Source Test Report

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

Source Tested: VEN Carbon Bed
Test Dates: July 28-29, 2022

Project No. AST-2022-2632

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

Regulatory Information

Permit No. Title V Permit No. 03735T48

Source Information

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

Contact Information

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

Facility Contact
Christel Compton
christel.e.compton@chemours.com
(910) 678-1213

Test Company
Alliance Technical Group, LLC
6515A Basile Rowe
East Syracuse, NY 13057

Project Manager/Field Team Leader
Patrick Grady
patrick.grady@stacktest.com
(716) 713-9238

QA/QC Manager
Kathleen Shonk
katie.shonk@alliancetechnicalgroup.com
(812) 452-4785

Report Coordinator
Emily Diaz
emily.king@stacktest.com
(812) 452-4785

Analytical Laboratory
Eurofins TestAmerica
5815 Middlebrook Pike
Knoxville, TN 37921
Courtney Adkins
Courtney.adkins@testamericainc.com

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

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

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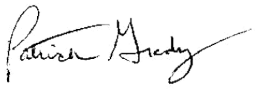

Patrick Grady
Alliance Technical Group, LLC

September 1, 2022
Date

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Introduction

1.0 Introduction

Alliance Technical Group, LLC (Alliance) was retained by The Chemours Company (Chemours) to conduct compliance testing at the Fayetteville Works facility in Fayetteville, North Carolina. The facility operates under Title V Permit No. 03735T48. Source emissions testing was conducted at the inlet and outlet of the Vinyl Ethers North (VEN) carbon bed. The testing was conducted to evaluate emissions of hexafluoro-propylene oxide-dimer acid (HFPO-DA).

1.1 Source and Control System Descriptions

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

1.2 Project Team

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

Table 1-1: Project Team

Alliance Personnel	Patrick Grady Antonio Andersen Jacob Cavallo Brian Goodhile

Summary of Results

2.0 Summary of Results

Alliance conducted compliance testing at the Fayetteville Works facility in Fayetteville, North Carolina on July 28-29, 2022. Testing consisted of determining the emission rates of HFPO-DA at the inlet and outlet of the VEN carbon bed.

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

Table 2-1: Summary of Results

Run Number	Run 1	Run 2	Run 3	Average
Date	**7/28/22**	**7/28/22**	**7/29/22**	**--**
HFPO-DA Data				
Outlet Emission Rate, lb/hr	6.0E-05	3.7E-03	6.7E-05	1.3E-03
Inlet Emission Rate, lb/hr	3.9E-03	3.8E-02	1.8E-01	7.4E-02
Reduction Efficiency, %	98.5	90.3	100.0	96.3

Testing Methodology

3.0 Testing Methodology

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

Table 3-1: Source Testing Methodology

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

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

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

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

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

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

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

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

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

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

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

3.4 HFPO-DA Sample Train and Equipment Preparation

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

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

3.5 HFPO-DA Sample Train Recovery

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

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

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

Appendix A

Location: Chemours Company - Fayetteville Works Facility, NC
Source: VEN Carbon Bed Inlet
Project No.: 2022-2632
Run No.: 1
Parameter: HFPO-DA

Meter Pressure (Pm), in. Hg

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

where,

Pb	29.89	= barometric pressure, in. Hg
ΔH	1.208	= pressure differential of orifice, in H_2O
Pm	29.98	= in. Hg

Absolute Stack Gas Pressure (Ps), in. Hg

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

where,

Pb	29.89	= barometric pressure, in. Hg
Pg	-3.80	= static pressure, in. H_2O
Ps	29.61	= in. Hg

Standard Meter Volume (Vmstd), dscf

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

where,

Y	0.997	= meter correction factor
Vm	64.271	= meter volume, cf
Pm	29.98	= absolute meter pressure, in. Hg
Tm	564.1	= absolute meter temperature, °R
Vmstd	60.059	= dscf

Standard Wet Volume (Vwstd), scf

$$Vwstd = 0.04716 \times Vlc$$

where,

Vlc	58.7	= volume of H_2O collected, ml
Vwstd	2.768	= scf

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

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

where,

Ts	104.1	= stack temperature, °F
Ps	29.61	= absolute stack gas pressure, in. Hg
BWSsat	0.073	= dimensionless

Moisture Fraction (BWS), dimensionless (measured)

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

where,

Vwstd	2.768	= standard wet volume, scf
Vmstd	60.059	= standard meter volume, dscf
BWS	0.044	= dimensionless

Moisture Fraction (BWS), dimensionless

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

where,

BWSsat	0.073	= moisture fraction (theoretical at saturated conditions)
BWSmsd	0.044	= moisture fraction (measured)
BWS	0.044	

Location: Chemours Company - Fayetteville Works Facility, NC
Source: VEN Carbon Bed Inlet
Project No.: 2022-2632
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	0.044	= moisture fraction, dimensionless
Ms	28.37	= 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
$\Delta P^{1/2}$	0.586	= velocity head of stack gas, $(in.\ H_2O)^{1/2}$
Ts	563.8	= absolute stack temperature, °R
Ps	29.61	= absolute stack gas pressure, in. Hg
Ms	28.37	= molecular weight of stack gas, lb/lb mol
Vs	34.5	= ft/sec

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

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

where,

Vs	34.5	= stack gas velocity, ft/sec
As	7.07	= cross-sectional area of stack, ft^2
Qa	14,629	= acfm

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

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

where,

Qa	14,629	= average stack gas flow at stack conditions, acfm
BWS	0.044	= moisture fraction, dimensionless
Ps	29.61	= absolute stack gas pressure, in. Hg
Ts	563.8	= absolute stack temperature, °R
Qs	12,954	= dscfm

Dry Gas Meter Calibration Check (Yqa), dimensionless

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

where,

Y	0.997	= meter correction factor, dimensionless
Θ	96	= run time, min.
Vm	64.271	= total meter volume, dcf
Tm	564.1	= absolute meter temperature, °R
ΔH@	1.581	= orifice meter calibration coefficient, in. H_2O
Pb	29.89	= barometric pressure, in. Hg
ΔH avg	1.208	= average pressure differential of orifice, in H_2O
Md	28.85	= molecular weight (DRY), lb/lb mol
$(\Delta H)^{1/2}$	1.099	= average squareroot pressure differential of orifice, $(in.\ H2O)^{1/2}$
Yqa	-1.7	= dimensionless

Location: Chemours Company - Fayetteville Works Facility, NC
Source: VEN Carbon Bed Inlet
Project No.: 2022-2632
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	563.8	= absolute stack temperature, °R
Ps	29.61	= absolute stack gas pressure, in. Hg
Vlc	58.7	= volume of H_2O collected, ml
Vm	64.271	= meter volume, cf
Pm	29.98	= absolute meter pressure, in. Hg
Y	0.997	= meter correction factor, unitless
Tm	564.1	= absolute meter temperature, °R
Vn	67.820	= 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	67.820	= nozzle volume, ft3
θ	96.0	= run time, minutes
An	0.00034	= area of nozzle, ft^2
Vs	34.5	= average velocity, ft/sec
I	100.1	= %

HFPO-DA Concentration (C), ng/dscm

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

where,

M	138,097	= HFPO-DA mass, ng
Vmstd	60.059	= standard meter volume, dscf
C_{NH3}	8.1E+04	= ng/dscm

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

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

where,

M	138,097	= HFPO-DA mass, ng
Qs	12,954	= average stack gas flow at standard conditions, dscfm
Vmstd	60.059	= standard meter volume, dscf
ER	3.9E-03	= lb/hr

Appendix B

Emission Calculations

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-2632
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		7/28/22	7/28/22	7/29/22	--
Start Time		17:15	19:48	8:02	--
Stop Time		19:13	22:00	9:59	--
Run Time, min	(θ)	96.0	96.0	96.0	96.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	29.89	29.89	29.97	29.92
Meter Correction Factor	(Y)	0.997	0.997	0.997	0.997
Orifice Calibration Value	(ΔH @)	1.581	1.581	1.581	1.581
Meter Volume, ft^3	(Vm)	64.271	64.578	64.804	64.551
Meter Temperature, °F	(Tm)	104.4	97.5	91.5	97.8
Meter Temperature, °R	(Tm)	564.1	557.2	551.1	557.5
Meter Orifice Pressure, in. WC	(ΔH)	1.208	1.200	1.258	1.222
Volume H_2O Collected, mL	(Vlc)	58.7	57.7	66.9	61.1
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	$M_{(HFPODA)}$	68,200.0	10,400.0	114,000.0	64,200.0
BH HFPO-DA Mass, ng	$M_{(HFPODA)}$	67,800.0	843,000.0	5,720,000.0	2,210,266.7
Imp HFPO-DA Mass, ng	$M_{(HFPODA)}$	2,010.0	489,000.0	502,000.0	331,003.3
Breakthrough HFPO-DA Mass, ng	$M_{(HFPODA)}$	87.0	7,750.0	7,670.0	5,169.00
Total HFPO-DA Mass, ng	$M_{(HFPODA)}$	138,097.0	1,350,150.0	6,343,670.0	2,610,639.0
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	60.059	61.089	62.154	61.101
Standard Water Volume, ft^3	(Vwstd)	2.768	2.721	3.154	2.881
Moisture Fraction Measured	(BWSmsd)	0.044	0.043	0.048	0.045
Moisture Fraction @ Saturation	(BWSsat)	0.073	0.065	0.058	0.065
Moisture Fraction	(BWS)	0.044	0.043	0.048	0.045
Meter Pressure, in Hg	(Pm)	29.98	29.98	30.06	30.01
Volume at Nozzle, ft^3	(Vn)	67.820	68.367	69.367	68.52
Isokinetic Sampling Rate, (%)	(I)	100.1	101.5	100.6	100.8
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	-1.7	-0.2	-1.4	-1.1
EMISSION CALCULATIONS					
HFPO-DA Concentration, ng/dscm	$C_{(HFPODA)}$	8.1E+04	7.8E+05	3.6E+06	1.5E+06
HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	3.9E-03	3.8E-02	1.8E-01	7.4E-02

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-2632
Parameter HFPO-DA

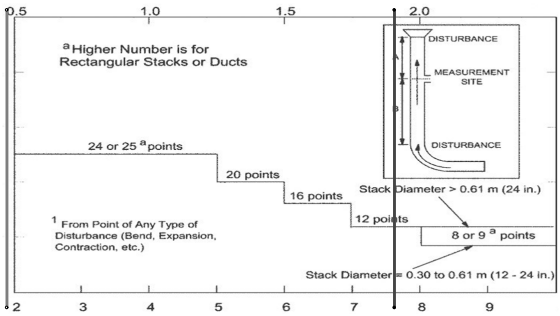
Run Number		Run 1	Run 2	Run 3	Average
Date		7/28/22	7/28/22	7/29/22	--
Start Time		17:15	19:48	8:02	--
Stop Time		19:13	22:00	9:59	--
Run Time, min		96.0	96.0	96.0	96.0
VELOCITY HEAD, in. WC					
Point 1		0.32	0.35	0.33	0.33
Point 2		0.32	0.34	0.34	0.33
Point 3		0.34	0.34	0.34	0.34
Point 4		0.34	0.35	0.35	0.35
Point 5		0.35	0.35	0.34	0.35
Point 6		0.34	0.34	0.32	0.33
Point 7		0.32	0.35	0.33	0.33
Point 8		0.32	0.32	0.33	0.32
Point 9		0.31	0.32	0.33	0.32
Point 10		0.31	0.31	0.32	0.31
Point 11		0.34	0.31	0.34	0.33
Point 12		0.33	0.32	0.34	0.33
Point 13		0.35	0.42	0.42	0.40
Point 14		0.36	0.42	0.43	0.40
Point 15		0.35	0.38	0.43	0.39
Point 16		0.36	0.40	0.43	0.40
Point 17		0.37	0.38	0.44	0.40
Point 18		0.40	0.33	0.45	0.39
Point 19		0.37	0.32	0.38	0.36
Point 20		0.34	0.32	0.35	0.34
Point 21		0.36	0.33	0.34	0.34
Point 22		0.36	0.32	0.35	0.34
Point 23		0.35	0.32	0.34	0.34
Point 24		0.35	0.31	0.33	0.33
CALCULATED DATA					
Square Root of ΔP, (in. WC)$^{1/2}$	(ΔP)	0.586	0.586	0.601	0.591
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	29.89	29.89	29.97	29.92
Static Pressure, in. WC	(Pg)	-3.80	-3.80	-3.80	-3.80
Stack Pressure, in. Hg	(Ps)	29.61	29.61	29.69	29.64
Stack Cross-sectional Area, ft^2	(As)	7.07	7.07	7.07	7.07
Temperature, °F	(Ts)	104.1	99.9	96.5	100.2
Temperature, °R	(Ts)	563.8	559.5	556.2	559.837
Moisture Fraction Measured	(BWSmsd)	0.044	0.043	0.048	0.045
Moisture Fraction @ Saturation	(BWSsat)	0.073	0.065	0.058	0.065
Moisture Fraction	(BWS)	0.044	0.043	0.048	0.045
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)	28.37	28.39	28.33	28.36
Velocity, ft/sec	(Vs)	34.5	34.3	35.1	34.6
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	14,629	14,553	14,887	14,690
At Standard Conditions, dscfm	(Qs)	12,954	13,003	13,338	13,098

Method 1 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-2632
Date: 07/28/22

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:	5.7	ft
Distance A Duct Diameters:	1.9	**(must be > 0.5)**
Distance B:	5.7	ft
Distance B Duct Diameters:	1.9	**(must be > 2)**
Minimum Number of Traverse Points:	24	
Actual Number of Traverse Points:	24	
Number of Readings per Point:	1	
Measurer (Initial and Date):	BAG-7/28/22	
Reviewer (Initial and Date):	AA-7/28/22	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

Number of traverse points on a diameter

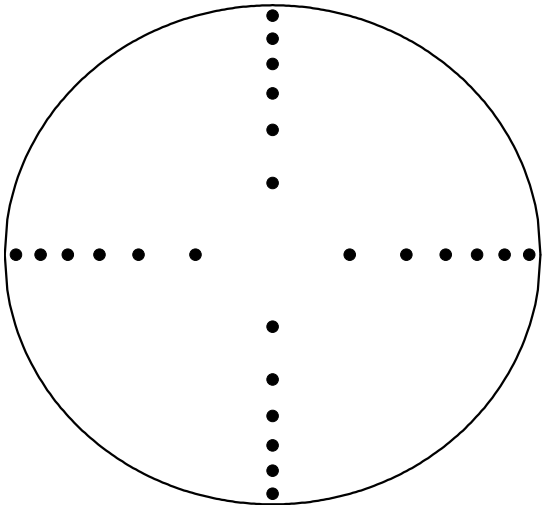
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--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

