20	5	89	88	53	52	97.7	32.48
11	40.00	44.00	171.200	0.35	78	82	1.31	1.30	5	87	88	53	54	92.7	33.97
12	44.00	48.00	173.580	0.36	78	82	1.34	1.30	5	88	88	54	55	90.7	34.45
B-1	48.00	52.00	175.941	0.23	78	81	0.86	0.86	4	93	91	62	48	102.1	27.51
2	52.00	56.00	178.070	0.37	79	82	1.38	1.40	5	88	84	52	47	96.4	34.93
3	56.00	60.00	180.620	0.36	79	83	1.34	1.40	5	88	88	50	50	95.2	34.48
4	60.00	64.00	183.100	0.42	79	83	1.57	1.60	6	89	87	51	51	96.0	37.24
5	64.00	68.00	185.800	0.40	79	83	1.49	1.50	6	90	88	51	51	98.3	36.35
6	68.00	72.00	188.500	0.40	79	83	1.49	1.50	6	88	91	51	50	103.4	36.35
7	72.00	76.00	191.340	0.34	79	83	1.27	1.30	5	87	91	51	49	101.1	33.51
8	76.00	80.00	193.900	0.32	79	83	1.20	1.20	5	87	91	51	49	101.7	32.51
9	80.00	84.00	196.400	0.34	79	83	1.27	1.30	5	87	90	52	51	98.7	33.51
10	84.00	88.00	198.900	0.34	79	83	1.27	1.30	5	92	91	53	51	94.7	33.51
11	88.00	92.00	201.300	0.34	79	83	1.27	1.30	5	92	91	53	51	94.7	33.51
12	92.00	96.00	203.700	0.34	79	83	1.27	1.30	5	87	87	53	51	93.9	33.51
	Final DGM:		206.078												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	58.384 ft^3	0.33 in. WC	78.2 °F	82.3 °F	6	1.251 in. WC	96.9	0.017	-3.0

Appendix C

eurofins | Environment Testing

ANALYTICAL REPORT

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

Laboratory Job ID: 140-29080-1
Client Project/Site: VEN Carbon Bed Inlet

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

Attn: Michael Aucoin

Authorized for release by:
10/27/2022 10:51:44 AM

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

Table of Contents

Definitions/Glossary

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

Job ID: 140-29080-1

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: 140-29080-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-29080-1

Receipt

The samples were received on 9/30/2022 11:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 3.5º C.

LCMS

Methods 537 (modified), Dilution: LC/MS/MS Sampling Train Preparation and Analysis: The sampling train components are extracted and analyzed for Per- and Polyfluorinated Alkyl Substances (PFAS) using Eurofins TestAmerica Knoxville standard operating procedures KNOX-OP-0026 and KNOX-LC-0007.

The sampling trains are prepared as four analytical fractions: The particulate filter and front half of the filter holder, nozzle and probe solvent rinses are combined for one analytical fraction. The XAD-2 resin trap and back half of the filter holder, coil condenser and connecting glassware solvent rinses are also combined as a separate analytical fraction. The condensate, impinger contents and their related glassware DI water rinses make up the third analytical fraction. The breakthrough XAD module makes up the fourth analytical fraction.

The filters and XAD components are spiked with isotope dilution internal standards and the components are extracted with methanol/ammonium hydroxide by shaking for at least 18 hours. The extracts are concentrated to 10 mL and analyzed by HPLC/MS/MS. The condensates are spiked with the isotope dilution internal standards and extracted using either Solid-Phase Extraction (SPE) or diluting the water sample for analysis. Each extract at its final volume is 80:20 methanol:water

Sample results were calculated using the following equation:

Result, ηg/sample = (on-column concentration, ηg/mL) × (nominal final volume of extract (10 mL) / 1 sample) × DF × SF

Where:
DF = Instrument dilution factor
SF = Extraction Split Factor = (final volume of extract in the initial extraction batch / initial volume of extract in the “Split” batch)
For condensate, if less than the entire sample is extracted, the fraction of sample used replaces “1 sample”

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): T-2712, T-2713, T-2715 VEN CB INLET R1 OTM-45 BH (140-29080-2), T-2719, T-2720, T-2722 VEN CB INLET R2 OTM-45 BH (140-29080-6), T-2726, T-2727, T-2729 VEN CB INLET R3 OTM-45 BH (140-29080-10), T-2710, T-2711 VEN CB INLET R1 OTM-45 FH (140-29080-1), T-2717, T-2718 VEN CB INLET R2 OTM-45 FH (140-29080-5) and T-2724, T-2725 VEN CB INLET R3 OTM-45 FH (140-29080-9). 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 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): T-2710, T-2711 VEN CB INLET R1 OTM-45 FH (140-29080-1), T-2717, T-2718 VEN CB INLET R2 OTM-45 FH (140-29080-5) and T-2724, T-2725 VEN CB INLET R3 OTM-45 FH (140-29080-9). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

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

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

Job ID: 140-29080-1

Client Sample ID: T-2710, T-2711 VEN CB INLET R1 OTM-45 FH

Lab Sample ID: 140-29080-1

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	133		5.00	4.70	ug/Sample		10/04/22 10:10	10/23/22 15:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*25 - 150*	*10/04/22 10:10*	*10/23/22 15:16*	*1*

Client Sample ID: T-2712, T-2713, T-2715 VEN CB INLET R1 OTM-45 BH

Lab Sample ID: 140-29080-2

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	221		100	55.0	ug/Sample		10/03/22 08:25	10/21/22 17:44	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*93*		*25 - 150*	*10/03/22 08:25*	*10/21/22 17:44*	*1*

Client Sample ID: T-2714 VEN CB INLET R1 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29080-3

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	0.0364	J	0.0735	0.0294	ug/Sample		10/05/22 11:45	10/22/22 19:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*94*		*25 - 150*	*10/05/22 11:45*	*10/22/22 19:00*	*1*

Client Sample ID: T-2716 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29080-4

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	0.0177	J	0.0200	0.0110	ug/Sample		10/03/22 08:25	10/21/22 18:11	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*82*		*25 - 150*	*10/03/22 08:25*	*10/21/22 18:11*	*1*

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

Job ID: 140-29080-1

Client Sample ID: T-2717, T-2718 VEN CB INLET R2 OTM-45 FH

Lab Sample ID: 140-29080-5

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	184		5.00	4.70	ug/Sample		10/04/22 10:10	10/23/22 15:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*88*		*25 - 150*	*10/04/22 10:10*	*10/23/22 15:24*	*1*

Client Sample ID: T-2719, T-2720, T-2722 VEN CB INLET R2 OTM-45 BH

Lab Sample ID: 140-29080-6

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	135		50.0	27.5	ug/Sample		10/03/22 08:25	10/21/22 18:19	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*10/03/22 08:25*	*10/21/22 18:19*	*1*

Client Sample ID: T-2721 VEN CB INLET R2 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29080-7

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	0.0345	J	0.0746	0.0299	ug/Sample		10/05/22 11:45	10/22/22 19:09	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*93*		*25 - 150*	*10/05/22 11:45*	*10/22/22 19:09*	*1*

Client Sample ID: T-2723 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29080-8

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	0.0143	J	0.0200	0.0110	ug/Sample		10/03/22 08:25	10/21/22 18:28	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*78*		*25 - 150*	*10/03/22 08:25*	*10/21/22 18:28*	*1*

Client Sample ID: T-2724, T-2725 VEN CB INLET R3 OTM-45 FH

Lab Sample ID: 140-29080-9

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	101		5.00	4.70	ug/Sample		10/04/22 10:10	10/23/22 15:33	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*10/04/22 10:10*	*10/23/22 15:33*	*1*

Client Sample ID: T-2726, T-2727, T-2729 VEN CB INLET R3 OTM-45 BH

Lab Sample ID: 140-29080-10

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	213		100	55.0	ug/Sample		10/03/22 08:25	10/21/22 18:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*25 - 150*	*10/03/22 08:25*	*10/21/22 18:37*	*1*

Client Sample ID: T-2728 VEN CB INLET R3 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29080-11

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	0.105		0.0725	0.0290	ug/Sample		10/05/22 11:45	10/22/22 19:18	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*94*		*25 - 150*	*10/05/22 11:45*	*10/22/22 19:18*	*1*

Client Sample ID: T-2730 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29080-12

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	0.122		0.0200	0.0110	ug/Sample		10/03/22 08:25	10/21/22 18:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*76*		*25 - 150*	*10/03/22 08:25*	*10/21/22 18:46*	*1*

Default Detection Limits

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

Job ID: 140-29080-1

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: 140-29080-1

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)						
140-29080-1	T-2710, T-2711 VEN CB INLET	91						
140-29080-2	T-2712, T-2713, T-2715 VEN CB INLET R1 OTM-45 BH	93						
140-29080-3	T-2714 VEN CB INLET R1 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	94						
140-29080-4	T-2716 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	82						
140-29080-5	T-2717, T-2718 VEN CB INLET R2 OTM-45 FH	88						
140-29080-6	T-2719, T-2720, T-2722 VEN CB INLET R2 OTM-45 BH	92						
140-29080-7	T-2721 VEN CB INLET R2 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	93						
140-29080-8	T-2723 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	78						
140-29080-9	T-2724, T-2725 VEN CB INLET R3 OTM-45 FH	90						
140-29080-10	T-2726, T-2727, T-2729 VEN CB INLET R3 OTM-45 BH	85						
140-29080-11	T-2728 VEN CB INLET R3 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	94						
140-29080-12	T-2730 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	76						
LCS 140-65913/2-B	Lab Control Sample	87						
LCS 140-65971/2-B	Lab Control Sample	75						
LCS 140-66018/2-A	Lab Control Sample	87						
LCSD 140-65913/3-B	Lab Control Sample Dup	89						
LCSD 140-65971/3-B	Lab Control Sample Dup	76						
LCSD 140-66018/3-A	Lab Control Sample Dup	102						
MB 140-65913/14-B	Method Blank	79						
MB 140-65913/1-B	Method Blank	90						
MB 140-65971/1-B	Method Blank	87						
MB 140-66018/1-A	Method Blank	92						

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-65913/14-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65913

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		10/03/22 08:25	10/21/22 17:18	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*79*		*25 - 150*	*10/03/22 08:25*	*10/21/22 17:18*	*1*

Lab Sample ID: MB 140-65913/1-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65913

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		10/03/22 08:25	10/21/22 15:00	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*10/03/22 08:25*	*10/21/22 15:00*	*1*

Lab Sample ID: LCS 140-65913/2-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65913

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02698		ug/Sample		135	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*87*		*25 - 150*

Lab Sample ID: LCSD 140-65913/3-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65913

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02541		ug/Sample		127	60 - 140	6	30

