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SOURCE EMISSIONS TESTING OF THE VINYL ETHERS SOUTH CARBON BED



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T 315-637-2234 F 315-637-2819 https://ramboll.com This report has been reviewed and to the best of our knowledge the report is complete, and the results presented herein are accurate, error free, legible, and representative of the actual emissions measured during testing.

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1. INTRODUCTION AND BACKGROUND

Ramboll Americas Engineering Solutions, Inc. (Ramboll) was retained by The Chemours Company (Chemours) to conduct source emissions testing at its facility located in Fayetteville, North Carolina. Ramboll has prepared the following test report summarizing the results of the testing on behalf of Chemours.

1.1 Testing Objective

As provided in their Title V Air Permit, Chemours is required to evaluate hexafluoro-propylene oxide-dimer acid (HFPO-DA) emissions from a carbon bed adsorber at the Fayetteville Works facility. The objective of this test program was to collect field sample data from the inlet and outlet to the carbon bed serving the Vinyl Ethers South (VES) process area to determine carbon bed replacement frequency.

The source emissions test program was performed on September 1, 2020. Messrs. Patrick Grady, Jeff Sheldon, Eric Alongi, Brian Goodhile and Antonio Anderson of Ramboll conducted the emissions testing. Ms. Christel Compton and Mr. Edward Vega coordinated process operations with the emissions testing. There were no representatives from any of the regulatory agencies present to observe the field test program.

This report presents a description of the sources tested, a summary of the scope of work conducted, sampling methods used, QA/QC procedures, and emission test results. The following section lists the testing program's participants and their contact information.

1.2 Emissions Testing Program Participants

Facility

Name:	The Chemours Company
Site Address:	22828 Hwy 87 W Fayetteville, NC 28306
Contact:	Christel E. Compton
e-mail:	christel.e.compton@chemours.com

Source Testing Firm

Name:	Ramboll
Address:	7600 Morgan Road Liverpool, NY 13090
Contact:	Patrick Grady
e-mail:	Patrick.grady@ramboll.com

Sample Analysis Laboratory

Name:	Eurofins TestAmerica, Knoxville
Address:	5815 Middlebrook Pike Knoxville, Tennessee 37921
Contact:	Courtney Adkins
e-mail:	courtney.adkins@testamericainc.com

2. PROCESS DESCRIPTION

This section provides a description of the VES process.

2.1 Process Description

VES 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 VES are vented to a carbon bed which is then vented to atmosphere through a process stack (NEP-Hdr2).

2.2 Operating Conditions During Testing

Source emissions testing was performed during normal operations of the VES process. Facility personnel monitored and recorded process operations during the testing. These operating data were provided to Ramboll and are included in Appendix A of this report.

3. SUMMARY OF TEST PROGRAM

This section provides a summary of the testing scope of work conducted. Test methods used during the sampling program can be found in Section 4 of this report.

3.1 Test Program Summary

Emissions testing was conducted simultaneously at the inlet and outlet of the VES carbon bed in order to evaluate potential emissions and removal efficiencies of HFPO-DA. The testing at each location was conducted in triplicate and each test run was 96 minutes in duration. Results of the source emission testing are reported in units of milligrams per dry standard cubic meter (mg/dscm) and pounds per hour (lb/hr).

4. SAMPLING AND ANALYTICAL PROCEDURES

This section provides a description of the test methods that were utilized during the test program.

4.1 Test Methods

The test procedures were conducted in accordance with the most recent updates to the United States Environmental Protection Agency (USEPA) Reference Methods (RM) described in 40 CFR 60; Appendix A.

RM 1:	Sample and velocity traverses for stationary sources
RM 2:	Determination of stack gas velocity and volumetric flow rate (Type S pitot
	tube)
RM 3:	Determination of oxygen and carbon dioxide concentrations in emissions
	from stationary sources
RM 4:	Determination of moisture content in stationary sources
Modified 0010:	Determination of PFAS emissions from stationary sources (modified)

4.2 Sampling Locations

The sampling ports at the 36-inch inside diameter (ID) carbon bed inlet duct are located approximately 35 inches (1.0 diameters) downstream of a bend and approximately 41 inches (1.1 diameters) upstream of another bend. Test ports in the 41½ -inch ID carbon bed outlet stack are located approximately 12 ½ feet (3.6 diameters) downstream of a bend and approximately 31 feet (8.9 diameters) upstream from another bend. A total of 12 traverse points were sampled on each diameter during each test run for a total of 24 traverse points at each test location. Traverse points were located in accordance with USEPA RM 1. Schematics of the sample locations along with traverse point locations are provided in Appendix B.

4.3 Gas Velocity and Volumetric Flow Rate

Velocity was evaluated from differential pressure measurements using a stainless-steel Type-S pitot tube and oil manometer in accordance with USEPA RMs 1 and 2. These methods were conducted in conjunction with each test run. Exhaust gas volumetric flow rate in units of dry standard cubic feet per minute (dscfm) were derived from velocity, temperature, molecular weight, and moisture measurements. Pollutant mass emission rates (lb/hr) were calculated using these volumetric flow rate data and pollutant concentrations.

4.4 Oxygen and Carbon Dioxide Concentrations

Concentrations of oxygen (O_2) and carbon dioxide (CO_2) were evaluated at both locations in accordance with modified USEPA RM 3 procedures using a Fyrite[®] combustion analyzer. A grab sample was collected and introduced into the Fyrite[®] for O_2 and CO_2 analysis.