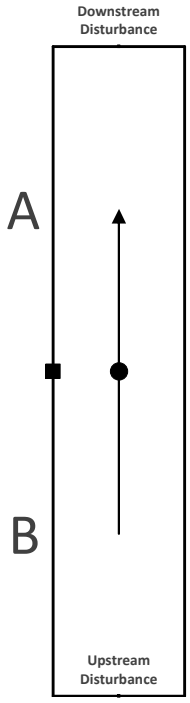
**Percent of stack diameter from inside wall to traverse point.*

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 = 5.7 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. 2022-2632
Date 06/29/22

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

Alliance SOURCE TESTING

Method 4 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-2632
Parameter HFPO-DA
Analysis Gravimetric

Run 1	Date:	7/28/22							
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	307.6	531.8	748.7	748.8	725.6	483.8	304.7	771.8	4622.8
Final Mass, g	333.4	541.2	746.3	748	726.2	486.6	316.5	783.3	4681.5
Gain	25.8	9.4	-2.4	-0.8	0.6	2.8	11.8	11.5	58.7
Run 2	**Date:**	7/28/22							
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	316.2	571.8	738.2	796.3	745.2	477.5	300.3	852.1	4797.6
Final Mass, g	341.4	578.8	736.4	796.6	745.4	479.6	312.5	864.6	4855.3
Gain	25.2	7.0	-1.8	0.3	0.2	2.1	12.2	12.5	57.7
Run 3	**Date:**	7/29/22							
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	299.0	532.8	755.8	745.2	725.8	485.1	303.8	775.2	4622.7
Final Mass, g	320.5	551.9	752.4	744.8	726.0	490.4	314.9	788.7	4689.6
Gain	21.5	19.1	-3.4	-0.4	0.2	5.3	11.1	13.5	66.9

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	17:15	**Source:**	VEN Carbon Bed Inlet	
Date:	7/28/22	Run 1 VALID	**End Time:**	19:13	**Project No.:**	2022-2632	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	MB #4		Est. Tm:	100	°F		Pb:	29.89	in. Hg	Vlc (ml)
Barometric:	30.04	in. Hg	Y:	0.997		Est. Ts:	90	°F		Pg:	-3.80	in. WC	58.7
Static Press:	-8.60	in. WC	ΔH @ (in.WC):	1.581		Est. ΔP:	0.45	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	29.41	in. Hg	Probe ID:	TC 7D		Est. Dn:	0.251	in.		CO_2:	0.1	%	3.545
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm					
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECK:	Pre	Mid 1	Mid 2 / Mid 3 / Post	Check Pt.	Initial	Final	Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.005	0.005	0.003 / -- / 0.002	Mid 1 (cf)	867.675	867.732	0.057
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-4	glass	Vacuum (in Hg):	10	11	12 / -- / 13	Mid 2 (cf)	867.732	867.813	0.081
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	--	-- / -- / Pass	Mid 3 (cf)			--
										Mid-Point Leak Check Vol (cf):			0.138

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			100	99	Ideal	Actual		99	99	98	98		
A-1	0.00	4.00	836.260	0.32	101	104	1.11	1.10	4	112	111	66	64	99.8	33.24
2	4.00	8.00	838.850	0.32	106	105	1.12	1.10	4	111	109	64	62	97.5	33.27
3	8.00	12.00	841.400	0.34	106	104	1.19	1.20	4	110	112	63	59	100.0	34.26
4	12.00	16.00	844.100	0.34	106	104	1.19	1.20	5	112	110	54	58	100.0	34.26
5	16.00	20.00	846.800	0.35	106	104	1.22	1.20	5	113	109	51	56	102.3	34.76
6	20.00	24.00	849.600	0.34	106	105	1.19	1.20	5	111	110	51	58	100.1	34.29
7	24.00	28.00	852.300	0.32	106	104	1.12	1.10	4	112	111	51	59	99.3	33.24
8	28.00	32.00	854.900	0.32	105	104	1.12	1.10	4	110	109	52	59	95.6	33.24
9	32.00	36.00	857.400	0.31	105	105	1.08	1.10	4	109	113	51	59	101.1	32.74
10	36.00	40.00	860.000	0.31	105	105	1.08	1.10	4	112	110	52	58	97.2	32.74
11	40.00	44.00	862.500	0.34	106	105	1.19	1.20	4	110	112	51	57	96.4	34.29
12	44.00	48.00	865.100	0.33	106	104	1.15	1.20	4	111	114	52	59	96.9	33.75
B-1	48.00	52.00	867.675	0.35	103	104	1.22	1.20	4	109	108	64	63	100.1	34.76
2	52.00	56.00	870.400	0.36	104	104	1.25	1.30	5	108	110	62	60	101.2	35.25
3	56.00	60.00	873.200	0.35	104	104	1.22	1.20	4	109	111	52	56	99.0	34.76
4	60.00	64.00	875.900	0.36	104	104	1.25	1.30	5	110	112	51	56	94.0	35.25
5	64.00	68.00	878.500	0.37	104	104	1.29	1.30	6	111	113	52	56	99.8	35.74
6	68.00	72.00	881.300	0.40	104	104	1.39	1.40	7	112	113	53	57	99.5	37.16
7	72.00	76.00	884.200	0.37	104	104	1.29	1.30	7	113	114	53	56	99.8	35.74
8	76.00	80.00	887.000	0.34	103	104	1.18	1.20	6	112	113	54	57	96.9	34.26
9	80.00	84.00	889.600	0.36	103	104	1.25	1.30	6	113	112	56	55	97.8	35.25
10	84.00	88.00	892.300	0.36	103	103	1.25	1.30	6	112	116	55	56	101.3	35.22
11	88.00	92.00	895.100	0.35	103	103	1.22	1.20	6	111	112	54	55	102.7	34.73
12	92.00	96.00	897.900	0.35	103	103	1.22	1.20	6	112	111	54	54	101.6	34.73
	Final DGM:		900.669												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	64.271 ft^3	0.34 in. WC	104.4 °F	104.1 °F	7	1.208 in. WC	100.1	0.044	-1.7

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	19:48	**Source:**	VEN Carbon Bed Inlet	
Date:	7/28/22	Run 2 / VALID	**End Time:**	22:00	**Project No.:**	2022-2632	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	MB #4		Est. Tm:	104	°F		Pb:	29.89	in. Hg	Vlc (ml)
Barometric:	30.04	in. Hg	Y:	0.997		Est. Ts:	104	°F		Pg:	-3.80	in. WC	57.7
Static Press:	-8.60	in. WC	ΔH @ (in.WC):	1.581		Est. ΔP:	0.34	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	29.41	in. Hg	Probe ID:	TC 7D		Est. Dn:	0.269	in.		CO_2:	0.1	%	3.48
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm					
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECK	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt.	Initial / Final / Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.003	0.005	0.005	--	0.005	Mid 1 (cf)	932.764 / 932.843 / 0.079
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-4	glass	Vacuum (in Hg):	10	12	11	--	13	Mid 2 (cf)	932.843 / 932.927 / 0.084
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	--	--	--	Pass	Mid 3 (cf)	--
												Mid-Point Leak Check Vol (cf):	0.163

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	900.945	0.35	98	102	1.21	1.20	5	109	108	61	64	105.6	34.70
2	4.00	8.00	903.800	0.34	99	102	1.18	1.20	5	110	109	59	63	101.1	34.20
3	8.00	12.00	906.500	0.34	98	101	1.18	1.20	5	109	108	54	55	101.2	34.17
4	12.00	16.00	909.200	0.35	98	101	1.21	1.20	5	110	109	55	54	99.8	34.67
5	16.00	20.00	911.900	0.35	98	101	1.21	1.20	5	111	112	56	54	99.8	34.67
6	20.00	24.00	914.600	0.34	99	102	1.18	1.20	5	112	110	57	54	101.1	34.20
7	24.00	28.00	917.300	0.35	99	102	1.21	1.20	6	113	111	56	56	99.7	34.70
8	28.00	32.00	920.000	0.32	99	100	1.11	1.10	5	112	113	57	55	100.2	33.12
9	32.00	36.00	922.600	0.32	99	100	1.11	1.10	5	111	109	56	56	100.2	33.12
10	36.00	40.00	925.200	0.31	99	100	1.08	1.10	5	108	108	56	55	93.9	32.60
11	40.00	44.00	927.600	0.31	99	99	1.08	1.10	6	108	107	57	56	97.8	32.57
12	44.00	48.00	930.100	0.32	98	99	1.11	1.10	6	109	108	58	57	102.7	33.09
B-1	48.00	52.00	932.764	0.42	95	99	1.45	1.50	8	109	107	64	59	102.8	37.91
2	52.00	56.00	935.800	0.42	96	99	1.45	1.50	8	108	109	57	56	101.4	37.91
3	56.00	60.00	938.800	0.38	96	99	1.32	1.30	8	107	108	58	58	99.5	36.06
4	60.00	64.00	941.600	0.40	96	99	1.39	1.40	8	108	109	57	56	100.5	36.99
5	64.00	68.00	944.500	0.38	96	99	1.32	1.30	8	107	108	58	59	103.0	36.06
6	68.00	72.00	947.400	0.33	97	99	1.15	1.20	7	108	109	54	60	98.9	33.60
7	72.00	76.00	950.000	0.32	97	99	1.11	1.10	7	109	109	52	58	100.4	33.09
8	76.00	80.00	952.600	0.32	97	99	1.11	1.10	7	108	107	55	59	100.4	33.09
9	80.00	84.00	955.200	0.33	97	99	1.15	1.20	7	109	109	56	58	102.7	33.60
10	84.00	88.00	957.900	0.32	97	99	1.11	1.10	7	108	107	55	59	96.6	33.09
11	88.00	92.00	960.400	0.32	97	99	1.11	1.10	7	109	109	55	56	100.4	33.09
12	92.00	96.00	963.000	0.31	97	99	1.08	1.10	7	108	107	54	55	105.4	32.57
	Final DGM:		965.686												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	64.578 ft^3	0.34 in. WC	97.5 °F	99.9 °F	8	1.200 in. WC	101.5	0.043	-0.2

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	8:02	**Source:**	VEN Carbon Bed Inlet	
Date:	7/29/22	Run 3 VALID	**End Time:**	9:59	**Project No.:**	2022-2632	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	MB #4		Est. Tm:	98	°F		Pb:	29.97	in. Hg	Vlc (ml)
Barometric:	30.04	in. Hg	Y:	0.997		Est. Ts:	100	°F		Pg:	-3.80	in. WC	66.9
Static Press:	-8.60	in. WC	ΔH @ (in.WC):	1.581		Est. ΔP:	0.34	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	29.41	in. Hg	Probe ID:	TC 7D		Est. Dn:	0.271	in.		CO_2:	0.1	%	3.467
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm					
O_2:	20.9	%	Pitot ID:	P4-1		LEAK CHECK	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt.	Initial	Final	Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.006	0.005	0.004	--	0.003	Mid 1 (cf)	996.842	996.988	0.146
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-4	glass	Vacuum (in Hg):	10	14	15	--	13	Mid 2 (cf)	996.988	997.079	0.091
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.250		Pitot Tube:	Pass	--	--	--	Pass	Mid 3 (cf)			--
												Mid-Point Leak Check Vol (cf):			0.237

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	965.984	0.33	82	94	1.13	1.10	4	103	102	60	64	97.9	33.45
2	4.00	8.00	968.500	0.34	83	95	1.16	1.20	4	104	105	60	60	99.6	33.98
3	8.00	12.00	971.100	0.34	83	95	1.16	1.20	4	105	103	61	56	99.6	33.98
4	12.00	16.00	973.700	0.35	85	95	1.20	1.20	4	104	103	60	56	97.8	34.48
5	16.00	20.00	976.300	0.34	87	95	1.17	1.20	4	103	104	59	57	102.7	33.98
6	20.00	24.00	979.000	0.32	88	95	1.10	1.10	4	102	104	58	60	95.9	32.97
7	24.00	28.00	981.450	0.33	89	95	1.14	1.10	4	104	105	58	57	98.1	33.48
8	28.00	32.00	984.000	0.33	89	96	1.14	1.10	4	105	103	59	58	96.2	33.51
9	32.00	36.00	986.500	0.33	89	96	1.14	1.10	4	102	104	60	59	96.2	33.51
10	36.00	40.00	989.000	0.32	90	96	1.10	1.10	5	103	105	60	59	97.5	33.00
11	40.00	44.00	991.500	0.34	90	96	1.17	1.20	5	105	106	61	60	98.4	34.01
12	44.00	48.00	994.100	0.34	90	96	1.17	1.20	5	106	107	59	58	103.8	34.01
B-1	48.00	52.00	996.842	0.42	91	97	1.45	1.50	7	105	104	59	56	104.2	37.84
2	52.00	56.00	999.900	0.43	92	97	1.48	1.50	7	106	105	58	57	100.8	38.29
3	56.00	60.00	1002.900	0.43	93	97	1.49	1.50	7	105	104	59	57	97.3	38.29
4	60.00	64.00	1005.800	0.43	94	98	1.49	1.50	7	104	105	60	58	97.2	38.32
5	64.00	68.00	1008.700	0.44	94	98	1.52	1.50	7	106	107	61	59	99.4	38.76
6	68.00	72.00	1011.700	0.45	96	98	1.56	1.60	8	107	106	61	59	97.9	39.20
7	72.00	76.00	1014.700	0.38	97	98	1.32	1.30	7	106	108	60	56	102.8	36.02
8	76.00	80.00	1017.600	0.35	97	98	1.22	1.20	6	108	109	61	58	103.4	34.57
9	80.00	84.00	1020.400	0.34	98	98	1.18	1.20	6	109	107	61	59	97.2	34.08
10	84.00	88.00	1023.000	0.35	99	98	1.22	1.20	6	107	106	62	60	99.3	34.57
11	88.00	92.00	1025.700	0.34	99	98	1.19	1.20	6	109	108	60	59	97.0	34.08
12	92.00	96.00	1028.300	0.33	100	98	1.15	1.20	6	108	107	61	60	103.0	33.57
	Final DGM:		1031.025												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	64.804 ft^3	0.36 in. WC	91.5 °F	96.5 °F	8	1.258 in. WC	100.6	0.048	-1.4