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

Lab Sample ID: MB 140-65971/1-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		10/04/22 10:10	10/22/22 04:28	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*87*		*25 - 150*	*10/04/22 10:10*	*10/22/22 04:28*	*1*

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

Lab Sample ID: LCS 140-65971/2-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02649		ug/Sample		132	60 - 140		

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

Lab Sample ID: LCSD 140-65971/3-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65971

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02626		ug/Sample		131	60 - 140	1	30

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

Lab Sample ID: MB 140-66018/1-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		10/05/22 11:45	10/22/22 00:04	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*10/05/22 11:45*	*10/22/22 00:04*	*1*

Lab Sample ID: LCS 140-66018/2-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66018

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.01234		ug/Sample		123	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*87*		*25 - 150*

Lab Sample ID: LCSD 140-66018/3-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 66018

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.01095		ug/Sample		109	60 - 140	12	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*102*		*25 - 150*

LCMS

Prep Batch: 65913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29080-2	T-2712, T-2713, T-2715 VEN CB INLET R1 OTM	Total/NA	Air	None	
140-29080-4	T-2716 VEN CB INLET R1 OTM-45 BREAKTHR(	Total/NA	Air	None	
140-29080-6	T-2719, T-2720, T-2722 VEN CB INLET R2 OTM	Total/NA	Air	None	
140-29080-8	T-2723 VEN CB INLET R2 OTM-45 BREAKTHR(	Total/NA	Air	None	
140-29080-10	T-2726, T-2727, T-2729 VEN CB INLET R3 OTM	Total/NA	Air	None	
140-29080-12	T-2730 VEN CB INLET R3 OTM-45 BREAKTHR(	Total/NA	Air	None	
MB 140-65913/14-B	Method Blank	Total/NA	Air	None	
MB 140-65913/1-B	Method Blank	Total/NA	Air	None	
LCS 140-65913/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-65913/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 65971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29080-1	T-2710, T-2711 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	None	
140-29080-5	T-2717, T-2718 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	None	
140-29080-9	T-2724, T-2725 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	None	
MB 140-65971/1-B	Method Blank	Total/NA	Air	None	
LCS 140-65971/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-65971/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Cleanup Batch: 66004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29080-2	T-2712, T-2713, T-2715 VEN CB INLET R1 OTM	Total/NA	Air	Split	65913
140-29080-4	T-2716 VEN CB INLET R1 OTM-45 BREAKTHR(	Total/NA	Air	Split	65913
140-29080-6	T-2719, T-2720, T-2722 VEN CB INLET R2 OTM	Total/NA	Air	Split	65913
140-29080-8	T-2723 VEN CB INLET R2 OTM-45 BREAKTHR(	Total/NA	Air	Split	65913
140-29080-10	T-2726, T-2727, T-2729 VEN CB INLET R3 OTM	Total/NA	Air	Split	65913
140-29080-12	T-2730 VEN CB INLET R3 OTM-45 BREAKTHR(	Total/NA	Air	Split	65913
MB 140-65913/14-B	Method Blank	Total/NA	Air	Split	65913
MB 140-65913/1-B	Method Blank	Total/NA	Air	Split	65913
LCS 140-65913/2-B	Lab Control Sample	Total/NA	Air	Split	65913
LCSD 140-65913/3-B	Lab Control Sample Dup	Total/NA	Air	Split	65913

Prep Batch: 66018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29080-3	T-2714 VEN CB INLET R1 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
140-29080-7	T-2721 VEN CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
140-29080-11	T-2728 VEN CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
MB 140-66018/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-66018/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-66018/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Cleanup Batch: 66029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29080-1	T-2710, T-2711 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	Split	65971
140-29080-5	T-2717, T-2718 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	Split	65971
140-29080-9	T-2724, T-2725 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	Split	65971
MB 140-65971/1-B	Method Blank	Total/NA	Air	Split	65971
LCS 140-65971/2-B	Lab Control Sample	Total/NA	Air	Split	65971
LCSD 140-65971/3-B	Lab Control Sample Dup	Total/NA	Air	Split	65971

QC Association Summary

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

Job ID: 140-29080-1

LCMS

Analysis Batch: 66559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29080-2	T-2712, T-2713, T-2715 VEN CB INLET R1 OTM	Total/NA	Air	537 (modified)	66569
140-29080-4	T-2716 VEN CB INLET R1 OTM-45 BREAKTHR(	Total/NA	Air	537 (modified)	66004
140-29080-6	T-2719, T-2720, T-2722 VEN CB INLET R2 OTM	Total/NA	Air	537 (modified)	66569
140-29080-8	T-2723 VEN CB INLET R2 OTM-45 BREAKTHR(	Total/NA	Air	537 (modified)	66004
140-29080-10	T-2726, T-2727, T-2729 VEN CB INLET R3 OTM	Total/NA	Air	537 (modified)	66569
140-29080-12	T-2730 VEN CB INLET R3 OTM-45 BREAKTHR(	Total/NA	Air	537 (modified)	66004
MB 140-65913/14-B	Method Blank	Total/NA	Air	537 (modified)	66004
MB 140-65913/1-B	Method Blank	Total/NA	Air	537 (modified)	66004
MB 140-65971/1-B	Method Blank	Total/NA	Air	537 (modified)	66029
MB 140-66018/1-A	Method Blank	Total/NA	Air	537 (modified)	66018
LCS 140-65913/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	66004
LCS 140-65971/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	66029
LCS 140-66018/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	66018
LCSD 140-65913/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	66004
LCSD 140-65971/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	66029
LCSD 140-66018/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	66018

Cleanup Batch: 66569

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29080-2	T-2712, T-2713, T-2715 VEN CB INLET R1 OTM	Total/NA	Air	Dilution	66004
140-29080-6	T-2719, T-2720, T-2722 VEN CB INLET R2 OTM	Total/NA	Air	Dilution	66004
140-29080-10	T-2726, T-2727, T-2729 VEN CB INLET R3 OTM	Total/NA	Air	Dilution	66004

Analysis Batch: 66593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29080-3	T-2714 VEN CB INLET R1 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	66018
140-29080-7	T-2721 VEN CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	66018
140-29080-11	T-2728 VEN CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	66018

Cleanup Batch: 66595

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29080-1	T-2710, T-2711 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	Dilution	66029
140-29080-5	T-2717, T-2718 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	Dilution	66029
140-29080-9	T-2724, T-2725 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	Dilution	66029

Analysis Batch: 66608

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29080-1	T-2710, T-2711 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	537 (modified)	66595
140-29080-5	T-2717, T-2718 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	537 (modified)	66595
140-29080-9	T-2724, T-2725 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	537 (modified)	66595

Client Sample ID: T-2710, T-2711 VEN CB INLET R1 OTM-45 FH

Lab Sample ID: 140-29080-1

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	86 mL	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			43 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	66595	10/22/22 13:11	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66608	10/23/22 15:16	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2712, T-2713, T-2715 VEN CB INLET R1 OTM-45 BH

Lab Sample ID: 140-29080-2

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Cleanup	Dilution			2 uL	10000 uL	66569	10/21/22 11:00	JRC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 17:44	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2714 VEN CB INLET R1 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29080-3

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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			0.0068 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66593	10/22/22 19:00	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2716 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29080-4

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 18:11	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2717, T-2718 VEN CB INLET R2 OTM-45 FH

Lab Sample ID: 140-29080-5

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	100 mL	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			50 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	66595	10/22/22 13:11	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66608	10/23/22 15:24	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2719, T-2720, T-2722 VEN CB INLET R2 OTM-45 BH

Lab Sample ID: 140-29080-6

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Cleanup	Dilution			4 uL	10000 uL	66569	10/21/22 11:00	JRC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 18:19	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2721 VEN CB INLET R2 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29080-7

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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			0.0067 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66593	10/22/22 19:09	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2723 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29080-8

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 18:28	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2724, T-2725 VEN CB INLET R3 OTM-45 FH

Lab Sample ID: 140-29080-9

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	90 mL	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			45 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	66595	10/22/22 14:00	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66608	10/23/22 15:33	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2726, T-2727, T-2729 VEN CB INLET R3 OTM-45 BH

Lab Sample ID: 140-29080-10

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Cleanup	Dilution			2 uL	10000 uL	66569	10/21/22 11:00	JRC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 18:37	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2728 VEN CB INLET R3 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29080-11

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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			0.0069 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66593	10/22/22 19:18	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2730 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29080-12

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 18:46	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: Method Blank
Lab Sample ID: MB 140-65913/14-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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 17:18	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-65913/1-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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 15:00	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-65971/1-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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 04:28	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-66018/1-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	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 00:04	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-65913/2-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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 15:08	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

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

Job ID: 140-29080-1

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-65971/2-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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 04:37	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-66018/2-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	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 00:13	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-65913/3-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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 15:17	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-65971/3-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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 04:46	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-66018/3-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	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 00:21	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: 140-29080-1
Project/Site: VEN Carbon Bed Inlet

Laboratory: Eurofins Knoxville

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-23
California	State	2423	06-30-22 *
Colorado	State	TN00009	02-28-23
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-23
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-22
Kansas	NELAP	E-10349	10-31-22
Kentucky (DW)	State	90101	12-31-22
Louisiana	NELAP	83979	06-30-23
Louisiana (All)	NELAP	83979	06-30-23
Louisiana (DW)	State	LA019	12-31-22
Maryland	State	277	03-31-23
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-23
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-23
New York	NELAP	10781	03-31-23
North Carolina (DW)	State	21705	07-31-23
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-23
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-22-17	08-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-19-00236	12-31-22
Utah	NELAP	TN00009	07-31-23
Virginia	NELAP	460176	09-14-23
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-23
Wisconsin	State	998044300	08-31-23

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

Method Summary

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

Job ID: 140-29080-1

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: 140-29080-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-29080-1	T-2710, T-2711 VEN CB INLET R1 OTM-45 FH	Air	09/28/22 00:00	09/30/22 11:50
140-29080-2	T-2712, T-2713, T-2715 VEN CB INLET R1 OTM-45 BH	Air	09/28/22 00:00	09/30/22 11:50
140-29080-3	T-2714 VEN CB INLET R1 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	Air	09/28/22 00:00	09/30/22 11:50
140-29080-4	T-2716 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/28/22 00:00	09/30/22 11:50
140-29080-5	T-2717, T-2718 VEN CB INLET R2 OTM-45 FH	Air	09/28/22 00:00	09/30/22 11:50
140-29080-6	T-2719, T-2720, T-2722 VEN CB INLET R2 OTM-45 BH	Air	09/28/22 00:00	09/30/22 11:50
140-29080-7	T-2721 VEN CB INLET R2 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	Air	09/28/22 00:00	09/30/22 11:50
140-29080-8	T-2723 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/28/22 00:00	09/30/22 11:50
140-29080-9	T-2724, T-2725 VEN CB INLET R3 OTM-45 FH	Air	09/28/22 00:00	09/30/22 11:50
140-29080-10	T-2726, T-2727, T-2729 VEN CB INLET R3 OTM-45 BH	Air	09/28/22 00:00	09/30/22 11:50
140-29080-11	T-2728 VEN CB INLET R3 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	Air	09/28/22 00:00	09/30/22 11:50
140-29080-12	T-2730 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/28/22 00:00	09/30/22 11:50

Project Identification:	Chemours Emissions Test
Client Name:	Chemours Company
Client Contact:	Christel Compton (910) 678-1213
TestAmerica Contact:	Courtney Adkins (865) 291-3019
TestAmerica Project Manager:	Billy Anderson (865) 291-3080

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

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

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

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

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2710 VEN CB INLET R1 OTM-45 Particulate Filter (Combine with *T-2711*)	1	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
T-2711 VEN CB INLET R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse (Combine with *T-2710*)	1	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
T-2712 VEN CB INLET R1 OTM-45 XAD-2 Resin Tube	1	9/28/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO.