4.5 Moisture Content

The moisture content of the sample trains was quantified utilizing procedures identified in USEPA RM 4. A sample of gas was continuously collected from each traverse point using a dry gas meter stack sampling system along with a series of impingers. The moisture content of the gas was measured as a change in the volume of the water collected in each impinger solution and the increased weight of the desiccant during the sampling period.

4.6 HFPO-DA Emissions

HFPO-DA emissions were evaluated in accordance with a modified USEPA Method 0010. The sample train consisted of a stainless-steel nozzle attached directly to a heated borosilicate glasslined probe. The probe was connected directly to a heated borosilicate glass filter holder containing a solvent-extracted glass fiber filter. In order to minimize possible thermal degradation of the HFPO-DA, the probe and particulate filter were heated to just above stack temperature to minimize water vapor condensation before the filter. The filter holder exit was connected to a water-cooled coil condenser followed by a water-cooled sorbent module containing approximately 40 grams of XAD-2 resin. The XAD-2 inlet temperature was monitored to ensure that the module is maintained at a temperature below 20°C.

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

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

4.6.1 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 .

- Bake glassware (with the exception of probe liners) at 450°C for approximately 2 hours, (XAD-2 resin tube glassware will be 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.
- Squirt bottles will be new dedicated bottles of known history and dedicated to the D.I. Water and methanol/ammonium hydroxide (MeOH/ 5% NH₄OH) solvent contents. Squirt bottles will be labelled with the solvent content it contains.

4.6.2 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% NH₄OH 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% NH₄OH solution and placed in Container #3.

The volume of water collected in the second and third impingers was measured for moisture determinations and then placed in Container #4. Impingers #2 and #3 were then rinsed with the MeOH/ 5% NH₄OH solution and placed in Container #5. The second (breakthrough) XAD-2 resin trap was sealed, labelled and placed in an iced sample cooler. The second condensate trap was rinsed with the MeOH/ 5% NH₄OH solution and placed in Container #5. The contents of the fifth impinger were placed in its original container and weighed for moisture determinations.

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

5. EMISSIONS TEST RESULTS

A detailed summary of the test results is presented in Table 1 in the appendix. Supporting field data and calculations can be found in Appendix C. The laboratory report is presented in Appendix D. A brief discussion of the test results is presented below.

5.1 Emission Test Results

Table 1 presents a detailed summary of the HFPO-DA test results. HFPO-DA concentrations at the carbon bed inlet ranged from 3.59E-03 mg/dscm to 6.12E-02 mg/dscm and averaged 2.28E-02 mg/dscm. Corresponding mass emissions of HFPO-DA ranged from 2.43E-04 lb/hr to 4.28E-03 lb/hr and averaged 1.59E-03 lb/hr.

Concentrations of HFPO-DA at the carbon bed outlet ranged from 2.08E-03 mg/dscm to 4.62E-03 mg/dscm and averaged 3.16E-03 mg/dscm. Mass emission rates of HFPO-DA from the carbon bed outlet ranged from 1.29E-04 lb/hr to 2.86E-04 lb/hr and averaged 1.95E-04 lb/hr. The resulting average HFPO-DA removal efficiency of the VES carbon bed was 88 percent.

A review of Table 1 indicates that HFPO-DA emissions at the carbon bed inlet were significantly lower during Runs 2 and 3. It should be noted that HFPO-DA emissions for Run 2 from the carbon bed outlet were similar to the carbon bed inlet (2.43E-04 lb/hr at the inlet vs. 2.86E-04 lb/hr at the outlet). There were no sampling issues or leak check problems of the sampling trains during any of the test runs. All glassware was prepared in accordance with the procedures list in Section 4.6.1. Note the glassware and equipment used to sample at the VES carbon bed was used the day previous for testing of the Polymer Process Aid (PPA) carbon bed. All equipment and glassware used to sample the PPA carbon bed inlet was used to sample the carbon bed inlet of VES. Similarly, the equipment used to sample the PPA carbon bed outlet was used to sample the VES carbon bed outlet. The decreased removal efficiency from the carbon bed during Runs 2 and 3 can be attributed to the lower fugitive emissions during these test runs.

5.2 Discussion and Conclusion

As previously mentioned in Section 5.1, there were no sampling or process operating problems encountered during the field testing that impacted the test results. Therefore, all test data are believed to be representative of actual emissions in evidence during the test program.

6. QUALITY ASSURANCE/QUALITY CONTROL

QA/QC was based on the recommended QA/QC procedures of the various sampling and analytical methods that were used for the test program. This section summarizes the pertinent QA/QC procedures that were employed during the emissions testing program.