Emission Calculations

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-2632
Parameter HFPO-DA

Run Number		Run 1	Run 2	Run 3	Average
Date		7/28/22	7/28/22	7/29/22	--
Start Time		17:15	19:48	8:02	--
Stop Time		19:13	22:00	9:59	--
Run Time, min	(θ)	96.0	96.0	96.0	96.0
INPUT DATA					
Barometric Pressure, in. Hg	(Pb)	29.89	29.89	29.97	29.92
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)	68.280	63.268	66.335	65.961
Meter Temperature, °F	(Tm)	107.1	95.9	93.1	98.7
Meter Temperature, °R	(Tm)	566.8	555.5	552.8	558.4
Meter Orifice Pressure, in. WC	(ΔH)	1.546	1.538	1.521	1.535
Volume H_2O Collected, mL	(Vlc)	55.7	54.8	54.6	55.0
Nozzle Diameter, in	(Dn)	0.249	0.249	0.249	0.249
Area of Nozzle, ft^2	(An)	0.0003	0.0003	0.0003	0.0003
FH HFPO-DA Mass, ng	$M_{(HFPODA)}$	1,970.0	114,000.0	1,830.0	39,266.7
BH HFPO-DA Mass, ng	$M_{(HFPODA)}$	134.0	9,420.0	493.0	3,349.0
Imp HFPO-DA Mass, ng	$M_{(HFPODA)}$	51.6	1,530.0	54.9	545.5
Breakthrough HFPO-DA Mass, ng	$M_{(HFPODA)}$	14.3	25.5	45.2	28.33
Total HFPO-DA Mass, ng	$M_{(HFPODA)}$	2,169.9	124,975.5	2,423.1	43,189.5
ISOKINETIC DATA					
Standard Meter Volume, ft^3	(Vmstd)	63.808	60.320	63.731	62.620
Standard Water Volume, ft^3	(Vwstd)	2.627	2.584	2.574	2.595
Moisture Fraction Measured	(BWSmsd)	0.040	0.041	0.039	0.040
Moisture Fraction @ Saturation	(BWSsat)	0.068	0.071	0.064	0.068
Moisture Fraction	(BWS)	0.040	0.041	0.039	0.040
Meter Pressure, in Hg	(Pm)	30.00	30.00	30.08	30.03
Volume at Nozzle, ft^3	(Vn)	70.375	66.787	69.794	68.99
Isokinetic Sampling Rate, (%)	(I)	104.4	97.7	103.4	101.8
DGM Calibration Check Value, (+/- 5%)	(Y_{qa})	2.4	-3.8	1.7	0.1
EMISSION CALCULATIONS					
HFPO-DA Concentration, ng/dscm	$C_{(HFPODA)}$	1.2E+03	7.3E+04	1.3E+03	2.5E+04
HFPO-DA Emission Rate, lb/hr	$ER_{(HFPODA)}$	6.0E-05	3.7E-03	6.7E-05	1.3E-03
REDUCTION CALCULATIONS					
Inlet HFPO-DA Emission Rate, lb/hr	$RE_{(HFPODA)}$	3.9E-03	3.8E-02	1.8E-01	7.4E-02
HFPO-DA Reduction Efficiency, %	$RE_{(HFPODA)}$	98.5	90.3	100.0	96.3

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

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-2632
Parameter HFPO-DA

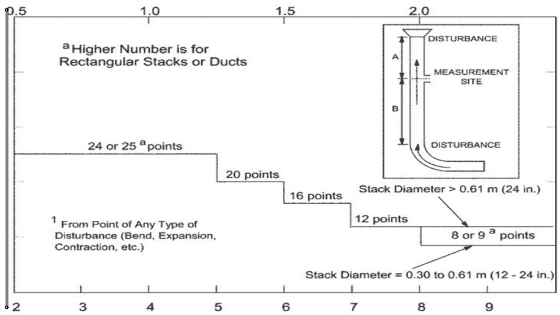
Run Number		Run 1	Run 2	Run 3	Average
Date		7/28/22	7/28/22	7/29/22	--
Start Time		17:15	19:48	8:02	--
Stop Time		19:13	22:00	9:59	--
Run Time, min		96.0	96.0	96.0	96.0
VELOCITY HEAD, in. WC					
Point 1		0.41	0.42	0.32	0.38
Point 2		0.43	0.40	0.36	0.40
Point 3		0.42	0.41	0.40	0.41
Point 4		0.43	0.44	0.43	0.43
Point 5		0.40	0.43	0.46	0.43
Point 6		0.31	0.30	0.39	0.33
Point 7		0.27	0.27	0.31	0.28
Point 8		0.25	0.26	0.30	0.27
Point 9		0.25	0.25	0.28	0.26
Point 10		0.28	0.28	0.28	0.28
Point 11		0.28	0.27	0.28	0.28
Point 12		0.26	0.26	0.27	0.26
Point 13		0.26	0.78	0.77	0.60
Point 14		0.74	0.78	0.77	0.76
Point 15		0.76	0.75	0.74	0.75
Point 16		0.71	0.70	0.65	0.69
Point 17		0.63	0.58	0.54	0.58
Point 18		0.57	0.28	0.26	0.37
Point 19		0.27	0.27	0.22	0.25
Point 20		0.23	0.23	0.20	0.22
Point 21		0.20	0.22	0.20	0.21
Point 22		0.20	0.20	0.20	0.20
Point 23		0.19	0.20	0.20	0.20
Point 24		0.18	0.20	0.19	0.19
CALCULATED DATA					
Square Root of ΔP, $(\text{in. WC})^{1/2}$	(ΔP)	0.594	0.602	0.597	0.598
Pitot Tube Coefficient	(Cp)	0.840	0.840	0.840	0.840
Barometric Pressure, in. Hg	(Pb)	29.89	29.89	29.97	29.92
Static Pressure, in. WC	(Pg)	2.50	2.60	2.70	2.60
Stack Pressure, in. Hg	(Ps)	30.07	30.08	30.17	30.11
Stack Cross-sectional Area, ft^2	(As)	7.07	7.07	7.07	7.07
Temperature, °F	(Ts)	102.2	103.6	100.4	102.1
Temperature, °R	(Ts)	561.9	563.3	560.1	561.753
Moisture Fraction Measured	(BWSmsd)	0.040	0.041	0.039	0.040
Moisture Fraction @ Saturation	(BWSsat)	0.068	0.071	0.064	0.068
Moisture Fraction	(BWS)	0.040	0.041	0.039	0.040
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)	28.42	28.41	28.43	28.42
Velocity, ft/sec	(Vs)	34.6	35.1	34.6	34.8
VOLUMETRIC FLOW RATE					
At Stack Conditions, acfm	(Qa)	14,676	14,884	14,693	14,751
At Standard Conditions, dscfm	(Qs)	13,305	13,442	13,416	13,387

Method 1 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-2632
Date: 07/28/22

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):	BAG-7/28/22	
Reviewer (Initial and Date):	AA-7/28/22	



CIRCULAR DUCT

LOCATION OF TRAVERSE POINTS

Number of traverse points on a diameter

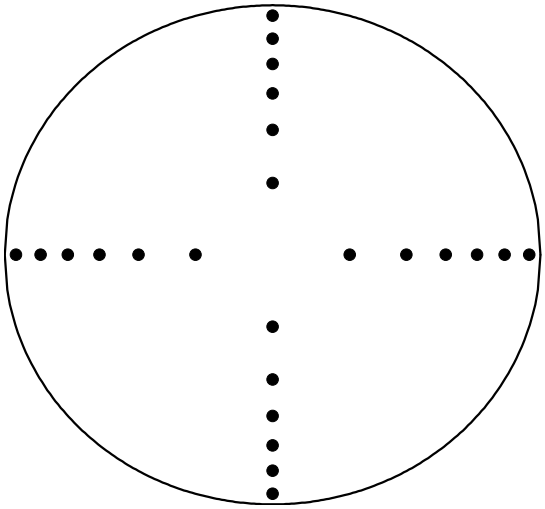
	2	3	4	5	6	7	8	9	10	11	12
1	14.6	--	6.7	--	4.4	--	3.2	--	2.6	--	2.1
2	85.4	--	25.0	--	14.6	--	10.5	--	8.2	--	6.7
3	--	--	75.0	--	29.6	--	19.4	--	14.6	--	11.8
4	--	--	93.3	--	70.4	--	32.3	--	22.6	--	17.7
5	--	--	--	--	85.4	--	67.7	--	34.2	--	25.0
6	--	--	--	--	95.6	--	80.6	--	65.8	--	35.6
7	--	--	--	--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

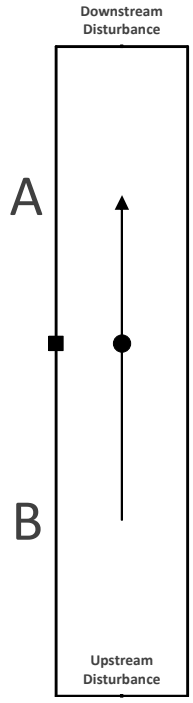
**Percent of stack diameter from inside wall to traverse point.*

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





Alliance SOURCE TESTING

Cyclonic Flow Check

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-2632
Date 06/29/22

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

Alliance SOURCE TESTING

Method 4 Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-2632
Parameter HFPO-DA
Analysis Gravimetric

Run 1	Date:	7/28/22							
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	310.4	506.4	744.6	743.4	736.2	492.6	308.6	745.2	4587.4
Final Mass, g	328.6	516.8	745.0	741.2	736.0	494.8	318.6	762.1	4643.1
Gain	18.2	10.4	0.4	-2.2	-0.2	2.2	10.0	16.9	55.7
Run 2	**Date:**	7/28/22							
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	306.4	499.6	728.6	736.2	722.4	490.6	304.2	733.4	4521.4
Final Mass, g	322.8	512.4	728.2	738.2	722.6	498.2	312.6	741.2	4576.2
Gain	16.4	12.8	-0.4	2.0	0.2	7.6	8.4	7.8	54.8
Run 3	**Date:**	7/29/22							
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	306.4	506.8	744.6	743.8	736.6	493	305.2	723.6	4560.0
Final Mass, g	320.6	518.8	744.2	744	737.2	497.6	314.8	737.4	4614.6
Gain	14.2	12.0	-0.4	0.2	0.6	4.6	9.6	13.8	54.6

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	17:15	**Source:**	VEN Carbon Bed Outlet	
Date:	7/28/22	Run 1 VALID	**End Time:**	19:13	**Project No.:**	2022-2632	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.			STACK DATA (FINAL)				MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	MB7		Est. Tm:	110	°F				Pb:	29.89	in. Hg		Vlc (ml)
Barometric:	30.04	in. Hg	Y:	1.001		Est. Ts:	90	°F				Pg:	2.50	in. WC		55.7
Static Press:	2.80	in. WC	ΔH @ (in.WC):	1.841		Est. ΔP:	0.44	in. WC				O_2:	20.9	%		K-FACTOR
Stack Press:	30.25	in. Hg	Probe ID:	TC-5D		Est. Dn:	0.249	in.				CO_2:	0.1	%		4.250
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)	91.804	91.866	0.062	
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.001	0.001	0.001	0.001	0.001	Mid 2 (cf)	91.866	91.971	0.105	
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-3	glass	Vacuum (in Hg):	10	10	10	10	12	Mid 3 (cf)			--	
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.249		Pitot Tube:	Pass	--	--	--	Pass	Mid-Point Leak Check Vol (cf):			0.167	

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			99	97	Ideal	Actual		97	98	98	97		
A-1	0.00	4.00	58.895	0.41	100	101	1.68	1.70	6	104	105	65	63	101.8	37.00
2	4.00	8.00	61.890	0.43	106	101	1.78	1.80	6	105	105	65	59	102.5	37.89
3	8.00	12.00	65.010	0.42	107	101	1.74	1.80	6	105	105	65	55	103.8	37.44
4	12.00	16.00	68.138	0.43	108	101	1.79	1.80	6	105	105	65	54	101.2	37.89
5	16.00	20.00	71.230	0.40	107	100	1.66	1.70	6	106	105	64	55	103.6	36.51
6	20.00	24.00	74.280	0.31	108	100	1.29	1.30	5	104	104	63	56	105.6	32.14
7	24.00	28.00	77.025	0.27	108	101	1.12	1.10	5	105	104	63	56	102.9	30.02
8	28.00	32.00	79.520	0.25	109	101	1.04	1.00	4	104	104	65	60	97.5	28.89
9	32.00	36.00	81.800	0.25	109	101	1.04	1.00	4	103	102	66	60	103.9	28.89
10	36.00	40.00	84.230	0.28	109	101	1.17	1.10	4	104	103	66	58	97.8	30.57
11	40.00	44.00	86.650	0.28	109	101	1.17	1.20	5	104	102	62	51	103.9	30.57
12	44.00	48.00	89.220	0.26	109	101	1.08	1.10	5	104	103	58	49	108.4	29.46
B-1	48.00	52.00	91.971	0.26	109	101	1.08	1.10	5	104	106	58	49	108.2	29.46
2	52.00	56.00	94.550	0.74	106	103	3.04	3.00	9	105	106	65	48	106.1	49.79
3	56.00	60.00	98.770	0.76	106	103	3.12	3.10	11	105	106	58	49	96.8	50.46
4	60.00	64.00	102.670	0.71	107	104	2.92	3.00	11	105	106	57	48	103.7	48.82
5	64.00	68.00	106.710	0.63	107	104	2.59	2.60	10	105	106	58	51	103.9	45.98
6	68.00	72.00	110.530	0.57	108	104	2.35	2.40	11	105	106	60	58	103.3	43.74
7	72.00	76.00	114.150	0.27	107	104	1.12	1.10	5	105	106	61	53	106.0	30.10
8	76.00	80.00	116.710	0.23	107	104	0.95	1.00	5	105	106	63	54	104.1	27.78
9	80.00	84.00	119.030	0.20	107	104	0.83	0.83	4	105	106	62	52	101.5	25.91
10	84.00	88.00	121.140	0.20	106	104	0.83	0.83	4	105	106	61	52	100.7	25.91
11	88.00	92.00	123.230	0.19	106	104	0.78	0.80	4	105	106	61	51	102.8	25.25
12	92.00	96.00	125.310	0.18	106	104	0.74	0.75	4	105	105	60	49	103.2	24.58
	Final DGM:		127.342												

RESULTS	Run Time		Vm		ΔP		Tm		Ts		Max Vac	ΔH		%ISO	BWS	Y_{qa}
	96.0	min	68.280	ft^3	0.37	in. WC	107.1	°F	102.2	°F	11	1.546	in. WC	104.4	0.040	2.4