140-29080 Chain of Custody

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2713 VEN CB INLET R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2712*)	1	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.
T-2714 VEN CB INLET R1 OTM-45 Impingers 1,2 & 3 Condensate	1	9/28/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2715 VEN CB INLET R1 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2712*)	1	9/28/22		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
T-2716 VEN CB INLET R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	9/28/22		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.
T-2717 VEN CB INLET R2 OTM-45 Particulate Filter (Combine with *T-2718*)	2	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.
T-2718 VEN CB INLET R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *T-2717*)	2	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2719 VEN CB INLET R2 OTM-45 XAD-2 Resin Tube	2	9/28/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO. Analyze.
T-2720 VEN CB INLET R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2719*)	2	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.
T-2721 VEN CB INLET R2 OTM-45 Impingers 1,2 & 3 Condensate	2	9/28/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2722 VEN CB INLET R2 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2719*)	2	9/28/22		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
T-2723 VEN CB INLET R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	9/28/22		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.
T-2724 VEN CB INLET R3 OTM-45 Particulate Filter (Combine with *T-2725*)	3	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2725 VEN CB INLET R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *T-2724*)	3	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
T-2726 VEN CB INLET R3 OTM-45 XAD-2 Resin Tube	3	9/28/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using method 8321A-HFPO.
T-2727 VEN CB INLET R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2726*)	3	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using method 8321A-HFPO.
T-2728 VEN CB INLET R3 OTM-45 Impingers 1,2 & 3 Condensate	3	9/28/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2729 VEN CB INLET R3 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2726*)	3	9/28/22		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
T-2730 VEN CB INLET R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	9/28/22		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.

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:	Rec @ 3.4°C RT 3.5°C CT
(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):	NONE

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	Patrick Bradley	Alliance TG	9/29/22 1735
Accepted By:	Doug Gold	ETA KNOX	9/29/22 1730
Relinquished By:	Doug Gold	ETA KNOX	9/30/22 1150
Accepted By:	R Dunn	ETAKNV	09.30.22 1150
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

Loc: 140

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

Log In Number: **29080**

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 : SC-73 Correction factor: +0.1oc	✓			☐ 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 Tak

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 #: 1400432G PM Instructions:

Sample Receiving Associate: Date: 09.30.22

QA026R32.doc, 062719

eurofins | Environment Testing

ANALYTICAL REPORT

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

Laboratory Job ID: 140-29081-1
Client Project/Site: VEN Carbon Bed Outlet

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

Attn: Michael Aucoin

Authorized for release by:
10/27/2022 10:51:05 AM

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

Table of Contents

Definitions/Glossary

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

Job ID: 140-29081-1

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: 140-29081-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-29081-1

Receipt

The samples were received on 9/30/2022 11:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 1.7º C.

LCMS

Methods 537 (modified), Dilution: LC/MS/MS Sampling Train Preparation and Analysis: The sampling train components are extracted and analyzed for Per- and Polyfluorinated Alkyl Substances (PFAS) using Eurofins TestAmerica Knoxville standard operating procedures KNOX-OP-0026 and KNOX-LC-0007.

The sampling trains are prepared as four analytical fractions: The particulate filter and front half of the filter holder, nozzle and probe solvent rinses are combined for one analytical fraction. The XAD-2 resin trap and back half of the filter holder, coil condenser and connecting glassware solvent rinses are also combined as a separate analytical fraction. The condensate, impinger contents and their related glassware DI water rinses make up the third analytical fraction. The breakthrough XAD module makes up the fourth analytical fraction.

The filters and XAD components are spiked with isotope dilution internal standards and the components are extracted with methanol/ammonium hydroxide by shaking for at least 18 hours. The extracts are concentrated to 10 mL and analyzed by HPLC/MS/MS. The condensates are spiked with the isotope dilution internal standards and extracted using either Solid-Phase Extraction (SPE) or diluting the water sample for analysis. Each extract at its final volume is 80:20 methanol:water

Sample results were calculated using the following equation:

Result, ηg/sample = (on-column concentration, ηg/mL) × (nominal final volume of extract (10 mL) / 1 sample) × DF × SF

Where:
DF = Instrument dilution factor
SF = Extraction Split Factor = (final volume of extract in the initial extraction batch / initial volume of extract in the “Split” batch)
For condensate, if less than the entire sample is extracted, the fraction of sample used replaces “1 sample”

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

Client Sample ID: T-2731, T-2732 VEN CB OUTLET R1 OTM-45 FH

Lab Sample ID: 140-29081-1

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	1.69		0.0500	0.0470	ug/Sample		10/04/22 10:10	10/22/22 16:11	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*98*		*25 - 150*	*10/04/22 10:10*	*10/22/22 16:11*	*10*

Client Sample ID: T-2733, T-2734, T-2736 VEN CB OUTLET R1 OTM-45 BH

Lab Sample ID: 140-29081-2

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	1.13		0.400	0.220	ug/Sample		10/03/22 08:25	10/21/22 18:56	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*88*		*25 - 150*	*10/03/22 08:25*	*10/21/22 18:56*	*20*

Client Sample ID: T-2735 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29081-3

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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		0.0714	0.0286	ug/Sample		10/05/22 11:45	10/22/22 02:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*93*		*25 - 150*	*10/05/22 11:45*	*10/22/22 02:16*	*1*

Client Sample ID: T-2737 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29081-4

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	0.0121	J	0.0200	0.0110	ug/Sample		10/03/22 08:25	10/21/22 19:05	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*25 - 150*	*10/03/22 08:25*	*10/21/22 19:05*	*1*

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

Job ID: 140-29081-1

Client Sample ID: T-2738, T-2739 VEN CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-29081-5

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	0.00702		0.00500	0.00470	ug/Sample		10/04/22 10:10	10/22/22 07:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*10/04/22 10:10*	*10/22/22 07:24*	*1*

Client Sample ID: T-2740, T-2741, T-2743 VEN CB OUTLET R2 OTM-45 BH

Lab Sample ID: 140-29081-6

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	0.917		0.400	0.220	ug/Sample		10/03/22 12:47	10/21/22 20:15	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*25 - 150*	*10/03/22 12:47*	*10/21/22 20:15*	*20*

Client Sample ID: T-2742 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29081-7

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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		10/05/22 11:45	10/22/22 02:34	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96*		*25 - 150*	*10/05/22 11:45*	*10/22/22 02:34*	*1*

Client Sample ID: T-2744 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29081-8

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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		10/03/22 12:47	10/21/22 20:24	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*25 - 150*	*10/03/22 12:47*	*10/21/22 20:24*	*1*

Client Sample ID: T-2745, T-2746 VEN CB OUTLET R3 OTM-45 FH

Lab Sample ID: 140-29081-9

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	1.41		0.0493	0.0464	ug/Sample		10/04/22 10:10	10/22/22 16:20	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*98*		*25 - 150*	*10/04/22 10:10*	*10/22/22 16:20*	*10*

Client Sample ID: T-2747, T-2748, T-2750 VEN CB OUTLET R3 OTM-45 BH

Lab Sample ID: 140-29081-10

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	0.730		0.200	0.110	ug/Sample		10/03/22 12:47	10/21/22 20:32	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*58*		*25 - 150*	*10/03/22 12:47*	*10/21/22 20:32*	*10*

Client Sample ID: T-2749 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29081-11

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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		0.0769	0.0308	ug/Sample		10/05/22 11:45	10/22/22 02:42	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*95*		*25 - 150*	*10/05/22 11:45*	*10/22/22 02:42*	*1*

Client Sample ID: T-2751 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29081-12

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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		10/03/22 12:47	10/21/22 20:41	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*86*		*25 - 150*	*10/03/22 12:47*	*10/21/22 20:41*	*1*

Default Detection Limits

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

Job ID: 140-29081-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: None

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

Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: PFAS Prep

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

Isotope Dilution Summary

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

Job ID: 140-29081-1

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)
140-29081-1	T-2731, T-2732 VEN CB OUTLE	98
140-29081-2	T-2733, T-2734, T-2736 VEN CB OUTLET R1 OTM-45 BH	88
140-29081-3	T-2735 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	93
140-29081-4	T-2737 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	85
140-29081-5	T-2738, T-2739 VEN CB OUTLET R2 OTM-45 FH	90
140-29081-6	T-2740, T-2741, T-2743 VEN CB OUTLET R2 OTM-45 BH	85
140-29081-7	T-2742 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	96
140-29081-8	T-2744 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	91
140-29081-9	T-2745, T-2746 VEN CB OUTLET R3 OTM-45 FH	98
140-29081-10	T-2747, T-2748, T-2750 VEN CB OUTLET R3 OTM-45 BH	58
140-29081-11	T-2749 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	95
140-29081-12	T-2751 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	86
LCS 140-65913/2-B	Lab Control Sample	87
LCS 140-65942/2-B	Lab Control Sample	95
LCS 140-65971/2-B	Lab Control Sample	75
LCS 140-66018/2-A	Lab Control Sample	87
LCSD 140-65913/3-B	Lab Control Sample Dup	89
LCSD 140-65942/3-B	Lab Control Sample Dup	89
LCSD 140-65971/3-B	Lab Control Sample Dup	76
LCSD 140-66018/3-A	Lab Control Sample Dup	102
MB 140-65913/14-B	Method Blank	79
MB 140-65913/1-B	Method Blank	90
MB 140-65942/1-B	Method Blank	85
MB 140-65971/14-B	Method Blank	81
MB 140-65971/1-B	Method Blank	87
MB 140-66018/14-A	Method Blank	94
MB 140-66018/1-A	Method Blank	92

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-65913/14-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65913

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		10/03/22 08:25	10/21/22 17:18	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*79*		*25 - 150*	*10/03/22 08:25*	*10/21/22 17:18*	*1*