6.1 Equipment Calibration

An important aspect of pre-sampling preparations is the inspection and calibration of all equipment planned to be used for the field effort. Equipment is inspected for proper operation and durability prior to calibration. Calibration of equipment is conducted in accordance with the procedures outlined in the USEPA document entitled "Quality Assurance Handbook for Air Pollution Measurement Systems; Volume III—Stationary Source Specific Methods" (EPA-600/4-77-027b). Equipment calibration is performed in accordance with USEPA guidelines and/or manufacturer's recommendations. Examples of the typical calibration requirements of the field equipment being used are as follows:

- Pitot tubes (QA Handbook Section 3.1.2, pp. 1-13) measured for appropriate spacing and dimensions or calibrate in a wind tunnel. Rejection criteria given on the calibration sheet. Post-test check inspect for damage.
- Probe nozzles (QA Handbook Section 3.4.2, pg. 19) make three measurements of the nozzle ID (to the nearest 0.001 in.) using different diameters with a micrometer. Difference between the high and low values should not exceed 0.004 in. Post-test check inspect for damage.
- Thermocouples (QA Handbook Section 3.4.2, pp. 15-18) verify against a mercury-in-glass thermometer at two or more points including the anticipated measurement range. Acceptance limits impinger ±2°F; DGM ±5.4°F; stack ±1.5 percent of stack temperature.
- Dry gas meters (QA Handbook Section 3.4.2, pp. 1-12) Dry gas meters are calibrated using critical orifices. The procedure entails four runs using four separate critical orifices running at an actual vacuum 1-2 in. greater than the theoretical critical vacuum. The minimum sample volume required per orifice is 5 ft³. Meter boxes are calibrated annually and then verified by use of the alternative USEPA RM 5 post-test calibration procedure. This procedure is referenced as Approved Alternate Method ALT-009 (June 21, 1994) by USEPA's Emission Measurement Center. The average Y-value obtained by this method must be within 5% of the initial Y-value.

6.2 Equipment Leak Checks

Pitot tube leak checks were conducted in accordance with USEPA RM 2. Leak checks were conducted on the HFPO-DA sample trains prior to and following each test run in accordance with the procedures outlined in USEPA RM 5, Sections 8.4.1 and 8.4.2.

6.3 Reagent Blanks and Field Blanks

A field blank for the Modified USEPA RM 0010 sample train was collected as part of the test program. The blank train was assembled and set-up near one of the carbon bed outlet test locations and as close to the outlet sample train as possible. The blank train remained in place for the duration of the sampling run. The blank train was heated to the same temperature as used for the outlet sampling train, and the impinger portion of the train was iced down and chilled water circulated through the coil condenser as described in SW-846 Method 0010. The blank train was recovered in the same location, and by the same procedures as the actual sampling trains.

Additionally, a proof blank train rinse sample was collected one time during the sampling campaign. The glassware components of the train received a thorough solvent rinse after samples were recovered and put away for a sampling run. This secondary rinse was used to prove that the sampling breakdown collection processes capture all HFPO-DA material, and generally leave none of the target analytes uncaptured on the sample glassware. All sampling train glassware parts, including brushes and other tools used, were thoroughly rinsed with MeOH / 5% NH₄OH solution to evaluate the general rinsing efficiency of the sampling train recovery process.

Reagent blanks of the diH_2O used in the sample trains and MeOH/5% NH₄OH solution used for sample recovery were also submitted to the laboratory for analysis along with the field samples. The field blank train was collected during test Run 1. The proof blank was collected following completion of Run 1. Results of the field blank, proof blank and reagent blanks and are included with the laboratory reports in Appendix D.

6.4 Test Data and Report Review

Test data input and emission calculations were double-checked for accuracy. The test results were reviewed by senior personnel for reasonableness and accuracy. The final report was peer reviewed by senior personnel and certified by the project manager.

Ramboll - Source Emissions Testing Of The Vinyl Ethers South Carbon Bed

TABLES

Fayetteville, North Carolina									
Run Identification	Run 1 ^ª	Run 2	Run 3	Average	Run 1 ^ª	Run 2	Run 3	Average	
Source ID:	<u>C</u>	arbon Bed Inl	<u>et</u>		<u>Ca</u>	arbon Bed Out	let		
Run Date Start/Stop Time	01Sep20 0843-1040	01Sep20 1124-1317	01Sep20 1402-1555		01Sep20 0843-1040	01Sep20 1124-1317	01Sep20 1402-1555		
Exhaust Gas Conditions Temperature (deg. F) Moisture (volume %) Oxygen (dry volume %) Carbon Dioxide (dry volume %)	79 2.5 20.9 0.0	83 2.8 20.9 0.0	87 2.1 20.9 0.0	83 2.5 20.9 0.0	86 2.2 20.9 0.0	91 2.3 20.9 0.0	92 2.0 20.9 0.0	90 2.2 20.9 0.0	
<u>Volumetric Flow Rate</u> acfm dscfm	19,615 18,668	19,227 18,083	19,617 18,464	19,486 18,405	17,477 16,602	17,577 16,541	17,291 16,289	17,448 16,477	
<u>HFPO - Dimer Acid</u> mg/dscm lb/hr	6.12E-02 4.28E-03	3.59E-03 2.43E-04	3.70E-03 2.56E-04	2.28E-02 1.59E-03	2.08E-03 1.29E-04	4.62E-03 2.86E-04	2.77E-03 1.69E-04	3.16E-03 1.95E-04	
Carbon Bed Removal Efficiency percent	97	NA	34	88					

Table 1The Chemours Company - Fayetteville WorksVinyl Ethers South Carbon BedFayetteville, North Carolina

^aTest results for Run 1 do not include analytical data from the breakthrough XAD module.

e01\RAM_Projects\Chemours.1085211\1940100085.Chemours---Payettev(\Docs\Reports\VES_Report\VES_Inlet_090120.xixx\Summary Table