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	19:48	**Source:**	VEN Carbon Bed Outlet	
Date:	7/28/22	Run 2 / VALID	**End Time:**	22:00	**Project No.:**	2022-2632	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	MB7		Est. Tm:	107	°F		Pb:	29.89	in. Hg	Vlc (ml)
Barometric:	30.04	in. Hg	Y:	1.001		Est. Ts:	102	°F		Pg:	2.60	in. WC	54.8
Static Press:	2.80	in. WC	ΔH @ (in.WC):	1.841		Est. ΔP:	0.37	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	30.25	in. Hg	Probe ID:	TC-5D		Est. Dn:	0.262	in.		CO_2:	0.1	%	4.14
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm					
O_2:	20.9	%	Pitot ID:	P4-2		LEAK CHECK:	Pre	Mid 1	Mid 2 / Mid 3 / Post	Check Pt.	Initial	Final	Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.000	--	0.001 / 0.001 / 0.002	Mid 1 (cf)	156.050	156.398	0.348
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-3	glass	Vacuum (in Hg):	10	--	15 / 15 / 22	Mid 2 (cf)			--
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.249		Pitot Tube:	Pass	--	-- / -- / Pass	Mid 3 (cf)			--
										Mid-Point Leak Check Vol (cf):			0.348

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	127.624	0.42	99	104	1.71	1.70	13	105	107	65	47	95.3	37.54
2	4.00	8.00	130.450	0.40	99	104	1.63	1.60	13	105	107	65	56	99.9	36.64
3	8.00	12.00	133.340	0.41	99	104	1.67	1.70	13	105	107	54	56	100.0	37.10
4	12.00	16.00	136.270	0.44	98	104	1.79	1.80	13	105	107	54	56	99.4	38.43
5	16.00	20.00	139.280	0.43	98	104	1.74	1.80	13	105	107	54	56	95.9	37.99
6	20.00	24.00	142.150	0.30	98	104	1.22	1.20	13	105	107	56	56	98.2	31.73
7	24.00	28.00	144.610	0.27	97	104	1.10	1.10	13	105	107	56	56	95.7	30.10
8	28.00	32.00	146.880	0.26	97	104	1.06	1.00	12	105	107	58	57	98.8	29.54
9	32.00	36.00	149.180	0.25	97	104	1.01	1.00	14	105	107	57	57	98.1	28.97
10	36.00	40.00	151.420	0.28	97	104	1.14	1.10	13	105	107	58	57	95.2	30.66
11	40.00	44.00	153.720	0.27	97	104	1.10	1.10	14	105	107	54	57	98.2	30.10
12	44.00	48.00	156.050	0.26	97	104	1.06	1.00	14	105	107	55	57	100.8	29.54
B-1	48.00	52.00	158.398	0.78	97	104	3.15	3.10	15	105	107	55	57	98.5	51.16
2	52.00	56.00	162.350	0.78	94	104	3.13	3.10	20	105	107	53	55	95.5	51.16
3	56.00	60.00	166.160	0.75	94	104	3.01	3.00	20	105	107	53	55	94.8	50.17
4	60.00	64.00	169.870	0.70	94	103	2.82	2.90	20	105	107	54	57	90.9	48.43
5	64.00	68.00	173.310	0.58	94	103	2.34	2.30	10	105	107	55	57	93.6	44.08
6	68.00	72.00	176.540	0.28	94	103	1.13	1.10	5	105	107	55	57	91.5	30.63
7	72.00	76.00	178.740	0.27	94	103	1.09	1.10	5	105	107	55	57	94.4	30.08
8	76.00	80.00	180.970	0.23	93	103	0.93	0.90	5	105	107	56	57	95.1	27.76
9	80.00	84.00	183.040	0.22	93	103	0.89	0.90	5	105	107	57	55	94.9	27.15
10	84.00	88.00	185.060	0.20	93	103	0.81	0.80	6	105	107	56	57	101.5	25.89
11	88.00	92.00	187.120	0.20	94	103	0.81	0.80	6	105	107	56	58	96.9	25.89
12	92.00	96.00	189.090	0.20	94	103	0.81	0.80	6	105	107	57	58	105.7	25.89
	Final DGM:		191.240												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	63.268 ft^3	0.38 in. WC	95.9 °F	103.6 °F	20	1.538 in. WC	97.7	0.041	-3.8

Alliance SOURCE TESTING

Isokinetic Field Data

Location:	Chemours Company - Fayetteville Works Facility, NC		**Start Time:**	8:02	**Source:**	VEN Carbon Bed Outlet	
Date:	7/29/22	Run 3 VALID	**End Time:**	9:59	**Project No.:**	2022-2632	**Parameter:** HFPO-DA

STACK DATA (EST)			EQUIPMENT			STACK DATA (EST)			FILTER NO.	STACK DATA (FINAL)			MOIST. DATA
Moisture:	2.0	% est.	Meter Box ID:	MB7		Est. Tm:	96	°F		Pb:	29.97	in. Hg	Vlc (ml)
Barometric:	30.04	in. Hg	Y:	1.001		Est. Ts:	104	°F		Pg:	2.70	in. WC	54.6
Static Press:	2.80	in. WC	ΔH @ (in.WC):	1.841		Est. ΔP:	0.38	in. WC		O_2:	20.9	%	K-FACTOR
Stack Press:	30.25	in. Hg	Probe ID:	TC-5D		Est. Dn:	0.263	in.		CO_2:	0.1	%	4.045
CO_2:	0.1	%	Liner Material:	glass		Target Rate:	0.78	scfm					
O_2:	20.9	%	Pitot ID:	P4-2		LEAK CHECK	Pre	Mid 1	Mid 2	Mid 3	Post	Check Pt.	Initial / Final / Corr.
N_2/CO:	79.0	%	Pitot Cp/Type:	0.840	S-type	Leak Rate (cfm):	0.001	0.001	0.001	0.001	0.001	Mid 1 (cf)	223.787 / 223.848 / 0.061
Md:	28.85	lb/lb-mole	Nozzle ID:	GL-3	glass	Vacuum (in Hg):	10	10	10	10	11	Mid 2 (cf)	223.848 / 223.900 / 0.052
Ms:	28.63	lb/lb-mole	Nozzle Dn (in.):	0.249		Pitot Tube:	Pass	--	--	--	Pass	Mid 3 (cf)	--
												Mid-Point Leak Check Vol (cf):	0.113

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	191.914	0.32	80	96	1.28	1.30	3	103	102	55	56	103.4	32.54
2	4.00	8.00	194.520	0.36	82	98	1.44	1.40	3	103	103	57	56	101.2	34.57
3	8.00	12.00	197.230	0.40	83	100	1.59	1.60	4	103	102	55	56	99.6	36.51
4	12.00	16.00	200.040	0.43	84	100	1.71	1.70	4	103	102	54	55	99.0	37.85
5	16.00	20.00	202.940	0.46	86	101	1.84	1.80	4	103	103	54	56	98.8	39.19
6	20.00	24.00	205.940	0.39	86	101	1.56	1.60	4	103	102	54	56	104.7	36.08
7	24.00	28.00	208.870	0.31	88	101	1.24	1.30	4	103	103	55	52	106.1	32.17
8	28.00	32.00	211.530	0.30	88	101	1.20	1.20	3	103	101	56	56	101.4	31.65
9	32.00	36.00	214.030	0.28	88	101	1.12	1.10	3	103	101	56	57	103.2	30.57
10	36.00	40.00	216.490	0.28	88	101	1.12	1.10	3	103	101	55	56	102.0	30.57
11	40.00	44.00	218.920	0.28	90	100	1.13	1.10	3	103	102	56	55	101.9	30.55
12	44.00	48.00	221.360	0.27	91	100	1.09	1.10	3	103	101	56	56	103.1	30.00
B-1	48.00	52.00	223.900	0.77	92	100	3.10	3.10	8	103	102	58	57	97.1	50.66
2	52.00	56.00	227.750	0.77	93	100	3.11	3.10	11	104	103	58	54	100.7	50.66
3	56.00	60.00	231.750	0.74	98	101	3.01	3.00	11	103	102	56	51	102.1	49.70
4	60.00	64.00	235.760	0.65	98	101	2.65	2.70	11	103	102	56	52	107.8	46.58
5	64.00	68.00	239.730	0.54	100	101	2.21	2.20	10	103	101	58	53	99.2	42.46
6	68.00	72.00	243.075	0.26	101	101	1.07	1.10	5	103	103	60	57	109.1	29.46
7	72.00	76.00	245.640	0.22	102	101	0.91	0.90	5	103	101	61	53	100.6	27.10
8	76.00	80.00	247.820	0.20	103	101	0.83	0.83	4	103	103	62	57	102.4	25.84
9	80.00	84.00	249.940	0.20	103	101	0.83	0.83	4	103	102	63	55	102.2	25.84
10	84.00	88.00	252.055	0.20	103	101	0.83	0.83	4	103	103	63	55	103.1	25.84
11	88.00	92.00	254.190	0.20	103	101	0.83	0.83	4	103	102	63	55	100.7	25.84
12	92.00	96.00	256.275	0.19	104	101	0.79	0.79	4	103	101	64	56	103.2	25.19
	Final DGM:		258.362												

RESULTS	Run Time	Vm	ΔP	Tm	Ts	Max Vac	ΔH	%ISO	BWS	Y_{qa}
	96.0 min	66.335 ft^3	0.38 in. WC	93.1 °F	100.4 °F	11	1.521 in. WC	103.4	0.039	1.7

Appendix C

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 140-28317-1
Client Project/Site: Fayetteville Emissions Test-VEN CB Inlet OTM-45

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:
8/11/2022 9:41:36 AM

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

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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: 140-28317-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-28317-1

Receipt

The samples were received on 7/31/2022 11:30 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 4.5º 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 following samples were reported with elevated reporting limits for all analytes: T-2604,2606 VEN CB INLET R1 OTM-45 FH (140-28317-1), T-2612,2614 VEN CB INLET R2 OTM-45 FH (140-28317-5), T-2617 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE (140-28317-7), T-2620,2622 VEN CB INLET R3 OTM-45 FH (140-28317-9) and T-2625 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE (140-28317-11). The samples were analyzed at a dilution based on screening results.

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): T-2604,2606 VEN CB INLET R1 OTM-45 FH (140-28317-1), T-2612,2614 VEN CB INLET R2 OTM-45 FH (140-28317-5), T-2617 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE (140-28317-7), T-2620,2622 VEN CB INLET R3 OTM-45 FH (140-28317-9) and T-2625 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE (140-28317-11). 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-2607,2608,2610 VEN CB INLET R1 OTM-45 BH (140-28317-2), T-2615,2616,2618 VEN CB INLET R2 OTM-45 BH (140-28317-6), T-2619 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-28317-8), T-2623,2624,2626 VEN CB INLET R3 OTM-45 BH (140-28317-10) and T-2627 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-28317-12). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: T-2607,2608,2610 VEN CB

Job ID: 140-28317-1 (Continued)

Laboratory: Eurofins Knoxville (Continued)

INLET R1 OTM-45 BH (140-28317-2), T-2615,2616,2618 VEN CB INLET R2 OTM-45 BH (140-28317-6), T-2619 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-28317-8), T-2623,2624,2626 VEN CB INLET R3 OTM-45 BH (140-28317-10) and T-2627 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE (140-28317-12). The sample was analyzed at a dilution based on screening results.

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

Organic Prep

Method None: Filter weights were taken before extraction process was started on balance O2. The weights are as follows:
140-28317-a-1: 0.36g
140-28317-a-5: 0.36g
140-28317-a-9: 0.36g

T-2604,2606 VEN CB INLET R1 OTM-45 FH (140-28317-1), T-2612,2614 VEN CB INLET R2 OTM-45 FH (140-28317-5) and T-2620,2622 VEN CB INLET R3 OTM-45 FH (140-28317-9)

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

Client Sample ID: T-2604,2606 VEN CB INLET R1 OTM-45 FH
Lab Sample ID: 140-28317-1

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	68.2		4.95	4.66	ug/Sample		08/01/22 11:33	08/03/22 15:22	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*96*		*25 - 150*	*08/01/22 11:33*	*08/03/22 15:22*	*1*

Client Sample ID: T-2607,2608,2610 VEN CB INLET R1 OTM-45 BH
Lab Sample ID: 140-28317-2

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	67.8		50.0	27.5	ug/Sample		08/01/22 11:48	08/08/22 20:53	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*105*		*25 - 150*	*08/01/22 11:48*	*08/08/22 20:53*	*1*

Client Sample ID: T-2609 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE
Lab Sample ID: 140-28317-3

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	2.01		0.0746	0.0299	ug/Sample		08/01/22 11:46	08/03/22 13:45	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*73*		*25 - 150*	*08/01/22 11:46*	*08/03/22 13:45*	*1*

Client Sample ID: T-2611 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE
Lab Sample ID: 140-28317-4

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0870		0.0200	0.0110	ug/Sample		08/01/22 11:48	08/08/22 21:02	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*120*		*25 - 150*	*08/01/22 11:48*	*08/08/22 21:02*	*1*

Client Sample ID: T-2612,2614 VEN CB INLET R2 OTM-45 FH
Lab Sample ID: 140-28317-5

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	10.4		0.500	0.470	ug/Sample		08/01/22 11:33	08/03/22 15:31	1

Client Sample ID: T-2612,2614 VEN CB INLET R2 OTM-45 FH
Lab Sample ID: 140-28317-5

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	99		25 - 150	08/01/22 11:33	08/03/22 15:31	1

Client Sample ID: T-2615,2616,2618 VEN CB INLET R2 OTM-45 BH
Lab Sample ID: 140-28317-6

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	843		200	110	ug/Sample		08/01/22 11:48	08/08/22 21:11	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	96		25 - 150	08/01/22 11:48	08/08/22 21:11	1

Client Sample ID: T-2617 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE
Lab Sample ID: 140-28317-7

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	489		7.46	2.99	ug/Sample		08/01/22 11:46	08/03/22 13:54	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	94		25 - 150	08/01/22 11:46	08/03/22 13:54	1

Client Sample ID: T-2619 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE
Lab Sample ID: 140-28317-8

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	7.75		2.00	1.10	ug/Sample		08/01/22 11:48	08/08/22 21:20	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	94		25 - 150	08/01/22 11:48	08/08/22 21:20	1

Client Sample ID: T-2620,2622 VEN CB INLET R3 OTM-45 FH
Lab Sample ID: 140-28317-9

Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	114		5.00	4.70	ug/Sample		08/01/22 11:33	08/03/22 15:40	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	90		25 - 150	08/01/22 11:33	08/03/22 15:40	1

Client Sample ID: T-2623,2624,2626 VEN CB INLET R3 OTM-45 BH

Lab Sample ID: 140-28317-10

Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	5720		1000	550	ug/Sample		08/01/22 11:48	08/08/22 21:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*90*		*25 - 150*	*08/01/22 11:48*	*08/08/22 21:29*	*1*