Lab Sample ID: MB 140-65913/1-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65913

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		10/03/22 08:25	10/21/22 15:00	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*10/03/22 08:25*	*10/21/22 15:00*	*1*

Lab Sample ID: LCS 140-65913/2-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65913

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02698		ug/Sample		135	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*87*		*25 - 150*

Lab Sample ID: LCSD 140-65913/3-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65913

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02541		ug/Sample		127	60 - 140	6	30

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

Lab Sample ID: MB 140-65942/1-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65942

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		10/03/22 12:47	10/21/22 19:31	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*25 - 150*	*10/03/22 12:47*	*10/21/22 19:31*	*1*

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

Lab Sample ID: LCS 140-65942/2-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65942

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02246		ug/Sample		112	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*95*		*25 - 150*

Lab Sample ID: LCSD 140-65942/3-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65942

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02415		ug/Sample		121	60 - 140	7	30

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

Lab Sample ID: MB 140-65971/14-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		10/04/22 10:10	10/22/22 07:15	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*81*		*25 - 150*	*10/04/22 10:10*	*10/22/22 07:15*	*1*

Lab Sample ID: MB 140-65971/1-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		10/04/22 10:10	10/22/22 04:28	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*87*		*25 - 150*	*10/04/22 10:10*	*10/22/22 04:28*	*1*

Lab Sample ID: LCS 140-65971/2-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02649		ug/Sample		132	60 - 140		

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

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

Lab Sample ID: LCSD 140-65971/3-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65971

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02626		ug/Sample		131	60 - 140	1	30

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

Lab Sample ID: MB 140-66018/14-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		10/05/22 11:45	10/22/22 02:25	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*94*		*25 - 150*	*10/05/22 11:45*	*10/22/22 02:25*	*1*

Lab Sample ID: MB 140-66018/1-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		10/05/22 11:45	10/22/22 00:04	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*10/05/22 11:45*	*10/22/22 00:04*	*1*

Lab Sample ID: LCS 140-66018/2-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66018

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.01234		ug/Sample		123	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*87*		*25 - 150*

Lab Sample ID: LCSD 140-66018/3-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 66018

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.01095		ug/Sample		109	60 - 140	12	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*102*		*25 - 150*

LCMS

Prep Batch: 65913

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29081-2	T-2733, T-2734, T-2736 VEN CB OUTLET R1 OT	Total/NA	Air	None	
140-29081-4	T-2737 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	None	
MB 140-65913/14-B	Method Blank	Total/NA	Air	None	
MB 140-65913/1-B	Method Blank	Total/NA	Air	None	
LCS 140-65913/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-65913/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 65942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29081-6	T-2740, T-2741, T-2743 VEN CB OUTLET R2 OT	Total/NA	Air	None	
140-29081-8	T-2744 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	None	
140-29081-10	T-2747, T-2748, T-2750 VEN CB OUTLET R3 OT	Total/NA	Air	None	
140-29081-12	T-2751 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	None	
MB 140-65942/1-B	Method Blank	Total/NA	Air	None	
LCS 140-65942/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-65942/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 65971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29081-1	T-2731, T-2732 VEN CB OUTLET R1 OTM-45 FI	Total/NA	Air	None	
140-29081-5	T-2738, T-2739 VEN CB OUTLET R2 OTM-45 FI	Total/NA	Air	None	
140-29081-9	T-2745, T-2746 VEN CB OUTLET R3 OTM-45 FI	Total/NA	Air	None	
MB 140-65971/14-B	Method Blank	Total/NA	Air	None	
MB 140-65971/1-B	Method Blank	Total/NA	Air	None	
LCS 140-65971/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-65971/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Cleanup Batch: 66004

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29081-2	T-2733, T-2734, T-2736 VEN CB OUTLET R1 OT	Total/NA	Air	Split	65913
140-29081-4	T-2737 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	Split	65913
MB 140-65913/14-B	Method Blank	Total/NA	Air	Split	65913
MB 140-65913/1-B	Method Blank	Total/NA	Air	Split	65913
LCS 140-65913/2-B	Lab Control Sample	Total/NA	Air	Split	65913
LCSD 140-65913/3-B	Lab Control Sample Dup	Total/NA	Air	Split	65913

Prep Batch: 66018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29081-3	T-2735 VEN CB OUTLET R1 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
140-29081-7	T-2742 VEN CB OUTLET R2 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
140-29081-11	T-2749 VEN CB OUTLET R3 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
MB 140-66018/14-A	Method Blank	Total/NA	Air	PFAS Prep	
MB 140-66018/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-66018/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-66018/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Cleanup Batch: 66029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29081-1	T-2731, T-2732 VEN CB OUTLET R1 OTM-45 FI	Total/NA	Air	Split	65971
140-29081-5	T-2738, T-2739 VEN CB OUTLET R2 OTM-45 FI	Total/NA	Air	Split	65971
140-29081-9	T-2745, T-2746 VEN CB OUTLET R3 OTM-45 FI	Total/NA	Air	Split	65971

LCMS (Continued)

Cleanup Batch: 66029 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 140-65971/14-B	Method Blank	Total/NA	Air	Split	65971
MB 140-65971/1-B	Method Blank	Total/NA	Air	Split	65971
LCS 140-65971/2-B	Lab Control Sample	Total/NA	Air	Split	65971
LCSD 140-65971/3-B	Lab Control Sample Dup	Total/NA	Air	Split	65971

Cleanup Batch: 66031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29081-6	T-2740, T-2741, T-2743 VEN CB OUTLET R2 OT	Total/NA	Air	Split	65942
140-29081-8	T-2744 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	Split	65942
140-29081-10	T-2747, T-2748, T-2750 VEN CB OUTLET R3 OT	Total/NA	Air	Split	65942
140-29081-12	T-2751 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	Split	65942
MB 140-65942/1-B	Method Blank	Total/NA	Air	Split	65942
LCS 140-65942/2-B	Lab Control Sample	Total/NA	Air	Split	65942
LCSD 140-65942/3-B	Lab Control Sample Dup	Total/NA	Air	Split	65942

Analysis Batch: 66559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29081-2	T-2733, T-2734, T-2736 VEN CB OUTLET R1 OT	Total/NA	Air	537 (modified)	66004
140-29081-3	T-2735 VEN CB OUTLET R1 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	66018
140-29081-4	T-2737 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	66004
140-29081-5	T-2738, T-2739 VEN CB OUTLET R2 OTM-45 FI	Total/NA	Air	537 (modified)	66029
140-29081-6	T-2740, T-2741, T-2743 VEN CB OUTLET R2 OT	Total/NA	Air	537 (modified)	66031
140-29081-7	T-2742 VEN CB OUTLET R2 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	66018
140-29081-8	T-2744 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	66031
140-29081-10	T-2747, T-2748, T-2750 VEN CB OUTLET R3 OT	Total/NA	Air	537 (modified)	66031
140-29081-11	T-2749 VEN CB OUTLET R3 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	66018
140-29081-12	T-2751 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	66031
MB 140-65913/14-B	Method Blank	Total/NA	Air	537 (modified)	66004
MB 140-65913/1-B	Method Blank	Total/NA	Air	537 (modified)	66004
MB 140-65942/1-B	Method Blank	Total/NA	Air	537 (modified)	66031
MB 140-65971/14-B	Method Blank	Total/NA	Air	537 (modified)	66029
MB 140-65971/1-B	Method Blank	Total/NA	Air	537 (modified)	66029
MB 140-66018/14-A	Method Blank	Total/NA	Air	537 (modified)	66018
MB 140-66018/1-A	Method Blank	Total/NA	Air	537 (modified)	66018
LCS 140-65913/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	66004
LCS 140-65942/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	66031
LCS 140-65971/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	66029
LCS 140-66018/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	66018
LCSD 140-65913/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	66004
LCSD 140-65942/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	66031
LCSD 140-65971/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	66029
LCSD 140-66018/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	66018

Analysis Batch: 66593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29081-1	T-2731, T-2732 VEN CB OUTLET R1 OTM-45 FI	Total/NA	Air	537 (modified)	66029
140-29081-9	T-2745, T-2746 VEN CB OUTLET R3 OTM-45 FI	Total/NA	Air	537 (modified)	66029

Lab Chronicle

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

Job ID: 140-29081-1

Client Sample ID: T-2731, T-2732 VEN CB OUTLET R1 OTM-45 FH

Lab Sample ID: 140-29081-1

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	60 mL	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			30 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		10	1 mL	1 mL	66593	10/22/22 16:11	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2733, T-2734, T-2736 VEN CB OUTLET R1 OTM-45 BH

Lab Sample ID: 140-29081-2

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		20	1 mL	1 mL	66559	10/21/22 18:56	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2735 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29081-3

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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			0.0070 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 02:16	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2737 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29081-4

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 19:05	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2738, T-2739 VEN CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-29081-5

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			34 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 07:24	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2740, T-2741, T-2743 VEN CB OUTLET R2 OTM-45 BH

Lab Sample ID: 140-29081-6

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		20	1 mL	1 mL	66559	10/21/22 20:15	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2742 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29081-7

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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			0.0069 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 02:34	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2744 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29081-8

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 20:24	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2745, T-2746 VEN CB OUTLET R3 OTM-45 FH

Lab Sample ID: 140-29081-9

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	75 mL	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			38 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		10	1 mL	1 mL	66593	10/22/22 16:20	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2747, T-2748, T-2750 VEN CB OUTLET R3 OTM-45 BH

Lab Sample ID: 140-29081-10

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		10	1 mL	1 mL	66559	10/21/22 20:32	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2749 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29081-11

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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			0.0065 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 02:42	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2751 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29081-12

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 20:41	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-65913/14-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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 17:18	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-65913/1-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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 15:00	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-65942/1-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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 19:31	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-65971/14-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	50 mL	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 07:15	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-65971/1-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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 04:28	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

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

Job ID: 140-29081-1

Client Sample ID: Method Blank
Lab Sample ID: MB 140-66018/14-A
Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 02:25	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-66018/1-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	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 00:04	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-65913/2-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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 15:08	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-65942/2-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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 19:40	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-65971/2-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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 04:37	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

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

Job ID: 140-29081-1

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-66018/2-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	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 00:13	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-65913/3-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	65913	10/03/22 08:25	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66004	10/05/22 08:22	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 15:17	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-65942/3-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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 20:06	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-65971/3-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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 04:46	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-66018/3-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	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 00:21	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: 140-29081-1
Project/Site: VEN Carbon Bed Outlet