Ramboll - Source Emissions Testing Of The Vinyl Ethers South Carbon Bed

APPENDIX A PROCESS OPERATING DATA

Date	9/1/2020										
Time		800			900			1000			
Stack Testing			RUN 1: 0843 - 1040								
VES Product											
VES Precursor											
VES Condensation (HFPO)											
VES ABR (East)											
VES ABR (West)											
VES Refining											

Date	9/1/2020										
Time		1200								13	00
Stack Testing		RUN 2: 1124-1317									
VES Product											
VES Precursor											
VES Condensation (HFPO)											
VES ABR (East)											
VES ABR (West)											
VES Refining											

Date	9/1/2020											
Time			1400 1500						1600			
Stack Testing			RUN 3: 1402-1555									
VES Product		PM/PE										
VES Precursor												
VES Condensation (HFPO)												
VES ABR (East)		Burnout										
VES ABR (West)												
VES Refining												

Ramboll - Source Emissions Testing Of The Vinyl Ethers South Carbon Bed

APPENDIX B SCHEMATICS OF THE TEST LOCATIONS



Figure 1 Carbon Bed Inlet Sampling Location Vinyl Ethers South The Chemours Company Fayetteville, North Carolina

Sample Traverse Point Locations for Circular Stacks

Facility:	The Chemours Company					
Source Identification:	VES Carbon Bed Inlet					
Stack Diameter:	36 inches					
Sampling Locations:	1.0diameters downstream1.1diameters upstream					
Minimum Number of Traverse points as specified by EPA Method 1:24						
Number of traverse points sampled: 24						

Traverse Point	Percent of Stack Diameter	Distance in Inches
Number	From Inside Wall	From Inside Wall*
1	2.1	1.0
2	6.7	2.4
3	11.8	4.2
4	17.7	6.4
5	25.0	9.0
6	35.6	12.8
7	64.4	23.2
8	75.0	27.0
9	82.3	29.6
10	88.2	31.8
11	93.3	33.6
12	97.9	35.0

*Traverse points located within 1.00" to the stack wall for stacks having an inside diameter greater than 24" will be relocated as well as traverse points located within 0.50 inches to the stack wall on stacks with a 24" ID or less to meet criteria.



C:\Stack\Field Spreadsheets\Method 1\Traverse_new.xisx



Crossectional Area Showing Velocity Traverse Point Locations



Figure 2 Carbon Bed Outlet Sampling Location Vinyl Ethers South The Chemours Company Fayetteville, North Carolina

Sample Traverse Point Locations for Circular Stacks

Facility:	The Ch	emours Company	
Source Identification:	VES Ca	rbon Bed Outlet	
Stack Diameter:	41.5	inches	
Sampling Locations:	3.6 8.9	diameters downstream diameters upstream	
Minimum Number of Trave as specified by EPA Method		nts24	
Number of traverse points	sample	d:24	

Traverse Point	Percent of Stack Diameter	Distance in Inches
Number	From Inside Wall	From Inside Wall*
1	2.1	1.0
2	6.7	2.8
3	11.8	4.9
4	17.7	7.3
5	25.0	10.4
6	35.6	14.8
7	64.4	26.7
8	75.0	31.1
9	82.3	34.2
10	88.2	36.6
11	93.3	38.7
12	97.9	35.0

*Traverse points located within 1.00" to the stack wall for stacks having an inside diameter greater than 24" will be relocated as well as traverse points located within 0.50 inches to the stack wall on stacks with a 24" ID or less to meet criteria.



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Ramboll - Source Emissions Testing Of The Vinyl Ethers South Carbon Bed

APPENDIX C FIELD DATA AND CALCULATIONS

VES Carbon Bed Inlet Field Test Data

Field Data Summary The Chemours Company - Fayetteville Works Vinyl Ethers South Carbon Bed Inlet Fayetteville, North Carolina