Client Sample ID: T-2625 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28317-11

Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	502		7.58	3.03	ug/Sample		08/01/22 11:46	08/03/22 14:03	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*102*		*25 - 150*	*08/01/22 11:46*	*08/03/22 14:03*	*1*

Client Sample ID: T-2627 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28317-12

Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	7.67		4.00	2.20	ug/Sample		08/01/22 11:48	08/08/22 21:37	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*105*		*25 - 150*	*08/01/22 11:48*	*08/08/22 21:37*	*1*

Default Detection Limits

Client: The Chemours Company FC, LLC
Job ID: 140-28317-1
Project/Site: Fayetteville Emissions Test-VEN CB Inlet OTM-45

Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: None

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

Method: 537 (modified) - Fluorinated Alkyl Substances

Prep: PFAS Prep

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

Isotope Dilution Summary

Client: The Chemours Company FC, LLC
Job ID: 140-28317-1
Project/Site: Fayetteville Emissions Test-VEN CB Inlet OTM-45

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)
140-28317-1	T-2604,2606 VEN CB INLET R1	96
140-28317-2	T-2607,2608,2610 VEN CB INLET R1 OTM-45 BH	105
140-28317-3	T-2609 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	73
140-28317-4	T-2611 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	120
140-28317-5	T-2612,2614 VEN CB INLET R2 OTM-45 FH	99
140-28317-6	T-2615,2616,2618 VEN CB INLET R2 OTM-45 BH	96
140-28317-7	T-2617 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	94
140-28317-8	T-2619 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	94
140-28317-9	T-2620,2622 VEN CB INLET R3 OTM-45 FH	90
140-28317-10	T-2623,2624,2626 VEN CB INLET R3 OTM-45 BH	90
140-28317-11	T-2625 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	102
140-28317-12	T-2627 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	105
LCS 140-63934/2-B	Lab Control Sample	85
LCS 140-63935/2-A	Lab Control Sample	75
LCS 140-63936/2-B	Lab Control Sample	97
LCSD 140-63934/3-B	Lab Control Sample Dup	85
LCSD 140-63935/3-A	Lab Control Sample Dup	74
LCSD 140-63936/3-B	Lab Control Sample Dup	101
MB 140-63934/1-B	Method Blank	79
MB 140-63935/1-A	Method Blank	79
MB 140-63936/1-B	Method Blank	99

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-63934/1-B
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63934

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		08/01/22 11:33	08/03/22 14:56	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*79*		*25 - 150*	*08/01/22 11:33*	*08/03/22 14:56*	*1*

Lab Sample ID: LCS 140-63934/2-B
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63934

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02401		ug/Sample		120	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*85*		*25 - 150*

Lab Sample ID: LCSD 140-63934/3-B
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63934

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02511		ug/Sample		126	60 - 140	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*85*		*25 - 150*

Lab Sample ID: MB 140-63935/1-A
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63935

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		08/01/22 11:46	08/03/22 13:19	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*79*		*25 - 150*	*08/01/22 11:46*	*08/03/22 13:19*	*1*

Lab Sample ID: LCS 140-63935/2-A
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63935

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.01224		ug/Sample		122	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 140-63935/3-A
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63935

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.01181		ug/Sample		118	60 - 140	4	30

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

Lab Sample ID: MB 140-63936/1-B
Matrix: Air
Analysis Batch: 64150

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63936

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		08/01/22 11:48	08/08/22 20:27	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*99*		*25 - 150*	*08/01/22 11:48*	*08/08/22 20:27*	*1*

Lab Sample ID: LCS 140-63936/2-B
Matrix: Air
Analysis Batch: 64150

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63936

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02039		ug/Sample		102	60 - 140		

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

Lab Sample ID: LCSD 140-63936/3-B
Matrix: Air
Analysis Batch: 64150

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63936

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02441		ug/Sample		122	60 - 140	18	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*101*		*25 - 150*

LCMS

Prep Batch: 63934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28317-1	T-2604,2606 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	None	
140-28317-5	T-2612,2614 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	None	
140-28317-9	T-2620,2622 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	None	
MB 140-63934/1-B	Method Blank	Total/NA	Air	None	
LCS 140-63934/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-63934/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 63935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28317-3	T-2609 VEN CB INLET R1 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
140-28317-7	T-2617 VEN CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
140-28317-11	T-2625 VEN CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	PFAS Prep	
MB 140-63935/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-63935/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-63935/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Prep Batch: 63936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28317-2	T-2607,2608,2610 VEN CB INLET R1 OTM-45 B	Total/NA	Air	None	
140-28317-4	T-2611 VEN CB INLET R1 OTM-45 BREAKTHRC	Total/NA	Air	None	
140-28317-6	T-2615,2616,2618 VEN CB INLET R2 OTM-45 B	Total/NA	Air	None	
140-28317-8	T-2619 VEN CB INLET R2 OTM-45 BREAKTHRC	Total/NA	Air	None	
140-28317-10	T-2623,2624,2626 VEN CB INLET R3 OTM-45 B	Total/NA	Air	None	
140-28317-12	T-2627 VEN CB INLET R3 OTM-45 BREAKTHRC	Total/NA	Air	None	
MB 140-63936/1-B	Method Blank	Total/NA	Air	None	
LCS 140-63936/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-63936/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Cleanup Batch: 63965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28317-1	T-2604,2606 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	Split	63934
140-28317-5	T-2612,2614 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	Split	63934
140-28317-9	T-2620,2622 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	Split	63934
MB 140-63934/1-B	Method Blank	Total/NA	Air	Split	63934
LCS 140-63934/2-B	Lab Control Sample	Total/NA	Air	Split	63934
LCSD 140-63934/3-B	Lab Control Sample Dup	Total/NA	Air	Split	63934

Cleanup Batch: 63993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28317-2	T-2607,2608,2610 VEN CB INLET R1 OTM-45 B	Total/NA	Air	Split	63936
140-28317-4	T-2611 VEN CB INLET R1 OTM-45 BREAKTHRC	Total/NA	Air	Split	63936
140-28317-6	T-2615,2616,2618 VEN CB INLET R2 OTM-45 B	Total/NA	Air	Split	63936
140-28317-8	T-2619 VEN CB INLET R2 OTM-45 BREAKTHRC	Total/NA	Air	Split	63936
140-28317-10	T-2623,2624,2626 VEN CB INLET R3 OTM-45 B	Total/NA	Air	Split	63936
140-28317-12	T-2627 VEN CB INLET R3 OTM-45 BREAKTHRC	Total/NA	Air	Split	63936
MB 140-63936/1-B	Method Blank	Total/NA	Air	Split	63936
LCS 140-63936/2-B	Lab Control Sample	Total/NA	Air	Split	63936
LCSD 140-63936/3-B	Lab Control Sample Dup	Total/NA	Air	Split	63936

QC Association Summary

Client: The Chemours Company FC, LLC
Job ID: 140-28317-1
Project/Site: Fayetteville Emissions Test-VEN CB Inlet OTM-45

LCMS

Cleanup Batch: 64008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28317-1	T-2604,2606 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	Dilution	63965
140-28317-5	T-2612,2614 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	Dilution	63965
140-28317-7	T-2617 VEN CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	Dilution	63935
140-28317-9	T-2620,2622 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	Dilution	63965
140-28317-11	T-2625 VEN CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	Dilution	63935

Analysis Batch: 64010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28317-1	T-2604,2606 VEN CB INLET R1 OTM-45 FH	Total/NA	Air	537 (modified)	64008
140-28317-3	T-2609 VEN CB INLET R1 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	63935
140-28317-5	T-2612,2614 VEN CB INLET R2 OTM-45 FH	Total/NA	Air	537 (modified)	64008
140-28317-7	T-2617 VEN CB INLET R2 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	64008
140-28317-9	T-2620,2622 VEN CB INLET R3 OTM-45 FH	Total/NA	Air	537 (modified)	64008
140-28317-11	T-2625 VEN CB INLET R3 OTM-45 IMPINGERS	Total/NA	Air	537 (modified)	64008
MB 140-63934/1-B	Method Blank	Total/NA	Air	537 (modified)	63965
MB 140-63935/1-A	Method Blank	Total/NA	Air	537 (modified)	63935
LCS 140-63934/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	63965
LCS 140-63935/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	63935
LCSD 140-63934/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	63965
LCSD 140-63935/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	63935

Cleanup Batch: 64100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28317-2	T-2607,2608,2610 VEN CB INLET R1 OTM-45 B	Total/NA	Air	Dilution	63993
140-28317-6	T-2615,2616,2618 VEN CB INLET R2 OTM-45 B	Total/NA	Air	Dilution	63993
140-28317-8	T-2619 VEN CB INLET R2 OTM-45 BREAKTHR(	Total/NA	Air	Dilution	63993
140-28317-10	T-2623,2624,2626 VEN CB INLET R3 OTM-45 B	Total/NA	Air	Dilution	63993
140-28317-12	T-2627 VEN CB INLET R3 OTM-45 BREAKTHR(	Total/NA	Air	Dilution	63993

Analysis Batch: 64150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28317-2	T-2607,2608,2610 VEN CB INLET R1 OTM-45 B	Total/NA	Air	537 (modified)	64100
140-28317-4	T-2611 VEN CB INLET R1 OTM-45 BREAKTHR(	Total/NA	Air	537 (modified)	63993
140-28317-6	T-2615,2616,2618 VEN CB INLET R2 OTM-45 B	Total/NA	Air	537 (modified)	64100
140-28317-8	T-2619 VEN CB INLET R2 OTM-45 BREAKTHR(	Total/NA	Air	537 (modified)	64100
140-28317-10	T-2623,2624,2626 VEN CB INLET R3 OTM-45 B	Total/NA	Air	537 (modified)	64100
140-28317-12	T-2627 VEN CB INLET R3 OTM-45 BREAKTHR(	Total/NA	Air	537 (modified)	64100
MB 140-63936/1-B	Method Blank	Total/NA	Air	537 (modified)	63993
LCS 140-63936/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	63993
LCSD 140-63936/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	63993

Lab Chronicle

Client: The Chemours Company FC, LLC
Job ID: 140-28317-1
Project/Site: Fayetteville Emissions Test-VEN CB Inlet OTM-45

Client Sample ID: T-2604,2606 VEN CB INLET R1 OTM-45 FH
Lab Sample ID: 140-28317-1

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	107 mL	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			54 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	64008	08/03/22 11:08	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 15:22	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2607,2608,2610 VEN CB INLET R1 OTM-45 BH
Lab Sample ID: 140-28317-2

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Cleanup	Dilution			4 uL	10000 uL	64100	08/05/22 17:54	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 20:53	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2609 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE
Lab Sample ID: 140-28317-3

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.0067 Sample	10 mL	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 13:45	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2611 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE
Lab Sample ID: 140-28317-4

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 21:02	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2612,2614 VEN CB INLET R2 OTM-45 FH
Lab Sample ID: 140-28317-5

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	70 mL	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			35 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	64008	08/03/22 11:08	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 15:31	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2615,2616,2618 VEN CB INLET R2 OTM-45 BH
Lab Sample ID: 140-28317-6

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Cleanup	Dilution			1 uL	10000 uL	64100	08/05/22 17:54	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 21:11	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2617 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE
Lab Sample ID: 140-28317-7

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.0067 Sample	10 mL	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	64008	08/03/22 11:08	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 13:54	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2619 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE
Lab Sample ID: 140-28317-8

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	64100	08/05/22 17:54	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 21:20	CAC	ETA KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Job ID: 140-28317-1
Project/Site: Fayetteville Emissions Test-VEN CB Inlet OTM-45

Client Sample ID: T-2620,2622 VEN CB INLET R3 OTM-45 FH
Lab Sample ID: 140-28317-9
Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	56 mL	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			28 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	64008	08/03/22 11:08	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 15:40	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2623,2624,2626 VEN CB INLET R3 OTM-45 BH
Lab Sample ID: 140-28317-10
Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Cleanup	Dilution			0.2 uL	10000 uL	64100	08/05/22 17:54	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 21:29	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2625 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE
Lab Sample ID: 140-28317-11
Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.0066 Sample	10 mL	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	64008	08/03/22 11:08	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 14:03	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2627 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE
Lab Sample ID: 140-28317-12
Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Cleanup	Dilution			50 uL	10000 uL	64100	08/05/22 17:54	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 21:37	CAC	ETA KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Job ID: 140-28317-1
Project/Site: Fayetteville Emissions Test-VEN CB Inlet OTM-45

Client Sample ID: Method Blank
Lab Sample ID: MB 140-63934/1-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	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			25 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 14:56	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-63935/1-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	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 13:19	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-63936/1-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	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 20:27	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-63934/2-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	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			25 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 15:05	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-63935/2-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	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 13:28	CAC	ETA KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Job ID: 140-28317-1
Project/Site: Fayetteville Emissions Test-VEN CB Inlet OTM-45

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-63936/2-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	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 20:36	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-63934/3-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	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			25 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 15:13	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-63935/3-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	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 13:37	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-63936/3-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	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 20:45	CAC	ETA KNX
	Instrument ID: LCA									

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

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC
Job ID: 140-28317-1
Project/Site: Fayetteville Emissions Test-VEN CB Inlet OTM-45

Laboratory: Eurofins Knoxville

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-23
California	State	2423	06-30-22 *
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	08-31-22
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-23
New York	NELAP	10781	03-31-23
North Carolina (DW)	State	21705	07-31-23
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-22
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	12-11-22
Texas	NELAP	T104704380-21-16	08-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-19-00236	12-31-22
Utah	NELAP	TN00009	07-31-22 *
Virginia	NELAP	460176	09-14-22
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-23
Wisconsin	State	998044300	08-31-22

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

Method Summary

Client: The Chemours Company FC, LLC
Job ID: 140-28317-1
Project/Site: Fayetteville Emissions Test-VEN CB Inlet OTM-45

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

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

Sample Summary

Client: The Chemours Company FC, LLC
Project/Site: Fayetteville Emissions Test-VEN CB Inlet
OTM-45

Job ID: 140-28317-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-28317-1	T-2604,2606 VEN CB INLET R1 OTM-45 FH	Air	07/28/22 00:00	07/31/22 11:30
140-28317-2	T-2607,2608,2610 VEN CB INLET R1 OTM-45 BH	Air	07/28/22 00:00	07/31/22 11:30
140-28317-3	T-2609 VEN CB INLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	07/28/22 00:00	07/31/22 11:30
140-28317-4	T-2611 VEN CB INLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	07/28/22 00:00	07/31/22 11:30
140-28317-5	T-2612,2614 VEN CB INLET R2 OTM-45 FH	Air	07/28/22 00:00	07/31/22 11:30
140-28317-6	T-2615,2616,2618 VEN CB INLET R2 OTM-45 BH	Air	07/28/22 00:00	07/31/22 11:30
140-28317-7	T-2617 VEN CB INLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	07/28/22 00:00	07/31/22 11:30
140-28317-8	T-2619 VEN CB INLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	07/28/22 00:00	07/31/22 11:30
140-28317-9	T-2620,2622 VEN CB INLET R3 OTM-45 FH	Air	07/29/22 00:00	07/31/22 11:30
140-28317-10	T-2623,2624,2626 VEN CB INLET R3 OTM-45 BH	Air	07/29/22 00:00	07/31/22 11:30
140-28317-11	T-2625 VEN CB INLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	07/29/22 00:00	07/31/22 11:30
140-28317-12	T-2627 VEN CB INLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	07/29/22 00:00	07/31/22 11:30

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

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

Analytical Testing QC Requirements:
The Legend for 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 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 N[illegible]" on all TALS Reports.