Laboratory: Eurofins Knoxville

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-23
California	State	2423	06-30-22 *
Colorado	State	TN00009	02-28-23
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-23
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-22
Kansas	NELAP	E-10349	10-31-22
Kentucky (DW)	State	90101	12-31-22
Louisiana	NELAP	83979	06-30-23
Louisiana (All)	NELAP	83979	06-30-23
Louisiana (DW)	State	LA019	12-31-22
Maryland	State	277	03-31-23
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-23
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-23
New York	NELAP	10781	03-31-23
North Carolina (DW)	State	21705	07-31-23
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-23
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-22-17	08-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-19-00236	12-31-22
Utah	NELAP	TN00009	07-31-23
Virginia	NELAP	460176	09-14-23
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-23
Wisconsin	State	998044300	08-31-23

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

Method Summary

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

Job ID: 140-29081-1

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

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

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

Laboratory References:

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

Sample Summary

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

Job ID: 140-29081-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-29081-1	T-2731, T-2732 VEN CB OUTLET R1 OTM-45 FH	Air	09/28/22 00:00	09/30/22 11:50
140-29081-2	T-2733, T-2734, T-2736 VEN CB OUTLET R1 OTM-45 BH	Air	09/28/22 00:00	09/30/22 11:50
140-29081-3	T-2735 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	Air	09/28/22 00:00	09/30/22 11:50
140-29081-4	T-2737 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/28/22 00:00	09/30/22 11:50
140-29081-5	T-2738, T-2739 VEN CB OUTLET R2 OTM-45 FH	Air	09/28/22 00:00	09/30/22 11:50
140-29081-6	T-2740, T-2741, T-2743 VEN CB OUTLET R2 OTM-45 BH	Air	09/28/22 00:00	09/30/22 11:50
140-29081-7	T-2742 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	Air	09/28/22 00:00	09/30/22 11:50
140-29081-8	T-2744 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/28/22 00:00	09/30/22 11:50
140-29081-9	T-2745, T-2746 VEN CB OUTLET R3 OTM-45 FH	Air	09/28/22 00:00	09/30/22 11:50
140-29081-10	T-2747, T-2748, T-2750 VEN CB OUTLET R3 OTM-45 BH	Air	09/28/22 00:00	09/30/22 11:50
140-29081-11	T-2749 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2,&3 CONDENSATE	Air	09/28/22 00:00	09/30/22 11:50
140-29081-12	T-2751 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/28/22 00:00	09/30/22 11:50

Request for Analysis/Chain-of-Custody – RFA/COC #004
The Chemours Company – Fayetteville NC
VEN Carbon Bed Outlet

eurofins | Environment Testing America

Project Identification:	Chemours Emissions Test
Client Name:	The Chemours Company FC, LLC
Client Contact:	Ms. Christel Compton Office: (910) 678-1213 Cell: (910) 975-3386
TestAmerica Project Manager:	Ms. Courtney Adkins Office: (865) 291-3019
TestAmerica Program Manager:	Mr. Billy Anderson Office: (865) 291-3080 Cell: (865) 206-9004

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

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

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

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

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

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2731 VEN CB OUTLET R1 OTM-45 Filter (Combine with *T-2732*)	1	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using Method 8321A-HFPO.
T-2732 VEN CB OUTLET R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse (Combine with *T-2731*)	1	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
T-2733 VEN CB OUTLET R1 OTM-45 XAD-2 Resin Tube	1	9/28/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using Method 8321A-HFPO.

140-29081 Chain of Custody

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2734 VEN CB OUTLET R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2733*)	1	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
T-2735 VEN CB OUTLET R1 OTM-45 Impingers 1,2 & 3 Condensate	1	9/28/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2736 VEN CB OUTLET R1 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2733*)	1	9/28/22		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
T-2737 VEN CB OUTLET R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	9/28/22		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
T-2738 VEN CB OUTLET R2 OTM-45 Filter (Combine with *T-2739*)	2	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using Method 8321A-HFPO.
T-2739 VEN CB OUTLET R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *T-2738*)	2	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2740 VEN CB OUTLET R2 OTM-45 XAD-2 Resin Tube	2	9/28/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using Method 8321A-HFPO.
T-2741 VEN CB OUTLET R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2740*)	2	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
T-2742 VEN CB OUTLET R2 OTM-45 Impingers 1,2 & 3 Condensate	2	9/28/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2743 VEN CB OUTLET R2 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2740*)	2	9/28/22		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
T-2744 VEN CB OUTLET R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	9/28/22		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
T-2745 VEN CB OUTLET R3 OTM-45 Filter (Combine with *T-2746*)	3	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Analyze for HFPO-DA using Method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2746 VEN CB OUTLET R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse (Combine with *T-2745*)	3	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the Particulate Filter extraction.
T-2747 VEN CB OUTLET R3 OTM-45 XAD-2 Resin Tube	3	9/28/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. Analyze for HFPO-DA using Method 8321A-HFPO.
T-2748 VEN CB OUTLET R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse (Combine with *T-2747*)	3	9/28/22		125 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA using Method 8321A-HFPO.
T-2749 VEN CB OUTLET R3 OTM-45 Impingers 1,2 & 3 Condensate	3	9/28/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.
T-2750 VEN CB OUTLET R3 OTM-45 Impinger Glassware MeOH Rinse (Combine with *T-2747*)	3	9/28/22		250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
T-2751 VEN CB OUTLET R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	9/28/22		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using Method 8321A-HFPO.

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:	Rec @ 1.6°C ET 1.7°C CT
(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):	NONE

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	Patrick Murphy	Alliance TG	9/29/22/1730
Accepted By:	Danny Cahill	ETA KNOX	9/29/22/1730
Relinquished By:	Danny Cahill	ETA KNOX	9/30/22 1150
Accepted By:	D Dow	ETAKNY	09.30.22 1150
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

Loc: 140
29081

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 : SC-73 Correction factor: +0.1°C	✓			☐ Cooler Out of Temp, Client Contacted, Proceed/Cancel ☐ Cooler Out of Temp, Same Day Receipt
5. Were all of the sample containers received intact?	✓			☐ Containers, Broken
6. Were samples received in appropriate containers?	✓			☐ Containers, Improper; Client Contacted; Proceed/Cancel
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ COC & Samples Do Not Match ☐ COC Incorrect/Incomplete ☐ COC Not Received
8. Were all of the samples listed on the COC received?	✓			☐ Sample Received, Not on COC ☐ Sample on COC, Not Received
9. Is the date/time of sample collection noted?	✓			☐ COC; No Date/Time; Client Contacted
10. Was the sampler identified on the COC?			✓	☐ Sampler Not Listed on COC
11. Is the client and project name/# identified?	✓			☐ COC Incorrect/Incomplete
12. Are tests/parameters listed for each sample?	✓			☐ COC No tests on COC
13. Is the matrix of the samples noted?	✓			☐ COC Incorrect/Incomplete
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ COC Incorrect/Incomplete
15. Were samples received within holding time?	✓			☐ Holding Time - Receipt
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ pH Adjusted, pH Included (See box 16A) ☐ Incorrect Preservative
17. Were VOA samples received without headspace?			✓	☐ Headspace (VOA only)
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ Residual Chlorine
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Take

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 #: 14004326 PM Instructions:

Sample Receiving Associate: Date: 09.30.22

QA026R32.doc, 062719

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ANALYTICAL REPORT

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

Laboratory Job ID: 140-29085-1
Client Project/Site: Field QC

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

Attn: Michael Aucoin

Authorized for release by:
10/27/2022 10:59:25 AM

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

Table of Contents

Definitions/Glossary

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

Job ID: 140-29085-1

Glossary

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

Job ID: 140-29085-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-29085-1

Receipt

The samples were received on 9/30/2022 11:50 AM. Unless otherwise noted below, the samples arrived in good condition, and where required, properly preserved and on ice. The temperature of the cooler at receipt was 4.1º C.

LCMS

Methods 537 (modified), Dilution: LC/MS/MS Sampling Train Preparation and Analysis: The sampling train components are extracted and analyzed for Per- and Polyfluorinated Alkyl Substances (PFAS) using Eurofins TestAmerica Knoxville standard operating procedures KNOX-OP-0026 and KNOX-LC-0007.

The sampling trains are prepared as four analytical fractions: The particulate filter and front half of the filter holder, nozzle and probe solvent rinses are combined for one analytical fraction. The XAD-2 resin trap and back half of the filter holder, coil condenser and connecting glassware solvent rinses are also combined as a separate analytical fraction. The condensate, impinger contents and their related glassware DI water rinses make up the third analytical fraction. The breakthrough XAD module makes up the fourth analytical fraction.

The filters and XAD components are spiked with isotope dilution internal standards and the components are extracted with methanol/ammonium hydroxide by shaking for at least 18 hours. The extracts are concentrated to 10 mL and analyzed by HPLC/MS/MS. The condensates are spiked with the isotope dilution internal standards and extracted using either Solid-Phase Extraction (SPE) or diluting the water sample for analysis. Each extract at its final volume is 80:20 methanol:water

Sample results were calculated using the following equation:

Result, ŋg/sample = (on-column concentration, ŋg/mL) × (nominal final volume of extract (10 mL) / 1 sample) × DF × SF

Where:
DF = Instrument dilution factor
SF = Extraction Split Factor = (final volume of extract in the initial extraction batch / initial volume of extract in the “Split” batch)
For condensate, if less than the entire sample is extracted, the fraction of sample used replaces “1 sample”

Method 537 (modified): Sample,T-2802 QC OTM-45 MEOH WITH 5% NH4OH RB (140-29085-6), was not spiked with IDA on extraction due to analyst error. The sample was spiked with IDA after analysis and sample was re-analyzed. The results will not take into account the loss during extraction.