			Run 1						Run 2						Run 3			
Traverse	Stack	Delta	Delta	Tm	(F)	SQRT	Stack	Delta	Delta	Tm	(F)	SORT	Stack	Delta	Delta	Tm	(F)	SQRT
Point	Temp(F)	Р	н	in	out	Delta P	Temp(F)	Р	н	in	out	Delta P	Temp(F)	Р	н	in	out	Delta P
A1	78	1.10	3.08	76	76	1.0488	83	0.84	2.35	87	87	0.9165	86	1.10	3.08	96	96	1.0488
2	78	1.00	2.80	77	77	1.0000	82	0.84	2.35	88	88	0.9165	86	1.05	2.94	97	97	1.0247
3	78	0.96	2.68	77	77	0.9798	82	0.80	2.24	88	88	0.8944	86	0.98	2.74	97	97	0.9899
4	78	1.00	2.80	77	77	1.0000	82	0.82	2.29	88	88	0.9055	86	0.98	2.74	97	97	0.9899
5	78	0.95	2.66	78	78	0.9747	82	0.80	2.24	88	88	0.8944	86	0.91	2.54	97	97	0.9539
6	78	0.90	2.52	78	78	0.9487	82	0.78	2.18	88	88	0.8832	87	0.88	2.46	98	98	0.9381
7		0.82	2.29	79 79	79 79	0.9055	 82	0.67	1.87	89	89 89	0.8185	<u>86</u> 87	0.55	1.54	98	98 98	0.7416
8	78	0.57	1.59 1.00	79	79	0.7550	82 82	0.59	1.65 1.40	89 89	89	0.7681	87	0.38	1.06 1.00	98 99	98	0.6164
10	78	0.36	0.72	80	80	0.5099	82	0.50	1.40	90	90	0.7211	87	0.30	0.86	99	99	0.5568
10	78	0.20	0.72	80	80	0.3099	 83	0.32	1.45	90	90	0.6928	87	0.31	0.86	99	99	0.4899
12	78	0.20	0.56	81	81	0.4472	83	0.40	1.31	90	90	0.6856	87	0.24	0.64	99	99	0.4796
B1	78	0.88	2.46	82	82	0.9381	83	1.10	3.08	92	92	1.0488	87	0.87	2.43	99	99	0.9327
2	79	0.87	2.43	83	83	0.9327	84	0.99	2.77	93	93	0.9950	88	0.87	2.43	99	99	0.9327
3	79	0.80	2.24	83	83	0.8944	84	0.99	2.77	93	93	0.9950	88	0.83	2.32	99	99	0.9110
4	79	0.80	2.24	83	83	0.8944	84	0.98	2.74	94	94	0.9899	88	0.81	2.26	99	99	0.9000
5	79	0.75	2.10	84	84	0.8660	84	0.93	2.60	94	94	0.9644	88	0.77	2.15	99	99	0.8775
6	79	0.75	2.10	84	84	0.8660	84	0.84	2.35	95	95	0.9165	88	0.75	2.10	99	99	0.8660
7	79	0.63	1.76	84	84	0.7937	85	0.53	1.48	95	95	0.7280	88	0.68	1.90	99	99	0.8246
8	79	0.57	1.59	85	85	0.7550	85	0.38	1.06	95	95	0.6164	87	0.62	1.73	99	99	0.7874
9	79	0.54	1.51	85	85	0.7348	85	0.24	0.67	96	96	0.4899	87	0.55	1.54	99	99	0.7416
10	79	0.50	1.40	86	86	0.7071	85	0.24	0.67	96	96	0.4899	87	0.57	1.59	99	99	0.7550
11	79	0.48	1.34	86	86	0.6928	85	0.22	0.61	96	96	0.4690	87	0.46	1.28	99	99	0.6782
12	80	0.50	1.40	86	86	0.7071	85	0.20	0.56	96	96	0.4472	87	0.44	1.23	99	99	0.6633
						0.0000						0.0000						0.0000
						0.0000						0.0000						0.0000
						0.0000						0.0000						0.0000
						0.0000						0.0000						0.0000
						0.0000						0.0000						0.0000
						0.0000						0.0000						0.0000
						0.0000						0.0000						0.0000
						0.0000						0.0000						0.0000
						0.0000						0.0000						0.0000
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						0.0000						0.0000						0.0000
Average	79	0.68	1.91	81	81	0.8096	 83	0.66	1.84	92	92	0.7897	87	0.67	1.89	98	98	0.8042
	,,,	0.00	21.24			0.0000	 	0.00	1.01	52		0.7057		0.07	1.07			0.00.12

 $\label{eq:c:StackProjectsChemoursFayettevileSeptemberVES ReportVES_Inlet_090120.xlsx\TestData.xls} \label{eq:stackProjects}$

Test Data Summary and Calculations The Chemours Company - Fayetteville Works **Vinyl Ethers South Carbon Bed Inlet** Fayetteville, North Carolina

Parameter	<u>Run 1</u>	<u>Run 2</u>	<u>Run 3</u>
Run Date	9/1/20	9/1/20	9/1/20
Start/Stop Time	0843-1040	1124-1317	1402-1555
Duration of Run, Minutes	96	96	96
Ave. Nozzle Diameter, inches	0.23	0.23	0.23
Pitot Calibration Factor, CF	0.84	0.84	0.84
Meter Gamma	1.013	1.013	1.013
Meter Delta H, inches of H2O	1.73	1.73	1.73
Stack Diameter, inches	36	36	36
Rectangular Width, inches	0	0	0
Rectangular Length, inches	0	0	0
Stack Area, sq.ft.	7.07	7.07	7.07
Barometric Pressure, inches of Hg	29.98	29.98	29.98
Static Pressure, inches of H2O	-2.5	-2.4	-2.4
Dry Gas Meter Sample Volume, (VM)ft3			
Initial	742.212	814.857	886.187
Final	814.423	886.008	959.142
Total Volume	72.211	71.151	72.955
Ave. Stack Temperature, Ts(F)	78.5	83.3	87.0
Ave. Meter Temperature, Tm(F)	81.3	91.6	98.4
Ave. Run Delta H, inches of H2O	1.91	1.84	1.89
Ave. Square Root of Delta P	0.8096	0.7897	0.8042
Moisture Data			
Volume of water collected, mls	22.4	18.8	13.8
Silica Gel, grams	17.2	24.4	18.4
Total Collected, mls	39.6	43.2	32.2
		+5.2	52.2
ORSAT Data			
%02	20.90	20.90	20.90
%CO2	0.0	0.0	0.0
%CO			
Calculations			
Vw(std), scf =	1.864	2.033	1.516
Vm(std), dscf =	71.826	69.438	70.342
Bws=	0.025	0.028	0.021
Md=	28.84	28.84	28.84
Ms=	28.56	28.53	28.61
Vs, ft/sec =	46.2	45.3	46.3
Qs, acfm =	19,615	19,227	19,617
Qs(std), dscfm =	18,668	18,083	18,464
Isokinetic Sampling Rate, %	98.2	98.0	97.2