Analytical Parameter:	**Holding Time Requirements:**
HFPO-DA (CAS No. 13252-13-6)	28 Days to Extraction; 28 Days to Analysis

140-28317 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-2604 VEN CB INLET R1 OTM-45 Tared Particulate Filter *(Combine with T-2605, T-2606)*	1	7/28/22		Petri Dish	**Tared Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville**: Determine Particulate by performing replicate weights until a constant weight is achieved. Spike the 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. Determine Particulate by performing replicate weights until a constant weight is achieved.
T-2605 VEN CB INLET R1 OTM-45 Acetone Probe Rinse *(Combine with T-2604, T-2606)*	1	N/A		250 mL Amber Boston Round	**Acetone Probe Rinse** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville:** Evaporate sample to dryness in an oven at 105°C. Determine Particulate by performing replicate weights until a constant weight is achieved. Reconstitute residue with MeOH/5% NH_4OH solution and combine with Front-Half Probe Rinse and Particulate Filter before 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-2606 VEN CB INLET R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse *(Combine with T-2604, T-2605)*	1	7/28/22		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-2607 VEN CB INLET R1 OTM-45 XAD-2 Resin Tube	1	7/28/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the 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-2608 VEN CB INLET R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse *(Combine with T-2607)*	1	7/28/22		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-2609 VEN CB INLET R1 OTM-45 Impingers 1,2 & 3 Condensate	1	7/28/22		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-2610 VEN CB INLET R1 OTM-45 Impinger Glassware MeOH Rinse *(Combine with T-2607)*	1	7/28/22		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-2611 VEN CB INLET R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	7/28/22		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2612 VEN CB INLET R2 OTM-45 Particulate Filter *(Combine with T-2613, T-2614)*	2	7/28/22		Petri Dish	**Tared Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville**: Determine Particulate by performing replicate weights until a constant weight is achieved. Spike the 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. Determine Particulate by performing replicate weights until a constant weight is achieved.
T-2613 VEN CB INLET R2 OTM-45 Acetone Probe Rinse *(Combine with T-2612, T-2614)*	2	N/A		250 mL Amber Boston Round	**Acetone Probe Rinse** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville:** Evaporate sample to dryness in an oven at 105°C. Determine Particulate by performing replicate weights until a constant weight is achieved. Reconstitute residue with MeOH/5% NH_4OH solution and combine with Front-Half Probe Rinse and Particulate Filter before extraction.
T-2614 VEN CB INLET R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse *(Combine with T-2612, T-2613)*	2	7/28/22		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-2615 VEN CB INLET R2 OTM-45 XAD-2 Resin Tube	2	7/28/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the 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.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2616 VEN CB INLET R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse *(Combine with T-2615)*	2	7/28/22		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-2617 VEN CB INLET R2 OTM-45 Impingers 1,2 & 3 Condensate	2	7/28/22		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-2618 VEN CB INLET R2 OTM-45 Impinger Glassware MeOH Rinse *(Combine with T-2615)*	2	7/28/22		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-2619 VEN CB INLET R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	7/28/2		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the 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-2620 VEN CB INLET R3 OTM-45 Particulate Filter *(Combine with T-2621, T-2622)*	3	7/29/22		Petri Dish	**Tared Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville**: Determine Particulate by performing replicate weights until a constant weight is achieved. Spike the 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. Determine Particulate by performing replicate weights until a constant weight is achieved.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2621 VEN CB INLET R3 OTM-45 Acetone Probe Rinse *(Combine with T-2620, T-2622)*	3	N/A		250 mL Amber Boston Round	**Acetone Probe Rinse** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville:** Evaporate sample to dryness in an oven at 105°C. Determine Particulate by performing replicate weights until a constant weight is achieved. Reconstitute residue with MeOH/5% NH_4OH solution and combine with Front-Half Probe Rinse and Particulate Filter before extraction.
T-2622 VEN CB INLET R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse *(Combine with T-2620, T-2621)*	3	7/29/22		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-2623 VEN CB INLET R3 OTM-45 XAD-2 Resin Tube	3	7/29/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the 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-2624 VEN CB INLET R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse *(Combine with T-2623)*	3	7/29/22		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-2625 VEN CB INLET R3 OTM-45 Impingers 1,2 & 3 Condensate	3	7/29/22		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-2626 VEN CB INLET R3 OTM-45 Impinger Glassware MeOH Rinse *(Combine with T-2623)*	3	7/29/22		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.

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	NONE
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	RT 4.4/ CT 4.5c
(3) Record any apparent sample loss/breakage.	NONE
(4) Record any unidentified samples transported with this shipment of samples:	NONE
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	HAND DELIVERED, NO CUSTODY SEALS

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	[signature]	Alliance	7/29/22 / 1200
Accepted By:	[signature]	ETA KNOX	7/29/22 1200
Relinquished By:	[signature]	ETA KNOX	7/30/22 0850
Accepted By:	[signature]	ETA KNX	7-31-22 11:30
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

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

Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?			✓	☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC73 Correction factor: +0.1°C	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?			✓	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

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

Project #: _____ PM Instructions: _____

Sample Receiving Associate: _____ Date: 8·1·22

QA026R32.doc, 062719

eurofins | Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 140-28318-1
Client Project/Site: Fayetteville Emissions Test-VEN CB Outlet OTM-45

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:
8/11/2022 9:43:56 AM

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

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Definitions/Glossary

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

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: 140-28318-1

Laboratory: Eurofins Knoxville

Narrative

Job Narrative
140-28318-1

Receipt

The samples were received on 7/31/2022 11:30 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 3.9º 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): Results for samples T-2628,2630 VEN CB OUTLET R1 OTM-45 FH (140-28318-1) and T-2644,2646 VEN CB OUTLET R3 OTM-45 FH (140-28318-9) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: T-2628,2630 VEN CB OUTLET R1 OTM-45 FH (140-28318-1), T-2636,2638 VEN CB OUTLET R2 OTM-45 FH (140-28318-5) and T-2644,2646 VEN CB OUTLET R3 OTM-45 FH (140-28318-9). The samples were analyzed at a dilution based on screening results.

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): T-2636,2638 VEN CB OUTLET R2 OTM-45 FH (140-28318-5). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The following samples were diluted due to <CHOOSE_ONE> the nature of the sample matrix OR abundance of target analytes OR abundance of non-target analytes: T-2647,2648,2650 VEN CB OUTLET R3 OTM-45 BH (140-28318-10). As such, surrogate recoveries are below the calibration range or are not reported, and elevated reporting limits (RLs) are provided.

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-2639,2640,2642 VEN CB OUTLET R2 OTM-45 BH (140-28318-6). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Job ID: 140-28318-1 (Continued)

Laboratory: Eurofins Knoxville (Continued)

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: T-2639,2640,2642 VEN CB OUTLET R2 OTM-45 BH (140-28318-6) and T-2647,2648,2650 VEN CB OUTLET R3 OTM-45 BH (140-28318-10). The sample was analyzed at a dilution based on screening results.

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

Organic Prep

Method None: Filter weights were taken before extraction process was started on balance O2. The weights are as follows:

140-28318-a-1: 0.36g
140-28318-a-5: 0.36g
140-28318-a-9: 0.37g

T-2628,2630 VEN CB OUTLET R1 OTM-45 FH (140-28318-1), T-2636,2638 VEN CB OUTLET R2 OTM-45 FH (140-28318-5) and T-2644,2646 VEN CB OUTLET R3 OTM-45 FH (140-28318-9)

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
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

Client Sample ID: T-2628,2630 VEN CB OUTLET R1 OTM-45 FH

Lab Sample ID: 140-28318-1

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	1.97		0.100	0.0940	ug/Sample		08/01/22 11:33	08/03/22 15:49	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*105*		*25 - 150*	*08/01/22 11:33*	*08/03/22 15:49*	*20*

Client Sample ID: T-2631,2632,2634 VEN CB OUTLET R1 OTM-45 BH

Lab Sample ID: 140-28318-2

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.134		0.0200	0.0110	ug/Sample		08/01/22 11:48	08/08/22 21:46	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*112*		*25 - 150*	*08/01/22 11:48*	*08/08/22 21:46*	*1*

Client Sample ID: T-2633 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28318-3

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0516	J	0.0769	0.0308	ug/Sample		08/01/22 11:46	08/03/22 14:12	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*74*		*25 - 150*	*08/01/22 11:46*	*08/03/22 14:12*	*1*

Client Sample ID: T-2635 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28318-4

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30
Sample Container: Air Train

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0143	J	0.0200	0.0110	ug/Sample		08/01/22 11:48	08/08/22 22:13	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*108*		*25 - 150*	*08/01/22 11:48*	*08/08/22 22:13*	*1*

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

Client Sample ID: T-2636,2638 VEN CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-28318-5

Date Collected: 07/28/22 00:00
Date Received: 07/31/22 11:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	114		4.92	4.63	ug/Sample		08/01/22 11:33	08/03/22 15:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*97*		*25 - 150*	*08/01/22 11:33*	*08/03/22 15:57*	*1*

Client Sample ID: T-2639,2640,2642 VEN CB OUTLET R2 OTM-45 BH

Lab Sample ID: 140-28318-6

Date Collected: 07/28/22 00:00
Date Received: 07/31/22 11:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	9.42		2.00	1.10	ug/Sample		08/01/22 11:48	08/08/22 22:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*85*		*25 - 150*	*08/01/22 11:48*	*08/08/22 22:21*	*1*

Client Sample ID: T-2641 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28318-7

Date Collected: 07/28/22 00:00
Date Received: 07/31/22 11:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	1.53		0.0769	0.0308	ug/Sample		08/01/22 11:46	08/03/22 14:21	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*72*		*25 - 150*	*08/01/22 11:46*	*08/03/22 14:21*	*1*

Client Sample ID: T-2643 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28318-8

Date Collected: 07/28/22 00:00
Date Received: 07/31/22 11:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0255		0.0200	0.0110	ug/Sample		08/01/22 11:48	08/08/22 22:30	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*106*		*25 - 150*	*08/01/22 11:48*	*08/08/22 22:30*	*1*

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

Client Sample ID: T-2644,2646 VEN CB OUTLET R3 OTM-45 FH

Lab Sample ID: 140-28318-9

Date Collected: 07/29/22 00:00
Date Received: 07/31/22 11:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	1.83		0.0983	0.0924	ug/Sample		08/01/22 11:33	08/03/22 16:06	20

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*110*		*25 - 150*	*08/01/22 11:33*	*08/03/22 16:06*	*20*

Client Sample ID: T-2647,2648,2650 VEN CB OUTLET R3 OTM-45 BH

Lab Sample ID: 140-28318-10

Date Collected: 07/29/22 00:00
Date Received: 07/31/22 11:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.493		0.200	0.110	ug/Sample		08/01/22 11:48	08/08/22 22:48	10

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*103*		*25 - 150*	*08/01/22 11:48*	*08/08/22 22:48*	*10*

Client Sample ID: T-2649 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28318-11

Date Collected: 07/29/22 00:00
Date Received: 07/31/22 11:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0549	J	0.0794	0.0317	ug/Sample		08/01/22 11:46	08/03/22 14:29	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*74*		*25 - 150*	*08/01/22 11:46*	*08/03/22 14:29*	*1*

Client Sample ID: T-2651 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28318-12

Date Collected: 07/29/22 00:00
Date Received: 07/31/22 11:30
Sample Container: Air Train

Matrix: Air

Method: 537 (modified) - Fluorinated Alkyl Substances

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.0452		0.0200	0.0110	ug/Sample		08/01/22 11:48	08/08/22 22:57	1

Isotope Dilution	*%Recovery*	*Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*119*		*25 - 150*	*08/01/22 11:48*	*08/08/22 22:57*	*1*

Default Detection Limits

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet OTM-

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: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

Job ID: 140-28318-1

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)						
140-28318-1	T-2628,2630 VEN CB OUTLET I	105						
140-28318-2	T-2631,2632,2634 VEN CB OUTLET R1 OTM-45 BH	112						
140-28318-3	T-2633 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	74						
140-28318-4	T-2635 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	108						
140-28318-5	T-2636,2638 VEN CB OUTLET R2 OTM-45 FH	97						
140-28318-6	T-2639,2640,2642 VEN CB OUTLET R2 OTM-45 BH	85						
140-28318-7	T-2641 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	72						
140-28318-8	T-2643 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	106						
140-28318-9	T-2644,2646 VEN CB OUTLET R3 OTM-45 FH	110						
140-28318-10	T-2647,2648,2650 VEN CB OUTLET R3 OTM-45 BH	103						
140-28318-11	T-2649 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	74						
140-28318-12	T-2651 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	119						
LCS 140-63934/2-B	Lab Control Sample	85						
LCS 140-63935/2-A	Lab Control Sample	75						
LCS 140-63936/2-B	Lab Control Sample	97						
LCSD 140-63934/3-B	Lab Control Sample Dup	85						
LCSD 140-63935/3-A	Lab Control Sample Dup	74						
LCSD 140-63936/3-B	Lab Control Sample Dup	101						
MB 140-63934/1-B	Method Blank	79						
MB 140-63935/1-A	Method Blank	79						
MB 140-63936/14-B	Method Blank	107						
MB 140-63936/1-B	Method Blank	99						

Surrogate Legend

HFPODA = 13C3 HFPO-DA

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-63934/1-B
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63934

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.00500	0.00470	ug/Sample		08/01/22 11:33	08/03/22 14:56	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*79*		*25 - 150*	*08/01/22 11:33*	*08/03/22 14:56*	*1*