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

Organic Prep

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

Client Sample ID: T-2794, T-2795 QC OTN-45 FH

Lab Sample ID: 140-29085-1

Date Collected: 09/28/22 00:00
Matrix: Air
Date Received: 09/30/22 11:50
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	2.48		0.246	0.231	ug/Sample		10/04/22 10:10	10/22/22 16:29	50

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*106*		*25 - 150*	*10/04/22 10:10*	*10/22/22 16:29*	*50*

Client Sample ID: T-2796, T-2797, T-2799 QC OTM-45 BH

Lab Sample ID: 140-29085-2

Date Collected: 09/28/22 00:00
Matrix: Air
Date Received: 09/30/22 11:50
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		10/03/22 12:47	10/21/22 20:50	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*101*		*25 - 150*	*10/03/22 12:47*	*10/21/22 20:50*	*1*

Client Sample ID: T-2798 QC OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29085-3

Date Collected: 09/28/22 00:00
Matrix: Air
Date Received: 09/30/22 11:50
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		0.0794	0.0317	ug/Sample		10/05/22 11:45	10/22/22 02:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*95*		*25 - 150*	*10/05/22 11:45*	*10/22/22 02:51*	*1*

Client Sample ID: T-2800 QC OM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29085-4

Date Collected: 09/28/22 00:00
Matrix: Air
Date Received: 09/30/22 11:50
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		10/03/22 12:47	10/21/22 20:59	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*10/03/22 12:47*	*10/21/22 20:59*	*1*

Client Sample ID: T-2801 QC OTM-45 DI WATER RB

Lab Sample ID: 140-29085-5

Date Collected: 09/28/22 00:00
Matrix: Air
Date Received: 09/30/22 11:50
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		0.0388	0.0155	ug/Sample		10/05/22 11:45	10/22/22 03:00	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*98*		*25 - 150*	*10/05/22 11:45*	*10/22/22 03:00*	*1*

Client Sample ID: T-2802 QC OTM-45 MEOH WITH 5% NH4OH RB

Lab Sample ID: 140-29085-6

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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		0.0199	0.0109	ug/Sample		10/03/22 12:47	10/25/22 12:52	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*102*		*25 - 150*	*10/03/22 12:47*	*10/25/22 12:52*	*1*

Client Sample ID: T-2803, T-2804 QC OTM-45 FH

Lab Sample ID: 140-29085-7

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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	**0.00841**		0.00496	0.00466	ug/Sample		10/04/22 10:10	10/22/22 07:51	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*83*		*25 - 150*	*10/04/22 10:10*	*10/22/22 07:51*	*1*

Client Sample ID: T-2805, T-2806, T-2808 QC OTM-45 BH

Lab Sample ID: 140-29085-8

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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		10/03/22 12:47	10/21/22 21:16	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*91*		*25 - 150*	*10/03/22 12:47*	*10/21/22 21:16*	*1*

Client Sample ID: T-2807 QC OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29085-9

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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		0.0769	0.0308	ug/Sample		10/05/22 11:45	10/22/22 03:26	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*10/05/22 11:45*	*10/22/22 03:26*	*1*

Client Sample ID: T-2809 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29085-10

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50
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		10/03/22 12:47	10/21/22 21:25	1

Client: The Chemours Company FC, LLC
Job ID: 140-29085-1
Project/Site: Field QC

Client Sample ID: T-2809 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE
Lab Sample ID: 140-29085-10

Date Collected: 09/28/22 00:00
Matrix: Air
Date Received: 09/30/22 11:50
Sample Container: Air Train

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		25 - 150	10/03/22 12:47	10/21/22 21:25	1

Client Sample ID: MEDIA CHECK T-2246
Lab Sample ID: 140-29085-11

Date Collected: 09/28/22 00:00
Matrix: Air
Date Received: 09/30/22 11:50
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		10/04/22 10:10	10/22/22 07:59	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	82		25 - 150	10/04/22 10:10	10/22/22 07:59	1

Client Sample ID: MEDIA CHECK T-2247
Lab Sample ID: 140-29085-12

Date Collected: 09/28/22 00:00
Matrix: Air
Date Received: 09/30/22 11:50
Sample Container: Air Train

Method: EPA 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	**0.0276**		0.0200	0.0110	ug/Sample		10/03/22 12:47	10/21/22 21:52	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	85		25 - 150	10/03/22 12:47	10/21/22 21:52	1

Default Detection Limits

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

Job ID: 140-29085-1

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: Field QC

Job ID: 140-29085-1

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)
140-29085-1	T-2794, T-2795 QC OTN-45 FH	106
140-29085-2	T-2796, T-2797, T-2799 QC OTM-45 BH	101
140-29085-3	T-2798 QC OTM-45 IMPINGERS 1,2,&3 CONDENSATE	95
140-29085-4	T-2800 QC OM-45 BREAKTHROUGH XAD-2 RESI TUBE	90
140-29085-5	T-2801 QC OTM-45 DI WATER RB	98
140-29085-6	T-2802 QC OTM-45 MEOH WITH 5% NH4OH RB	102
140-29085-7	T-2803, T-2804 QC OTM-45 FH	83
140-29085-8	T-2805, T-2806, T-2808 QC OTM-45 BH	91
140-29085-9	T-2807 QC OTM-45 IMPINGERS 1,2,&3 CONDENSATE	92
140-29085-10	T-2809 QC OTM-45 BREAKTHROUGH XAD-2 RESI TUBE	96
140-29085-11	MEDIA CHECK T-2246	82
140-29085-12	MEDIA CHECK T-2247	85
LCS 140-65942/2-B	Lab Control Sample	95
LCS 140-65971/2-B	Lab Control Sample	75
LCS 140-66018/2-A	Lab Control Sample	87
LCSD 140-65942/3-B	Lab Control Sample Dup	89
LCSD 140-65971/3-B	Lab Control Sample Dup	76
LCSD 140-66018/3-A	Lab Control Sample Dup	102
MB 140-65942/1-B	Method Blank	85
MB 140-65971/14-B	Method Blank	81
MB 140-65971/1-B	Method Blank	87
MB 140-66018/14-A	Method Blank	94
MB 140-66018/1-A	Method Blank	92

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-65942/1-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65942

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		10/03/22 12:47	10/21/22 19:31	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*25 - 150*	*10/03/22 12:47*	*10/21/22 19:31*	*1*

Lab Sample ID: LCS 140-65942/2-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65942

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02246		ug/Sample		112	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*95*		*25 - 150*

Lab Sample ID: LCSD 140-65942/3-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65942

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02415		ug/Sample		121	60 - 140	7	30

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

Lab Sample ID: MB 140-65971/14-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		10/04/22 10:10	10/22/22 07:15	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*81*		*25 - 150*	*10/04/22 10:10*	*10/22/22 07:15*	*1*

Lab Sample ID: MB 140-65971/1-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 65971

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		10/04/22 10:10	10/22/22 04:28	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*87*		*25 - 150*	*10/04/22 10:10*	*10/22/22 04:28*	*1*

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

Lab Sample ID: LCS 140-65971/2-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 65971

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02649		ug/Sample		132	60 - 140		

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

Lab Sample ID: LCSD 140-65971/3-B
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 65971

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02626		ug/Sample		131	60 - 140	1	30

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

Lab Sample ID: MB 140-66018/14-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		10/05/22 11:45	10/22/22 02:25	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*94*		*25 - 150*	*10/05/22 11:45*	*10/22/22 02:25*	*1*

Lab Sample ID: MB 140-66018/1-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 66018

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		10/05/22 11:45	10/22/22 00:04	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*92*		*25 - 150*	*10/05/22 11:45*	*10/22/22 00:04*	*1*

Lab Sample ID: LCS 140-66018/2-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 66018

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.01234		ug/Sample		123	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*87*		*25 - 150*

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

Lab Sample ID: LCSD 140-66018/3-A
Matrix: Air
Analysis Batch: 66559

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 66018

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.01095		ug/Sample		109	60 - 140	12	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*102*		*25 - 150*

LCMS

Prep Batch: 65942

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29085-2	T-2796, T-2797, T-2799 QC OTM-45 BH	Total/NA	Air	None	
140-29085-4	T-2800 QC OM-45 BREAKTHROUGH XAD-2 RE	Total/NA	Air	None	
140-29085-6	T-2802 QC OTM-45 MEOH WITH 5% NH4OH RE	Total/NA	Air	None	
140-29085-8	T-2805, T-2806, T-2808 QC OTM-45 BH	Total/NA	Air	None	
140-29085-10	T-2809 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	None	
140-29085-12	MEDIA CHECK T-2247	Total/NA	Air	None	
MB 140-65942/1-B	Method Blank	Total/NA	Air	None	
LCS 140-65942/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-65942/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 65971

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29085-1	T-2794, T-2795 QC OTN-45 FH	Total/NA	Air	None	
140-29085-7	T-2803, T-2804 QC OTM-45 FH	Total/NA	Air	None	
140-29085-11	MEDIA CHECK T-2246	Total/NA	Air	None	
MB 140-65971/14-B	Method Blank	Total/NA	Air	None	
MB 140-65971/1-B	Method Blank	Total/NA	Air	None	
LCS 140-65971/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-65971/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 66018

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29085-3	T-2798 QC OTM-45 IMPINGERS 1,2,&3 CONDE	Total/NA	Air	PFAS Prep	
140-29085-5	T-2801 QC OTM-45 DI WATER RB	Total/NA	Air	PFAS Prep	
140-29085-9	T-2807 QC OTM-45 IMPINGERS 1,2,&3 CONDE	Total/NA	Air	PFAS Prep	
MB 140-66018/14-A	Method Blank	Total/NA	Air	PFAS Prep	
MB 140-66018/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-66018/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-66018/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Cleanup Batch: 66029

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29085-1	T-2794, T-2795 QC OTN-45 FH	Total/NA	Air	Split	65971
140-29085-7	T-2803, T-2804 QC OTM-45 FH	Total/NA	Air	Split	65971
140-29085-11	MEDIA CHECK T-2246	Total/NA	Air	Split	65971
MB 140-65971/14-B	Method Blank	Total/NA	Air	Split	65971
MB 140-65971/1-B	Method Blank	Total/NA	Air	Split	65971
LCS 140-65971/2-B	Lab Control Sample	Total/NA	Air	Split	65971
LCSD 140-65971/3-B	Lab Control Sample Dup	Total/NA	Air	Split	65971

Cleanup Batch: 66031

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29085-2	T-2796, T-2797, T-2799 QC OTM-45 BH	Total/NA	Air	Split	65942
140-29085-4	T-2800 QC OM-45 BREAKTHROUGH XAD-2 RE	Total/NA	Air	Split	65942
140-29085-6	T-2802 QC OTM-45 MEOH WITH 5% NH4OH RE	Total/NA	Air	Split	65942
140-29085-8	T-2805, T-2806, T-2808 QC OTM-45 BH	Total/NA	Air	Split	65942
140-29085-10	T-2809 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	Split	65942
140-29085-12	MEDIA CHECK T-2247	Total/NA	Air	Split	65942
MB 140-65942/1-B	Method Blank	Total/NA	Air	Split	65942
LCS 140-65942/2-B	Lab Control Sample	Total/NA	Air	Split	65942
LCSD 140-65942/3-B	Lab Control Sample Dup	Total/NA	Air	Split	65942