Where:

An = area of the nozzle

As = area of the stack

Vw(std) = volume of water vapor in gas, standard conditions = 0.04707*Vlc

Vm(std) = vol. of gas sampled, standard conditions = 17.647 x Vm x gamma x [Pb + (dH/13.6)]/Tm(R)

Bws = water vapor in gas stream, proportion by volume = Vw(std)/(Vm(std) + Vw(std))

Md = molecular weight of stack gas, dry basis = (0.44 x%CO2) + (0.32 x%O2) + [0.28 x (%N2 + %CO)]Ms = molecular weight of stack gas, wet basis = [Md x (1-Bws)] + (18.0 x Bws)

Vs = stack gas velocity = $85.49 \times Cp \times (avg. Sq.Rt. dP) \times [Sq.Rt. (Ts(R))/(Ms \times Ps)]$

Qs = stack gas flow rate = Vs x As x 60

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Qs(std) = stack gas flow rate - VS x rate volume and a volume value of the stack gas flow rate - VS x rate volume value of the stack gas flow rate - VS x rate value - VS x rate value of the stack gas



Results Summary The Chemours Company - Fayetteville Works Vinyl Ethers South Carbon Bed Inlet Fayetteville, North Carolina

								Fayette	ville, North	Carolina							
Parameter:			Ru	ın 1			R	ın 2			R	un 3			Av	/erage	
	Mol. Wt.	<u>mg</u>	mg/dscm	ppm	<u>lb/hr</u>	mg	mg/dscm	<u>ppm</u>	<u>lb/hr</u>	<u>mg</u>	mg/dscm	ppm	<u>lb/hr</u>	<u>mg</u>	mg/dscm	<u>ppm</u>	<u>lb/hr</u>
HFPO - Dimer Acid	330	0.12449	6.12E-02	4.46E-03	4.28E-03	0.00706	3.59E-03	2.62E-04	2.43E-04	0.00736	3.70E-03	2.69E-04	2.56E-04	0.05	2.28E-02	1.66E-03	1.59E-03

 Where:

 Pollutant Emission Concentration:

 mg= total sample collected, milliorams

 mg/dscm = milligrams of pollutant per dry standard cubic meter sampled = (mg/dscf) x (35.314 cubic feet/cubic meter)

 ppm = parts per million =((mg/dscm x 24.04 liters/mol)/mol.wt))

Pollutant Emission Rate: lb/hr = bounds of pollutant emitted ber hour = ma/1000/[(453.59 a/lb)/(dscf)] x dscfm x 60 min/hr

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Example Calculations

The Chemours Company - Fayetteville Works Vinyl Ethers South Carbon Bed Inlet Fayetteville, North Carolina Note: Values are shown for example purposes only.

Vm,a =	Dry gas volume at actual conditions (acf)
	Initial gas meter volume:742.212Final gas meter volume:814.423Difference:72.211
Vm,std =	Volume of dry gas at standard conditions (dscf) = 17.647x Vm, a x Gamma*[Pbar+(DeltaH/13.6)]/Tm(R) = 17.647 x 0.000 x 1.013 x (29.98 + [(1.730 /13.6)/ 541 = 71.826
VI,c =	Volume of water collected in impingers and silica gel (ml)
impingei	catch (mls): 22 silica gel (g) 17.2 total: 39.6
Vw,std =	Volume of water vapor in gas at standard conditions (cu.ft.) = (0.04707) x (VI,c) = 0.04707 x 39.6 = 1.864
Bwo =	Proportion by volume of water vapor in gas stream = Vw,std/(Vw,std+Vm,std) = 1.86 / (1.86 + 71.826) = 0.025
Ps =	Stack gas static pressure (in. Hg) = St/13.6 = -2.50 / 13.6 = -0.184
Pa =	Absolute stack gas pressure (in. Hg) = Ps+Pbar = -0.184 + 29.98 = 29.80
MFD =	Dry mole fraction of stack gas = 1-Bwo = 1 - 0.025 = 0.975
Md =	Dry molecular weight of stack gas (lb/lb-mol) = $(0.32 \times \%02) + (0.44 \times \%C02) + (0.28 \times \%N2)$ = $(0.32 \times 20.90) + (0.44 \times 0.00) + (0.28 \times 79.10)$ = 28.84
Mw =	Wet molecular weight of stack gas (lb/lb-mol) = (Md) x (MFD) + (0.18) x (Bwo*100) = 28.84 x 0.975 + 0.18 x 2.52946 = 28.56

Example Calculations

The Chemours Company - Fayetteville Works Vinyl Ethers South Carbon Bed Inlet Fayetteville, North Carolina Note: Values are shown for example purposes only.