Lab Sample ID: LCS 140-63934/2-B
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63934

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02401		ug/Sample		120	60 - 140		

Isotope Dilution	*LCS %Recovery*	*LCS Qualifier*	*Limits*
13C3 HFPO-DA	*85*		*25 - 150*

Lab Sample ID: LCSD 140-63934/3-B
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63934

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02511		ug/Sample		126	60 - 140	4	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*85*		*25 - 150*

Lab Sample ID: MB 140-63935/1-A
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63935

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.000500	0.000200	ug/Sample		08/01/22 11:46	08/03/22 13:19	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*79*		*25 - 150*	*08/01/22 11:46*	*08/03/22 13:19*	*1*

Lab Sample ID: LCS 140-63935/2-A
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63935

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0100	0.01224		ug/Sample		122	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 140-63935/3-A
Matrix: Air
Analysis Batch: 64010

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63935

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0100	0.01181		ug/Sample		118	60 - 140	4	30

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

Lab Sample ID: MB 140-63936/14-B
Matrix: Air
Analysis Batch: 64150

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63936

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		08/01/22 11:48	08/08/22 22:39	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*107*		*25 - 150*	*08/01/22 11:48*	*08/08/22 22:39*	*1*

Lab Sample ID: MB 140-63936/1-B
Matrix: Air
Analysis Batch: 64150

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 63936

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	ND		0.0200	0.0110	ug/Sample		08/01/22 11:48	08/08/22 20:27	1

Isotope Dilution	*MB %Recovery*	*MB Qualifier*	*Limits*	*Prepared*	*Analyzed*	*Dil Fac*
13C3 HFPO-DA	*99*		*25 - 150*	*08/01/22 11:48*	*08/08/22 20:27*	*1*

Lab Sample ID: LCS 140-63936/2-B
Matrix: Air
Analysis Batch: 64150

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 63936

Analyte			Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits		
HFPO-DA			0.0200	0.02039		ug/Sample		102	60 - 140		

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

Lab Sample ID: LCSD 140-63936/3-B
Matrix: Air
Analysis Batch: 64150

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 63936

Analyte			Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
HFPO-DA			0.0200	0.02441		ug/Sample		122	60 - 140	18	30

Isotope Dilution	*LCSD %Recovery*	*LCSD Qualifier*	*Limits*
13C3 HFPO-DA	*101*		*25 - 150*

QC Association Summary

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

LCMS

Prep Batch: 63934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28318-1	T-2628,2630 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	None	
140-28318-5	T-2636,2638 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	None	
140-28318-9	T-2644,2646 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	None	
MB 140-63934/1-B	Method Blank	Total/NA	Air	None	
LCS 140-63934/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-63934/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 63935

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28318-3	T-2633 VEN CB OUTLET R1 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
140-28318-7	T-2641 VEN CB OUTLET R2 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
140-28318-11	T-2649 VEN CB OUTLET R3 OTM-45 IMPINGEF	Total/NA	Air	PFAS Prep	
MB 140-63935/1-A	Method Blank	Total/NA	Air	PFAS Prep	
LCS 140-63935/2-A	Lab Control Sample	Total/NA	Air	PFAS Prep	
LCSD 140-63935/3-A	Lab Control Sample Dup	Total/NA	Air	PFAS Prep	

Prep Batch: 63936

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28318-2	T-2631,2632,2634 VEN CB OUTLET R1 OTM-45	Total/NA	Air	None	
140-28318-4	T-2635 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	None	
140-28318-6	T-2639,2640,2642 VEN CB OUTLET R2 OTM-45	Total/NA	Air	None	
140-28318-8	T-2643 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	None	
140-28318-10	T-2647,2648,2650 VEN CB OUTLET R3 OTM-45	Total/NA	Air	None	
140-28318-12	T-2651 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	None	
MB 140-63936/14-B	Method Blank	Total/NA	Air	None	
MB 140-63936/1-B	Method Blank	Total/NA	Air	None	
LCS 140-63936/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-63936/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Cleanup Batch: 63965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28318-1	T-2628,2630 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	Split	63934
140-28318-5	T-2636,2638 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	Split	63934
140-28318-9	T-2644,2646 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	Split	63934
MB 140-63934/1-B	Method Blank	Total/NA	Air	Split	63934
LCS 140-63934/2-B	Lab Control Sample	Total/NA	Air	Split	63934
LCSD 140-63934/3-B	Lab Control Sample Dup	Total/NA	Air	Split	63934

Cleanup Batch: 63993

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28318-2	T-2631,2632,2634 VEN CB OUTLET R1 OTM-45	Total/NA	Air	Split	63936
140-28318-4	T-2635 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	Split	63936
140-28318-6	T-2639,2640,2642 VEN CB OUTLET R2 OTM-45	Total/NA	Air	Split	63936
140-28318-8	T-2643 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	Split	63936
140-28318-10	T-2647,2648,2650 VEN CB OUTLET R3 OTM-45	Total/NA	Air	Split	63936
140-28318-12	T-2651 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	Split	63936
MB 140-63936/14-B	Method Blank	Total/NA	Air	Split	63936
MB 140-63936/1-B	Method Blank	Total/NA	Air	Split	63936
LCS 140-63936/2-B	Lab Control Sample	Total/NA	Air	Split	63936
LCSD 140-63936/3-B	Lab Control Sample Dup	Total/NA	Air	Split	63936

QC Association Summary

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

LCMS

Cleanup Batch: 64008

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28318-5	T-2636,2638 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	Dilution	63965

Analysis Batch: 64010

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28318-1	T-2628,2630 VEN CB OUTLET R1 OTM-45 FH	Total/NA	Air	537 (modified)	63965
140-28318-3	T-2633 VEN CB OUTLET R1 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	63935
140-28318-5	T-2636,2638 VEN CB OUTLET R2 OTM-45 FH	Total/NA	Air	537 (modified)	64008
140-28318-7	T-2641 VEN CB OUTLET R2 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	63935
140-28318-9	T-2644,2646 VEN CB OUTLET R3 OTM-45 FH	Total/NA	Air	537 (modified)	63965
140-28318-11	T-2649 VEN CB OUTLET R3 OTM-45 IMPINGEF	Total/NA	Air	537 (modified)	63935
MB 140-63934/1-B	Method Blank	Total/NA	Air	537 (modified)	63965
MB 140-63935/1-A	Method Blank	Total/NA	Air	537 (modified)	63935
LCS 140-63934/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	63965
LCS 140-63935/2-A	Lab Control Sample	Total/NA	Air	537 (modified)	63935
LCSD 140-63934/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	63965
LCSD 140-63935/3-A	Lab Control Sample Dup	Total/NA	Air	537 (modified)	63935

Cleanup Batch: 64100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28318-6	T-2639,2640,2642 VEN CB OUTLET R2 OTM-45	Total/NA	Air	Dilution	63993

Analysis Batch: 64150

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-28318-2	T-2631,2632,2634 VEN CB OUTLET R1 OTM-45	Total/NA	Air	537 (modified)	63993
140-28318-4	T-2635 VEN CB OUTLET R1 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	63993
140-28318-6	T-2639,2640,2642 VEN CB OUTLET R2 OTM-45	Total/NA	Air	537 (modified)	64100
140-28318-8	T-2643 VEN CB OUTLET R2 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	63993
140-28318-10	T-2647,2648,2650 VEN CB OUTLET R3 OTM-45	Total/NA	Air	537 (modified)	63993
140-28318-12	T-2651 VEN CB OUTLET R3 OTM-45 BREAKTH	Total/NA	Air	537 (modified)	63993
MB 140-63936/14-B	Method Blank	Total/NA	Air	537 (modified)	63993
MB 140-63936/1-B	Method Blank	Total/NA	Air	537 (modified)	63993
LCS 140-63936/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	63993
LCSD 140-63936/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	63993

Lab Chronicle

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

Client Sample ID: T-2628,2630 VEN CB OUTLET R1 OTM-45 FH
Lab Sample ID: 140-28318-1

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	64 mL	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			32 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		20			64010	08/03/22 15:49	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2631,2632,2634 VEN CB OUTLET R1 OTM-45 BH
Lab Sample ID: 140-28318-2

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 21:46	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2633 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE
Lab Sample ID: 140-28318-3

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.0065 Sample	10 mL	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 14:12	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2635 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE
Lab Sample ID: 140-28318-4

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 22:13	CAC	ETA KNX
	Instrument ID: LCA									

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

Client Sample ID: T-2636,2638 VEN CB OUTLET R2 OTM-45 FH

Lab Sample ID: 140-28318-5

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	63 mL	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			32 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Cleanup	Dilution			10 uL	10000 uL	64008	08/03/22 11:08	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 15:57	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2639,2640,2642 VEN CB OUTLET R2 OTM-45 BH

Lab Sample ID: 140-28318-6

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	64100	08/05/22 17:54	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 22:21	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2641 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE

Lab Sample ID: 140-28318-7

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.0065 Sample	10 mL	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 14:21	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2643 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE

Lab Sample ID: 140-28318-8

Date Collected: 07/28/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 22:30	CAC	ETA KNX
	Instrument ID: LCA									

Lab Chronicle

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

Client Sample ID: T-2644,2646 VEN CB OUTLET R3 OTM-45 FH
Lab Sample ID: 140-28318-9

Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	59 mL	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			30 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		20			64010	08/03/22 16:06	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2647,2648,2650 VEN CB OUTLET R3 OTM-45 BH
Lab Sample ID: 140-28318-10

Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		10			64150	08/08/22 22:48	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2649 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE
Lab Sample ID: 140-28318-11

Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	PFAS Prep			0.0063 Sample	10 mL	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 14:29	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: T-2651 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE
Lab Sample ID: 140-28318-12

Date Collected: 07/29/22 00:00
Matrix: Air
Date Received: 07/31/22 11:30

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 22:57	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-63934/1-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	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			25 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 14:56	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-63935/1-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	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 13:19	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-63936/14-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	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 22:39	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Method Blank
Lab Sample ID: MB 140-63936/1-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	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 20:27	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-63934/2-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	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			25 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 15:05	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-63935/2-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	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 13:28	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample
Lab Sample ID: LCS 140-63936/2-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	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 20:36	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-63934/3-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	63934	08/01/22 11:33	CAC	ETA KNX
Total/NA	Cleanup	Split			25 mL	10 mL	63965	08/02/22 08:14	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 15:13	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-63935/3-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	63935	08/01/22 11:46	CAC	ETA KNX
Total/NA	Analysis	537 (modified)		1			64010	08/03/22 13:37	CAC	ETA KNX
	Instrument ID: LCA									

Client Sample ID: Lab Control Sample Dup
Lab Sample ID: LCSD 140-63936/3-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	63936	08/01/22 11:48	CAC	ETA KNX
Total/NA	Cleanup	Split			180 mL	10 mL	63993	08/03/22 08:02	ACW	ETA KNX
Total/NA	Analysis	537 (modified)		1			64150	08/08/22 20:45	CAC	ETA KNX
	Instrument ID: LCA									

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

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

Laboratory: Eurofins Knoxville

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

Authority	Program	Identification Number	Expiration Date
	AFCEE	N/A	
ANAB	Dept. of Defense ELAP	L2311	02-13-25
ANAB	Dept. of Energy	L2311.01	02-13-25
ANAB	ISO/IEC 17025	L2311	02-13-25
Arkansas DEQ	State	88-0688	06-16-23
California	State	2423	06-30-22 *
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	08-31-22
New Hampshire	NELAP	299919	01-17-23
New Jersey	NELAP	TN001	06-30-23
New York	NELAP	10781	03-31-23
North Carolina (DW)	State	21705	07-31-23
North Carolina (WW/SW)	State	64	12-31-22
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-22
Oregon	NELAP	TNI0189	12-31-22
Pennsylvania	NELAP	68-00576	12-31-22
Tennessee	State	02014	12-11-22
Texas	NELAP	T104704380-21-16	08-31-22
US Fish & Wildlife	US Federal Programs	058448	07-31-23
USDA	US Federal Programs	P330-19-00236	12-31-22
Utah	NELAP	TN00009	07-31-22 *
Virginia	NELAP	460176	09-14-22
Washington	State	C593	01-19-23
West Virginia (DW)	State	9955C	12-31-22
West Virginia DEP	State	345	04-30-23
Wisconsin	State	998044300	08-31-22

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

Method Summary

Client: The Chemours Company FC, LLC
Job ID: 140-28318-1
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

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

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

Sample Summary

Client: The Chemours Company FC, LLC
Project/Site: Fayetteville Emissions Test-VEN CB Outlet
OTM-45

Job ID: 140-28318-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-28318-1	T-2628,2630 VEN CB OUTLET R1 OTM-45 FH	Air	07/28/22 00:00	07/31/22 11:30
140-28318-2	T-2631,2632,2634 VEN CB OUTLET R1 OTM-45 BH	Air	07/28/22 00:00	07/31/22 11:30
140-28318-3	T-2633 VEN CB OUTLET R1 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	07/28/22 00:00	07/31/22 11:30
140-28318-4	T-2635 VEN CB OUTLET R1 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	07/28/22 00:00	07/31/22 11:30
140-28318-5	T-2636,2638 VEN CB OUTLET R2 OTM-45 FH	Air	07/28/22 00:00	07/31/22 11:30
140-28318-6	T-2639,2640,2642 VEN CB OUTLET R2 OTM-45 BH	Air	07/28/22 00:00	07/31/22 11:30
140-28318-7	T-2641 VEN CB OUTLET R2 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	07/28/22 00:00	07/31/22 11:30
140-28318-8	T-2643 VEN CB OUTLET R2 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	07/28/22 00:00	07/31/22 11:30
140-28318-9	T-2644,2646 VEN CB OUTLET R3 OTM-45 FH	Air	07/29/22 00:00	07/31/22 11:30
140-28318-10	T-2647,2648,2650 VEN CB OUTLET R3 OTM-45 BH	Air	07/29/22 00:00	07/31/22 11:30
140-28318-11	T-2649 VEN CB OUTLET R3 OTM-45 IMPINGERS 1,2&3 CONDENSATE	Air	07/29/22 00:00	07/31/22 11:30
140-28318-12	T-2651 VEN CB OUTLET R3 OTM-45 BREAKTHROUGH XAD-2 RESIN TUBE	Air	07/29/22 00:00	07/31/22 11:30

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

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

Analytical Testing QC Requirements:
The Legend for 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 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 Sampl… …er" on all TALS Reports.