QC Association Summary

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

Job ID: 140-29085-1

LCMS

Analysis Batch: 66559

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29085-2	T-2796, T-2797, T-2799 QC OTM-45 BH	Total/NA	Air	537 (modified)	66031
140-29085-3	T-2798 QC OTM-45 IMPINGERS 1,2,&3 CONDE	Total/NA	Air	537 (modified)	66018
140-29085-4	T-2800 QC OM-45 BREAKTHROUGH XAD-2 RE	Total/NA	Air	537 (modified)	66031
140-29085-5	T-2801 QC OTM-45 DI WATER RB	Total/NA	Air	537 (modified)	66018
140-29085-7	T-2803, T-2804 QC OTM-45 FH	Total/NA	Air	537 (modified)	66029
140-29085-8	T-2805, T-2806, T-2808 QC OTM-45 BH	Total/NA	Air	537 (modified)	66031
140-29085-9	T-2807 QC OTM-45 IMPINGERS 1,2,&3 CONDE	Total/NA	Air	537 (modified)	66018
140-29085-10	T-2809 QC OTM-45 BREAKTHROUGH XAD-2 R	Total/NA	Air	537 (modified)	66031
140-29085-11	MEDIA CHECK T-2246	Total/NA	Air	537 (modified)	66029
140-29085-12	MEDIA CHECK T-2247	Total/NA	Air	537 (modified)	66031
MB 140-65942/1-B	Method Blank	Total/NA	Air	537 (modified)	66031
MB 140-65971/14-B	Method Blank	Total/NA	Air	537 (modified)	66029
MB 140-65971/1-B	Method Blank	Total/NA	Air	537 (modified)	66029
MB 140-66018/14-A	Method Blank	Total/NA	Air	537 (modified)	66018
MB 140-66018/1-A	Method Blank	Total/NA	Air	537 (modified)	66018
LCS 140-65942/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	66031
LCS 140-65971/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	66029
LCS 140-66018/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	66018
LCSD 140-65942/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	66031
LCSD 140-65971/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	66029
LCSD 140-66018/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	66018

Analysis Batch: 66593

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29085-1	T-2794, T-2795 QC OTN-45 FH	Total/NA	Air	537 (modified)	66029

Analysis Batch: 66691

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-29085-6	T-2802 QC OTM-45 MEOH WITH 5% NH4OH RE	Total/NA	Air	537 (modified)	66031

Client Sample ID: T-2794, T-2795 QC OTN-45 FH

Lab Sample ID: 140-29085-1

Date Collected: 09/28/22 00:00

Matrix: Air

Date Received: 09/30/22 11:50

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	65 mL	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			33 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		50	1 mL	1 mL	66593	10/22/22 16:29	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2796, T-2797, T-2799 QC OTM-45 BH

Lab Sample ID: 140-29085-2

Date Collected: 09/28/22 00:00

Matrix: Air

Date Received: 09/30/22 11:50

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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 20:50	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2798 QC OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29085-3

Date Collected: 09/28/22 00:00

Matrix: Air

Date Received: 09/30/22 11:50

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			0.0063 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 02:51	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2800 QC OM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29085-4

Date Collected: 09/28/22 00:00

Matrix: Air

Date Received: 09/30/22 11:50

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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 20:59	CAC	EET KNX

Instrument ID: LCA

Client Sample ID: T-2801 QC OTM-45 DI WATER RB

Lab Sample ID: 140-29085-5

Date Collected: 09/28/22 00:00

Matrix: Air

Date Received: 09/30/22 11:50

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			0.0129 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 03:00	CAC	EET KNX

Instrument ID: LCA

Lab Chronicle

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

Job ID: 140-29085-1

Client Sample ID: T-2802 QC OTM-45 MEOH WITH 5% NH4OH RB

Lab Sample ID: 140-29085-6

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	133 mL	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			67 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66691	10/25/22 12:52	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2803, T-2804 QC OTM-45 FH

Lab Sample ID: 140-29085-7

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	111 mL	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			56 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 07:51	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2805, T-2806, T-2808 QC OTM-45 BH

Lab Sample ID: 140-29085-8

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 21:16	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2807 QC OTM-45 IMPINGERS 1,2,&3 CONDENSATE

Lab Sample ID: 140-29085-9

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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			0.0065 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 03:26	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: T-2809 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-29085-10

Date Collected: 09/28/22 00:00
Date Received: 09/30/22 11:50

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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 21:25	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: MEDIA CHECK T-2246

Lab Sample ID: 140-29085-11

Date Collected: 09/28/22 00:00

Matrix: Air

Date Received: 09/30/22 11:50

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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 07:59	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: MEDIA CHECK T-2247

Lab Sample ID: 140-29085-12

Date Collected: 09/28/22 00:00

Matrix: Air

Date Received: 09/30/22 11:50

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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 21:52	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-65942/1-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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 19:31	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-65971/14-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	50 mL	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 07:15	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank

Lab Sample ID: MB 140-65971/1-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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 04:28	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

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

Job ID: 140-29085-1

Client Sample ID: Method Blank
Lab Sample ID: MB 140-66018/14-A
Date Collected: N/A
Matrix: Air
Date Received: N/A

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			1 Sample	10 mL	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 02:25	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-66018/1-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	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 00:04	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-65942/2-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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 19:40	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-65971/2-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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 04:37	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-66018/2-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	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 00:13	CAC	EET KNX
	Instrument ID: LCA									

Lab Chronicle

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

Job ID: 140-29085-1

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-65942/3-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	65942	10/03/22 12:47	ACW	EET KNX
Total/NA	Cleanup	Split			180 mL	10 mL	66031	10/05/22 13:54	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/21/22 20:06	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-65971/3-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	65971	10/04/22 10:10	ACW	EET KNX
Total/NA	Cleanup	Split			25 mL	10 mL	66029	10/05/22 13:37	CAC	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 04:46	CAC	EET KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-66018/3-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	66018	10/05/22 11:45	ACW	EET KNX
Total/NA	Analysis	537 (modified)		1	1 mL	1 mL	66559	10/22/22 00:21	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: 140-29085-1
Project/Site: Field QC

Laboratory: Eurofins Knoxville

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-23
California	State	2423	06-30-22 *
Colorado	State	TN00009	02-28-23
Connecticut	State	PH-0223	09-30-23
Florida	NELAP	E87177	06-30-23
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-22
Kansas	NELAP	E-10349	10-31-22
Kentucky (DW)	State	90101	12-31-22
Louisiana	NELAP	83979	06-30-23
Louisiana (All)	NELAP	83979	06-30-23
Louisiana (DW)	State	LA019	12-31-22
Maryland	State	277	03-31-23
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-23
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-23
New York	NELAP	10781	03-31-23
North Carolina (DW)	State	21705	07-31-23
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-23
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	07-27-25
Texas	NELAP	T104704380-22-17	08-31-23
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-19-00236	12-31-22
Utah	NELAP	TN00009	07-31-23
Virginia	NELAP	460176	09-14-23
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-23
Wisconsin	State	998044300	08-31-23

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

Method Summary

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

Job ID: 140-29085-1

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: Field QC

Job ID: 140-29085-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-29085-1	T-2794, T-2795 QC OTN-45 FH	Air	09/28/22 00:00	09/30/22 11:50
140-29085-2	T-2796, T-2797, T-2799 QC OTM-45 BH	Air	09/28/22 00:00	09/30/22 11:50
140-29085-3	T-2798 QC OTM-45 IMPINGERS 1,2,&3 CONDENSATE	Air	09/28/22 00:00	09/30/22 11:50
140-29085-4	T-2800 QC OM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/28/22 00:00	09/30/22 11:50
140-29085-5	T-2801 QC OTM-45 DI WATER RB	Air	09/28/22 00:00	09/30/22 11:50
140-29085-6	T-2802 QC OTM-45 MEOH WITH 5% NH4OH RB	Air	09/28/22 00:00	09/30/22 11:50
140-29085-7	T-2803, T-2804 QC OTM-45 FH	Air	09/28/22 00:00	09/30/22 11:50
140-29085-8	T-2805, T-2806, T-2808 QC OTM-45 BH	Air	09/28/22 00:00	09/30/22 11:50
140-29085-9	T-2807 QC OTM-45 IMPINGERS 1,2,&3 CONDENSATE	Air	09/28/22 00:00	09/30/22 11:50
140-29085-10	T-2809 QC OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/28/22 00:00	09/30/22 11:50
140-29085-11	MEDIA CHECK T-2246	Air	09/28/22 00:00	09/30/22 11:50
140-29085-12	MEDIA CHECK T-2247	Air	09/28/22 00:00	09/30/22 11:50

Request for Analysis/Chain-of-Custody – RFA/COC #007
The Chemours Company – Fayetteville NC
Q2 Carbon Bed Field QC Samples

eurofins | Environment Testing America

Project Identification:	Chemours Emissions Test
Client Name:	The Chemours Company FC, LLC
Client Contact:	Christel Compton Office: (910) 678-1213 Cell: (910) 975-3386
TestAmerica Project Manager:	Courtney Adkins Office: (865) 291-3019
TestAmerica Program Manager:	Billy Anderson Office: (865) 291-3080 Cell: (865) 206-9004

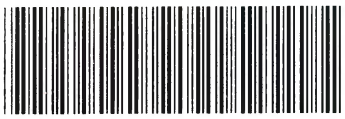
Analytical Testing QC Requirements:
The Legend for ProjecB- Specific Quality Control Testing is designated in the "QC" column as follows: "BT" = Blank Train, "RB" = Reagent Blank, "MS" = Matrix Spike, "MSD" = Matrix Spike Duplicate, "DUP" = Duplicate, "PB" = Proof Blank, "TB" = Trip Blank

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

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

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

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2794 QC OTM-45 Filter PBT (Combine with *T-2795*)	QC	9/28/22	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Blank Train HFPO-DA & PFOA 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 and PFOA.
T-2795 QC OTM-45 FH of Filter Holder & Probe MeOH Rinse PBT (Combine with *B- 1658*)	QC	9/28/22	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Blank Train HFPO-DA & PFOA Analysis	**Knoxville**: Use this solvent sample in the Filter extraction.