Vs,avg = Average stack gas velocity (fps) = Kp x (Cp) x (sqrt,deltaP) x sqrt((Ts + 460°R)/Mw*Pa)) = 85.48 x 0.84 x 0.81 x sqrt (0.63) = 46.2 Α Cross sectional areas of stack (sq. ft) $= pi/4*d^{2}$ = 3.14159/4 x 3.00 ^2 7.07 = Volumetric flow rate at actual conditions (acfm) Qa = (60)sec/min(A)(Vs, avg) x 7.0686 x 46.24 60 = = 19,613 Ostd Volumetric flow rate at standard conditions (scfm) = Qa x (528/Ts,avg + 460) x Pa/29.92 = 19,613 x (528 / 539) x 0.996 = 19,151 Volumetric flow rate at dry standard conditions per minute(dscfm) Qstd,dry = Qstd x (1-Bwo) = 19,151 x 0.9747 = 18,666 mg/dscm HFPO-DA concentration = $(mg/dscf) \times 35.314$ cu. ft./cu. meter = (0.124 / 71.83):35.314 = 6.12E-02 lb/hr **HFPO-DA Mass Emission Rate** = mg/1000/[(453.59 g/lb)/(dscf)] x dscfm x 60 min/hr = 0.124 / 1,000 /[453.59) / 71.83)] x 18,668 x 60



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	C
Sheet	1
Field	
Isokinetic	
EPA	

	Pitot	+	7		1	>	ita (vol)	Final						ta (am)	Final				Gain	ml.	gm		Total			ata	Tare				101 1 0 1	it Data (%	CU2	
Leak Check Rates	Sample Rate	in. cfm	11 0.008			500 0/01	Impinger Data (vol)	# Initial	2	e	4	2	9	Silica Gal Data (am)	# Initial	-	2		Moisture Gain							Filter Data	# Number	1	2	3		cular	# O2	1
			Initial	Mid	Mid	Final		Comments/Notes																										
	0.84				0	NA	1	Vacuum (in. hg)	4	5	5	e	9	9.	9	de	5	6	6	L	1		1	٢	2	-	7	2	6	5	-			
P4-2		Z-hd	100	1-of	+230			Meter V Outlet		17	11	17	a	00	61	19	80	80	9	22	83	83	33	64	84	84	es	62	90	90	20	T	T	Ī
ber "	icient	.D.	I.D.	Out I.D.	e	I.D.	arenheit	Meter	210		_	66	a	1	54		-		18					84 6	~		52	2		0	26			T
Pitot Number	Pitot Coefficient	Stack TC I.D.	Oven Box I.D.	Impinger Out I.D	Nozzle Size	XAD Trap I.D.	egrees F	Aux	1-1-9		S	S	1	52		SS		54	20	19	56 1			3		.1	53	2	5	C	00		t	Ī
Ч	A	S	0	I	z	x=2.5	Temperature Readings in Degrees Farenheit	Impinger	67 6			8		22		1			20	1	7 4	48 (1	200	T	20	S3 S	55	54	5	27	1		Ī
	s				1	~	ure Read	Oven In Box				85 1	-	202	-	-		-	-		82 4	-	82 5	05 50	-1		82	200	83	83	2			1
1	36-inches	29.95	-2:5	15	1:73	1,013	emperati	Probe (63					-		28		-			82				1	-		101	1.2		30			
ber	imeter	ic Pres.	essure	# ×	ta H	mma	Te	Stack	28	28	20	2	R	18	76	78	28	2	76	18	79	29	29	29	79	79	19	79	64.	29	200	1		Ī
Run Number		Barometric	Static Pressure	A Meter Box #	Meter delta	Meter Gamma	Meter	Volume (ft ³)	212.242	1	. 0			100.5		2.015	772.4			_			3.0	791.2	5	797.8	P.008	1	ŧ		811.7	201 102	214,263	
Company	0	Ì	1	1		0701 35010	Orifice	Setting (in. H ₂ 0)	3.08	2.6	2.48	6.8	Lilelo	2.56	1.69	10	0.72	Orwa	0.56	2,46	2.43	2.24	12.24	2.1	21	1.760	1,59	1.51	1.4	1.34	1.4			
The Chemours Company	Fayetteville, NC	Inlet	11/20	20	8431 952	1	Velocity	Head (in. H ₂ O)	11	1.0	0,96	1		040	0.53	0.36	0126	0.23			1		0.80	0.75	SLIO	0,63	0.57	0.54	0,5	0148	010			
The (VES Inlet	12		Ĵ	e 53	Sample Sample	Time (min) (4	8	12 (- 1		24		-	40		· · · · · · · ·			60 4	64 6		1.41	76		84	1.1		96			T
Client	Location	Source	Date	Operators	Start Time	End Time	ample	Point	A1	2	'n	4	5	9 1	. 00	6	10	11	12	B1	2	m	4	5	9	2	8	6	10	11	12		T	t