Analytical Parameter:	**Holding Time Requirements:**
HFPO-DA (CAS No. 13252-13-6)	28 Days to Extraction; 28 Days to Analysis

140-28318 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-2628 VEN CB OUTLET R1 OTM-45 Tared Particulate Filter *(Combine with T-2629, T-2630)*	1	7/28/22		Petri Dish	**Tared Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville**: Determine Particulate by performing replicate weights until a constant weight is achieved. Spike the 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. Determine Particulate by performing replicate weights until a constant weight is achieved.
T-2629 VEN CB OUTLET R1 OTM-45 Acetone Probe Rinse *(Combine with T-2628, T-2630)*	1	N/A		250 mL Amber Boston Round	**Acetone Probe Rinse** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville:** Evaporate sample to dryness in an oven at 105°C. Determine Particulate by performing replicate weights until a constant weight is achieved. Reconstitute residue with MeOH/5% NH_4OH solution and combine with Front-Half Probe Rinse and Particulate Filter before 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-2630 VEN CB OUTLET R1 OTM-45 FH of Filter Holder & Probe Methanol Rinse *(Combine with T-2628, T-2629)*	1	7/28/22		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-2631 VEN CB OUTLET R1 OTM-45 XAD-2 Resin Tube	1	7/28/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the 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-2632 VEN CB OUTLET R1 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse *(Combine with T-2631)*	1	7/28/22		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-2633 VEN CB OUTLET R1 OTM-45 Impingers 1,2 & 3 Condensate	1	7/28/22		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-2634 VEN CB OUTLET R1 OTM-45 Impinger Glassware MeOH Rinse *(Combine with T-2631)*	1	7/28/22		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-2635 VEN CB OUTLET R1 OTM-45 Breakthrough XAD-2 Resin Tube	1	7/28/22		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2636 VEN CB OUTLET R2 OTM-45 Particulate Filter (Combine with *T-2637, T-2638*)	2	7/28/22		Petri Dish	**Tared Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville**: Determine Particulate by performing replicate weights until a constant weight is achieved. Spike the 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. Determine Particulate by performing replicate weights until a constant weight is achieved.
T-2637 VEN CB OUTLET R2 OTM-45 Acetone Probe Rinse *(Combine with T-2636, T-2638)*	2	N/A		250 mL Amber Boston Round	**Acetone Probe Rinse** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville:** Evaporate sample to dryness in an oven at 105°C. Determine Particulate by performing replicate weights until a constant weight is achieved. Reconstitute residue with MeOH/5% NH_4OH solution and combine with Front-Half Probe Rinse and Particulate Filter before extraction.
T-2638 VEN CB OUTLET R2 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse *(Combine with T-2636, T-2637)*	2	7/28/22		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-2639 VEN CB OUTLET R2 OTM-45 XAD-2 Resin Tube	2	7/28/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the 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.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2640 VEN CB OUTLET R2 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse *(Combine with T-2639)*	2	7/28/22		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-2641 VEN CB OUTLET R2 OTM-45 Impingers 1,2 & 3 Condensate	2	7/28/22		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-2642 VEN CB OUTLET R2 OTM-45 Impinger Glassware MeOH Rinse *(Combine with T-2639)*	2	7/28/22		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-2643 VEN CB OUTLET R2 OTM-45 Breakthrough XAD-2 Resin Tube	2	7/28/22		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the 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-2644 VEN CB OUTLET R3 OTM-45 Particulate Filter *(Combine with T-2645, T-2646)*	3	7/29/22		Petri Dish	**Tared Particulate Filter (82.6 mm Whatman Glass Microfiber)** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville**: Determine Particulate by performing replicate weights until a constant weight is achieved. Spike the 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. Determine Particulate by performing replicate weights until a constant weight is achieved.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2645 VEN CB OUTLET R3 OTM-45 Acetone Probe Rinse *(Combine with T-2644, T-2646)*	3	N/A		250 mL Amber Boston Round	**Acetone Probe Rinse** OTM-45 / Method 5 Train HFPO-DA / Particulate Analysis	**Knoxville:** Evaporate sample to dryness in an oven at 105°C. Determine Particulate by performing replicate weights until a constant weight is achieved. Reconstitute residue with MeOH/5% NH_4OH solution and combine with Front-Half Probe Rinse and Particulate Filter before extraction.
T-2646 VEN CB OUTLET R3 OTM-45 Front Half of Filter Holder & Probe Methanol Rinse *(Combine with T-2644, T-2645)*	3	7/29/22		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-2647 VEN CB OUTLET R3 OTM-45 XAD-2 Resin Tube	3	7/29/22		XAD-2 Resin Tube	**XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the 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-2648 VEN CB OUTLET R3 OTM-45 BH of Filter Holder & Coil Condenser Methanol Rinse *(Combine with T-2647)*	3	7/29/22		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-2649 VEN CB OUTLET R3 OTM-45 Impingers 1,2 & 3 Condensate	3	7/29/22		500 mL HDPE Wide-Mouth Bottle	**Impinger #1, #2 & #3 Condensate** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Analyze the sample for HFPO-DA.

Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require-ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
T-2650 VEN CB OUTLET R3 OTM-45 Impinger Glassware MeOH Rinse *(Combine with T-2647)*	3	7/29/22		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-2651 VEN CB OUTLET R3 OTM-45 Breakthrough XAD-2 Resin Tube	3	7/29/22		XAD-2 Resin Tube	**Breakthrough XAD-2 Resin Tube** OTM-45 Train HFPO-DA Analysis	**Knoxville**: Spike the sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. Analyze for HFPO-DA using method 8321A-HFPO.

Sample Receipt Log and Condition of the Samples Upon Receipt:

Please fill in the following information:	Comments (Please write "NONE" if no comment applicable)
(1) Record the identities of any samples that were listed on the RFA but were not found in the sample shipment.	NONE
(2) Record the sample shipping cooler temperature of all coolers transporting samples listed on this RFA:	RT 3.8/CT 3.9°C
(3) Record any apparent sample loss/breakage.	NONE
(4) Record any unidentified samples transported with this shipment of samples:	NONE
(5) Indicate if all samples were received according to the project's required specifications (i.e. no nonconformances):	HAND DELIVERED, NO CUSTODY SEALS

Custody Transfer:

	Name	Company	Date/Time
Relinquished By:	Patrick Gray	Alliance	7/29/22/1200
Accepted By:	Doug Cahill	ETA KNOX	7/29/22 1200
Relinquished By:	Doug Cahill	ETA KNOX	7/30/22 0850
Accepted By:	Ryan Dawson	ETA KNX	7-31-22 11:30
Relinquished By:			
Accepted By:			
Relinquished By:			
Accepted By:			

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

Log In Number:

Review Items	Yes	No	NA	If No, what was the problem?
1. Are the shipping containers intact?	✓			☐ **Containers, Broken**
2. Were ambient air containers received intact?			✓	☐ Checked in lab
3. The coolers/containers custody seal if present, is it intact?			✓	☐ Yes ☐ NA
4. Is the cooler temperature within limits? (> freezing temp. of water to 6 °C, VOST: 10°C) Thermometer ID : SC73 Correction factor: +0.1°C	✓			☐ **Cooler Out of Temp, Client Contacted, Proceed/Cancel** ☐ **Cooler Out of Temp, Same Day Receipt**
5. Were all of the sample containers received intact?	✓			☐ **Containers, Broken**
6. Were samples received in appropriate containers?	✓			☐ **Containers, Improper; Client Contacted; Proceed/Cancel**
7. Do sample container labels match COC? (IDs, Dates, Times)	✓			☐ **COC & Samples Do Not Match** ☐ **COC Incorrect/Incomplete** ☐ **COC Not Received**
8. Were all of the samples listed on the COC received?	✓			☐ **Sample Received, Not on COC** ☐ **Sample on COC, Not Received**
9. Is the date/time of sample collection noted?	✓			☐ **COC; No Date/Time; Client Contacted**
10. Was the sampler identified on the COC?			✓	☐ **Sampler Not Listed on COC**
11. Is the client and project name/# identified?	✓			☐ **COC Incorrect/Incomplete**
12. Are tests/parameters listed for each sample?	✓			☐ **COC No tests on COC**
13. Is the matrix of the samples noted?	✓			☐ **COC Incorrect/Incomplete**
14. Was COC relinquished? (Signed/Dated/Timed)	✓			☐ **COC Incorrect/Incomplete**
15. Were samples received within holding time?	✓			☐ **Holding Time - Receipt**
16. Were samples received with correct chemical preservative (excluding Encore)?			✓	☐ **pH Adjusted, pH Included (See box 16A)** ☐ **Incorrect Preservative**
17. Were VOA samples received without headspace?			✓	☐ **Headspace (VOA only)**
18. Did you check for residual chlorine, if necessary? (e.g. 1613B, 1668) Chlorine test strip lot number:_____			✓	☐ **Residual Chlorine**
19. For 1613B water samples is pH<9?			✓	☐ If no, notify lab to adjust
20. For rad samples was sample activity info. Provided?			✓	☐ Project missing info

Comments/Actions Taken

Labeling Verified by: **Date:**

pH test strip lot number:

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

Project #: _____ PM Instructions: _____

Sample Receiving Associate: Reynold Cannon Date: 8·1·22

QA026R32.doc, 062719

Appendix D

QA/QC Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Inlet
Project No. 2022-2632
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
7/27/22	GL-4	0.250	0.250	0.250	0.250	0.000	≤ 0.004 in.	glass

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
7/27/22	P4-1	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
7/28/22	TC 7D	98.0	98.0	0.0%	± 1.5 % (absolute)	5 '

Field Balance Check

Date	07/27/22	07/28/22	07/29/22			
Balance ID:	MyWeigh 5500	MyWeigh 5500	MyWeigh 5500			
Test Weight ID:	SYR-1	SYR-1	SYR-1			
Certified Weight (g):	1000.0	1000.0	1000.0			
Measured Weight (g):	999.8	999.8	1000.0			
Weight Difference (g):	0.2	0.2	0.0	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
7/28/22	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
7/27/22	MB #4	Pass

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

QA/QC Data

Location Chemours Company - Fayetteville Works Facility, NC
Source VEN Carbon Bed Outlet
Project No. 2022-2632
Parameter HFPO-DA

Date	Nozzle ID	Nozzle Diameter (in.) #1	#2	#3	Dn (Average)	Difference	Criteria	Material
7/28/22	GL-3	0.248	0.250	0.250	0.249	0.002	≤ 0.004 in.	glass

Date	Pitot ID	Evidence of damage?	Evidence of mis-alignment?	Calibration or Repair required?
7/28/22	P4-2	no	no	no

Date	Probe or Thermocouple ID	Reference Temp. (°F)	Indicated Temp. (°F)	Difference	Criteria	Probe Length
7/28/22	TC-5D	98.0	97.0	0.2%	± 1.5 % (absolute)	5 '

Field Balance Check

Date	07/27/22	07/28/22	07/29/22			
Balance ID:	MyWeigh 5500	MyWeigh 5500	MyWeigh 5500			
Test Weight ID:	SYR-1	SYR-1	SYR-1			
Certified Weight (g):	1000.0	1000.0	1000.0			
Measured Weight (g):	999.8	999.8	1000.0			
Weight Difference (g):	0.2	0.2	0.0	--	--	--

Date	Barometric Pressure	Evidence of damage?	Reading Verified	Calibration or Repair required?	Weather Station Location
7/28/22	Weather Station	NA	NA	NA	Fayetteville, NC

Date	Meter Box ID	Positive Pressure Leak Check
7/28/22	MB7	Pass

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

Equipment Detail - Dry Gas Meter

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

Calibration Detail

Initial Barometric Pressure, in. Hg	(Pb_I)	30.07					
Final Barometric Pressure, in. Hg	(Pb_F)	30.07					
Average Barometric Pressure, in. Hg	(Pb)	30.07					
Critifcal Orifice ID	(Y)	11	11	18	18	31	31
K' Factor, $ft^3 \cdot R^{1/2}$ / in. WC·min	(K')	0.3060	0.306	0.4961	0.4961	0.8358	0.8358
Vacuum Pressure, in. Hg	(V_P)	23.5	23.5	21.0	21.0	17.0	17.0
Initial DGM Volume, ft^3	(Vm_I)	763.145	769.214	775.302	785.163	803.252	819.496
Final DGM Volume, ft^3	(Vm_F)	769.214	775.302	785.163	795.034	819.496	835.760
Total DGM Volume, ft^3	(Vm)	6.069	6.088	9.861	9.871	16.244	16.264
Ambient Temperature, °F	(Ta)	77	78	78	78	77	79
Initial DGM Temperature, °F	(Tm_I)	77	78	78	79	77	79
Final DGM Temperature, °F	(Tm_F)	78	79	79	80	79	81
Average DGM Temperature, °F	(Tm)	77	79	79	80	78	80
Elapsed Time	(Θ)	15.00	15.00	15.00	15.00	15.00	15.00
Meter Orifice Pressure, in. WC	(ΔH)	0.43	0.43	1.20	1.20	3.40	3.40
Standard Meter volume, ft^3	(Vmstd)	6.0018	6.0066	9.7474	9.7392	16.1580	16.1180
Standard Critical Orifice Volume, ft^3	(Vcr)	5.9606	5.9522	9.650	9.650	16.2729	16.2427
Meter Correction Factor	(Y)	0.993	0.991	0.990	0.991	1.007	1.008
Tolerance	--	0.003	0.006	0.007	0.006	0.010	0.011
Orifice Calibration Value	(ΔH @)	1.515	1.516	1.612	1.609	1.616	1.616
Tolerance	--	0.066	0.065	0.031	0.028	0.036	0.036
Orifice Cal Check	--	1.53		1.69		1.72	
Meter Correction Factor	**(Y)**	**0.997**					
Orifice Calibration Value	**(ΔH @)**	**1.581**					
Positive Pressure Leak Check		**Yes**					

Equipment Detail - Thermocouple Sensor

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

Calibration Detail

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

Personnel

Calibration By: Jacob Cavallo
Calibration Date: 7/20/2022

Equipment Detail - Dry Gas Meter

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

Calibration Detail

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

Equipment Detail - Thermocouple Sensor

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

Calibration Detail

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

Personnel

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

Appendix E

VEN Operating Data

Date	7/28/2022													
Time	1600				1700			1800			1900			2000			2100
Stack Testing						Run 1: 1715-1913								Run 2: 1948-2200			
VEN Product	PSEPVE																
VEN Precursor																	
VEN Condensation (HFPO)																	
VEN ABR																	
VEN Refining																	
Stripper Column Vent																	

Date	7/29/2022		
Time	800		900
Stack Testing	Run 3: 802-959		
VEN Product	PSEPVE		
VEN Precursor			
VEN Condensation (HFPO)			
VEN ABR			
VEN Refining			
Stripper Column Vent			

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