140-29085 Chain of Custody

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2796 QC OTM-45 XAD-2 Resin Tube PBT	QC	9/28/22	Proof Blank Train	XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Blank Train HFPO-DA & PFOA 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 and PFOA.
T-2797 QC OTM-45 BH of Filter Holder & Coil Condenser MeOH Rinse PBT (Combine with *T-2796*)	QC	9/28/22	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Blank Train HFPO-DA & PFOA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA and PFOA.
T-2798 QC OTM-45 Impingers 1,2 & 3 Condensate PBT	QC	9/28/22	Proof Blank Train	1 Liter HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Blank Train HFPO-DA & PFOA Analysis	**Knoxville**: Analyze for HFPO-DA and PFOA.
T-2799 QC OTM-45 Impinger Glassware MeOH Rinse PBT (Combine with *T-2796)*	QC	9/28/22	Proof Blank Train	250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Blank Train HFPO-DA & PFOA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
T-2800 QC OTM-45 Breakthrough XAD-2 Resin Tube PBT	QC	9/28/22	Proof Blank Train	XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Blank Train HFPO-DA & PFOA 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 and PFOA.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2801 QC OTM-45 DI Water RB	QC	9/28/22	Reagent Blank	250 mL HDPE Wide-Mouth Bottle	**Deionized (DI) Water Reagent Blank** OTM-45 Train HFPO-DA & PFOA Analysis	**Knoxville**: Analyze for HFPO-DA and PFOA.
T-2802 QC OTM-45 MeOH with 5% NH_4OH RB	QC	9/28/22	Reagent Blank	250 mL HDPE Wide-Mouth Bottle	**Methanol with 5% NH_4OH Reagent Blank** OTM-45 Train HFPO-DA & PFOA Analysis	**Knoxville**: Analyze for HFPO-DA and PFOA.
T-2803 QC OTM-45 Filter BT (Combine with *T-2804*)	QC	9/28/22	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 Blank Train HFPO-DA & PFOA 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 and PFOA.
T-2804 QC OTM-45 FH of Filter Holder & Probe MeOH Rinse BT (Combine with *B- 1667*)	QC	9/28/22	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Blank Train HFPO-DA & PFOA Analysis	**Knoxville**: Use this solvent sample in the Filter extraction.
T-2805 QC OTM-45 XAD-2 Resin Tube BT	QC	9/28/22	Field Blank Train	XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Blank Train HFPO-DA & PFOA 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 and PFOA.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2806 QC OTM-45 BH of Filter Holder & Coil Condenser MeOH Rinse BT (Combine with *T-2805*)	QC	9/28/22	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Blank Train HFPO-DA & PFOA Analysis	**Knoxville**: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Analyze for HFPO-DA and PFOA.
T-2807 QC OTM-45 Impingers 1,2 & 3 Condensate BT	QC	9/28/22	Field Blank Train	1 Liter HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Blank Train HFPO-DA & PFOA Analysis	**Knoxville**: Analyze for HFPO-DA and PFOA.
T-2808 QC OTM-45 Impinger Glassware MeOH Rinse BT (Combine with *T-2805)*	QC	9/28/22	Field Blank Train	250 mL HDPE Wide-Mouth Bottle	**Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse** OTM-45 Blank Train HFPO-DA & PFOA Analysis	**Knoxville**: Use this solvent sample in the XAD-2 Resin Extraction.
T-2809 QC OTM-45 Breakthrough XAD-2 Resin Tube BT	QC	9/28/22	Field Blank Train	XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Blank Train HFPO-DA & PFOA 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 and PFOA.

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:	Rec @ 4.0°C RT 4.1°C CT
(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):	NONE

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	[signature]	Alliance TG	9/29/22 1730
Accepted By:	[signature]	ETA KNOX	9/29/22 1730
Relinquished By:	[signature]	ETA KNOX	9/30/22 1150
Accepted By:	[signature]	ETA KNOX	09.30.22 1150
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

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

Log In Number: Loc: 140 **29085**

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 : SC-73 Correction factor: +0.1°C	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?	.		✓	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Take

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 #: 14004326 PM Instructions:

Sample Receiving Associate: Date: 09.30.22

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Appendix D

QA/QC Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-3359
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
9/28/22	G-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?
9/28/22	P4-2	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
9/28/22	P4-2	59.0	59.0	0.0%	± 1.5 % (absolute)	4 '

Field Balance Check

Date	**09/28/22**					
Balance ID:	**VICON**					
Test Weight ID:	**SYR-1**					
Certified Weight (g):	**1000.0**					
Measured Weight (g):	**999.8**					
Weight Difference (g):	**0.2**	--	--	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
9/28/22	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
9/28/22	7	Pass

Reagent	Lot#	Field Prep performed	Field Lot	Date	By
DiH2O		No			TAK
Methanol/Ammonia Mix		No			TAK

QA/QC Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-3359
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
9/27/22	GL-4	0.250	0.249	0.250	0.250	0.001	≤ 0.004 in.	glass

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
9/28/22	P4-1	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
9/28/22	TC-7D	68.0	69.0	0.2%	± 1.5 % (absolute)	5 '

Field Balance Check

Date	**09/28/22**					
Balance ID:	**VICON**					
Test Weight ID:	**SYR-1**					
Certified Weight (g):	**1000.0**					
Measured Weight (g):	**999.8**					
Weight Difference (g):	**0.2**	--	--	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
9/28/22	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
9/28/22	15	Pass

Reagent	Lot#	Field Prep performed	Field Lot	Date	By
DiH2O		No			Test America
Methanol/Ammonia Mix		No			Test America

Equipment Detail - Dry Gas Meter

Console ID: 7
Meter S/N: 2355
Critical Orifice S/N: 1393

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	30.07					
Final Barometric Pressure, in. Hg	(Pb_F)	30.07					
Average Barometric Pressure, in. Hg	(Pb)	30.07					
Critifcal Orifice ID	(Y)	11	11	18	18	31	31
K' Factor, $ft^3 \cdot R^{1/2}$ / in. WC·min	(K')	0.3060	0.306	0.4961	0.4961	0.8358	0.8358
Vacuum Pressure, in. Hg	(V_P)	22.5	22.5	20.0	20.0	16.0	16.0
Initial DGM Volume, ft^3	(Vm_I)	975.311	991.147	981.359	930.841	0.002	16.132
Final DGM Volume, ft^3	(Vm_F)	981.359	997.245	991.147	940.602	16.132	32.328
Total DGM Volume, ft^3	(Vm)	6.048	6.098	9.788	9.761	16.130	16.196
Ambient Temperature, °F	(Ta)	76	75	76	76	75	74
Initial DGM Temperature, °F	(Tm_I)	78	75	78	76	77	76
Final DGM Temperature, °F	(Tm_F)	78	77	79	77	79	77
Average DGM Temperature, °F	(Tm)	78	76	79	77	78	77
Elapsed Time	(Θ)	15.00	15.00	15.00	15.00	15.00	15.00
Meter Orifice Pressure, in. WC	(ΔH)	0.51	0.51	1.40	1.40	3.90	3.90
Standard Meter volume, ft^3	(Vmstd)	5.9738	6.0457	9.6800	9.6893	16.0641	16.1750
Standard Critical Orifice Volume, ft^3	(Vcr)	5.9633	5.9689	9.6680	9.6680	16.3033	16.3186
Meter Correction Factor	(Y)	0.998	0.987	0.999	0.998	1.015	1.009
Tolerance	--	0.003	0.014	0.002	0.003	0.014	0.008
Orifice Calibration Value	(ΔH @)	1.793	1.796	1.875	1.882	1.849	1.851
Tolerance	--	0.048	0.045	0.034	0.041	0.008	0.010
Orifice Cal Check	--	1.89		1.34		1.93	
Meter Correction Factor	**(Y)**	**1.001**					
Orifice Calibration Value	**(ΔH @)**	**1.841**					
Positive Pressure Leak Check		**Yes**					

Equipment Detail - Thermocouple Sensor

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

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Difference
°F	°R	°F	°R	%	°F
0	460	0	460	0.0	0
100	560	99	559	0.2	1
200	660	198	658	0.3	2
300	760	297	757	0.4	3
400	860	398	858	0.2	2
500	960	496	956	0.4	4
600	1,060	596	1,056	0.4	4
700	1,160	697	1,157	0.3	3
800	1,260	797	1,257	0.2	3
900	1,360	896	1,356	0.3	4
1,000	1,460	995	1,455	0.3	5
1,100	1,560	1,097	1,557	0.2	3
1,200	1,660	1,195	1,655	0.3	5

Personnel

Calibration By: Jacob Cavallo
Calibration Date: 7/14/2022
Expiration Date: 1/14/2023

Equipment Detail - Dry Gas Meter

Console ID: 15
Meter S/N: 17087361
Critical Orifice S/N: 1393

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	29.73					
Final Barometric Pressure, in. Hg	(Pb_F)	29.71					
Average Barometric Pressure, in. Hg	(Pb)	29.72					
Critifcal Orifice ID	(Y)	11	11	18	18	31	31
K' Factor, $ft^3 \cdot R^{1/2}$ / in. WC·min	(K')	0.3060	0.306	0.4961	0.4961	0.8358	0.8358
Vacuum Pressure, in. Hg	(V_P)	23.5	23.5	19.5	19.5	16.5	16.5
Initial DGM Volume, ft^3	(Vm_I)	984.591	990.402	996.198	5.734	15.285	31.171
Final DGM Volume, ft^3	(Vm_F)	990.402	996.198	1,005.734	15.285	31.171	47.071
Total DGM Volume, ft^3	(Vm)	5.811	5.796	9.536	9.551	15.886	15.900
Ambient Temperature, °F	(Ta)	79	79	79	80	80	81
Initial DGM Temperature, °F	(Tm_I)	78	79	79	80	81	82
Final DGM Temperature, °F	(Tm_F)	79	79	80	81	82	83
Average DGM Temperature, °F	(Tm)	79	79	80	81	82	83
Elapsed Time	(Θ)	15.00	15.00	15.00	15.00	15.00	15.00
Meter Orifice Pressure, in. WC	(ΔH)	0.51	0.51	1.10	1.10	3.70	3.70
Standard Meter volume, ft^3	(Vmstd)	5.6677	5.6479	9.2972	9.2946	15.5299	15.5150
Standard Critical Orifice Volume, ft^3	(Vcr)	5.8775	5.8775	9.5288	9.520	16.0387	16.0239
Meter Correction Factor	(Y)	1.037	1.041	1.025	1.024	1.033	1.033
Tolerance	--	0.005	0.009	0.007	0.008	0.001	0.001
Orifice Calibration Value	(ΔH @)	1.822	1.821	1.495	1.495	1.780	1.780
Tolerance	--	0.124	0.122	0.204	0.204	0.081	0.081
Orifice Cal Check	--	1.39		1.37		0.80	
Meter Correction Factor	**(Y)**	**1.032**					
Orifice Calibration Value	**(ΔH @)**	**1.699**					
Positive Pressure Leak Check		**Yes**					

Equipment Detail - Thermocouple Sensor

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

Calibration Detail

Reference Temp.		Display Temp.		Accuracy	Difference
°F	°R	°F	°R	%	°F
0	460	0	460	0.0	0
100	560	99	559	0.2	1
200	660	198	658	0.3	2
300	760	297	757	0.4	3
400	860	398	858	0.2	2
500	960	496	956	0.4	4
600	1,060	596	1,056	0.4	4
700	1,160	697	1,157	0.3	3
800	1,260	797	1,257	0.2	3
900	1,360	896	1,356	0.3	4
1,000	1,460	995	1,455	0.3	5
1,100	1,560	1,097	1,557	0.2	3
1,200	1,660	1,195	1,655	0.3	5

Personnel

Calibration By: Jacob Cavallo
Calibration Date: 7/21/2022
Expiration Date: 1/21/2023

Appendix E

Date	**9/28/2022**								
Time	800	900	1000	1100	1200	1300	1400	1500	1600
Stack Testing		Run 1: 815-1010			Run 2: 1046-1248			Run 3: 1325-1524	
VEN Product	EVE								
VEN Precursor									
VEN Condensation (HFPO)									
VEN ABR				Burnout					
VEN Refining									
Stripper Column Vent									

Last Page of Report