S	Pitot	+	1		1.1	ata (vol)	Final							ata (gm)	Final			Gain	ml.	dm		Total			ata	Tare					nt Data (%	CO ₂	
Leak Check Rates	Sample Rate	cfm	0.003		0.00 8	Impinger Data (vol)	Initial								Initial			Moisture Gain							Filter Data	Number					10 10 10 10 10 10 10 10 10 10 10 10 10 1	02	
Leak	Sar	i.	10		11		# =	2	e	4	5	9	Ľ		# -	+ 0	1				_			Į.		#	Т	2	m		lole	#	 2 0
			Initial	Mid	Final		Comments/Notes												4	2.77 8													
	0.84	2	1-0	230	NA		Vacuum (in. hg)	5	5	5	9	0	او	5	1	1	5	5	00	t	2	1	7	F	5	5	5	5	5	2			
14-2		2-12	054	•		sit	Meter Outlet	63	88	88	88	86	88	20	10	50	90	60	52	53	53	64	84	25	55	95	96	73	36	20			
mber	Pitot Coefficient	CI.D.	Oven Box I.D. Impinger Out I.D	Size	p I.D.	5 Farenhe	Meter Inlet	87	88	86	88	38	800	100	01	06	90	06	25	93	93	24	84	SS	55	SS	56	36	96	28			
Pitot Number	Pitot Co	Stack TC I.D.	Oven Box I.D. Impinger Out	Nozzle Size	XAD Trap I.D.	Degrees	Aux	06	102	101	3	Se	20	51	10	00	Coc	55	67	5	59	58	SR.	SS	SI	53	SS	SLO	55	20			
					4-29	Temperature Readings in Degrees Farenheit	Impinger	67	66	64	5	101	SY	20	50	9	60	SB	lo lo	55	57	28	Slo	5	SS	23	55	60	55	8			
7	hes	36	3	3	2	ature Re	Oven Box	1.8	88	61	80	88	10	1.0	00	68	20	20	20	88	89	89	56	8	60	00	88	66	83	28			
17	1 m	29.95	2.	1.73	1.013	empera	Probe	90	18	1.8	80	60	a	10	200	89	12	28	12	88	69	12	25	12	1.5	66	B	89	68	60			
lber	ameter	ric Pres	essure	Ita H	amma		Stack	83	28	28	20	53	20	100	000	82	83	83	83	05T	64	8T	By.	50	85	82.	8S	BS	SS	SS			
Run Number	Stack Diameter	Barometric Pres.	Static Pressure Meter Box #	Meter delta	Meter Gamma	Meter	Volume (ft³)	5919.857	518.1	821.1	825.0	1	BSID	0.22.0	11000	943.6	Sule.2	848.9.	851.450	855.3	854;2	802.9	Blobale	870.3	873.9	876.5	878.9	1	882.5	1	801,008		
Company	0	ľ	T	29	17	Orifice	Setting (in. H ₂ O)	2:35	2:35	2.24	2.24	422	01.2	101	1.4	Shi	1.34	1.31	3,08 .	2.4 W	2.77	PL12	2,60	2:35	1.40	1,06	0,67	0167	0.61	0,510	2		
The Chemours Company	Fayetteville, NC	VES Inlet	4/20	1	2/131	Velocity	Head (in. H ₂ O)	-	0.84	0			B1 10	010		250	0,48	6,47				0,98	0,83	C. SU	0.53	0,38	024	0.24	0,22	0.20			T
The	Faye	VES	-12	11	2121 -	Sample Sample Velocity	Time (min) (4					24		1.1	1.1	44	48				_		-	_	80	84			96			
Client	Location	Source	Uate Operators	Start Time	End Time	amples	Point	A1	2	S	4	S V	0 1	0	00	10	11	12	B1	2	e	4	2	9	2	80	6	10	11	12	Y		1

EPA Isokinetic Field Sheet

EPA Isokinetic Field Sheet

S	Pitot + -	7		1	ata (vol)	Final						ata (qm)	Final				Gain	ml.	mg		Total		ata	Tare					nt Data (%	CO2		
Leak Check Rates	Sample Rate in. cfm	12 0.007		9 0,610	Impinger Data (vol)	# Initial	- 0	m	4	- - -	0	Silica Gel Data (gm)	# Initial	1	2		Moisture Gain						Filter Data	# Number	1	2	m		ecular	# 0 ₂	- 2	
		Initial /	Mid	-		Comments/Notes	ABlo. 187-14																									
	0.84	1-1	230	NA		Vacuum (in. hg)	5	5	0	. e		e's	5	2	4	1	1	e.	9	9	2	2	e	0	5	e	5	2				
5-12	2.10	22-4	1		L			62	65	50	20	20	3%	66			29	66	8	52	25	55	53	66	66	66	55	55				
ber	ficient I.D.	I.D.	ze	I.D.	arenhei	Meter	+	57	22	12		66		5	99				828				55	60		53	55					
Pitot Number	Pitot Coefficient Stack TC I.D.	Oven Box I.D.	Nozzle Size	XAD Trap I.D.	egrees f	Aux	610		_		1	25	23	27	25	29	5		00	TH T	220	5	46	9h	24	-	R					
Δ.	<u>α</u> 0	0 =	2	×	Temperature Readings in Degrees Farenheit	Impinger	68 1			62	1				64	So	69	1	-	2		200	1				SE	25				-
1	S	1		20	ure Read	Oven In Box	+			0	-		~	-			-	-	~	-	242	1		54		53	93 3	m	1	t		
3	36-inches	12	1.73	101	emperat	Probe	50			89			6968	-	1000		0		12		22			94	53	53	23	5 7.5	1	T		
ber .	ic Pres.	essure x #	Ita H	mma	T.	Stack	86	80	30	roe		11				18	67	£	000	200	aa	80	88	63	18	87	67	63	1			
	Stack Diameter Barometric Pres.	Static Pressure Meter Box #	Meter delta H	Meter Gamma	Meter	Volume (ft ³)	18	-		901.5		6	94.3					r	925.0		92566		212		2.8.2			956.7	10	721140		
Company			10	Ч	Orifice	Setting (in. H ₂ 0)	3.08	2.94	112	200	5.40	1.54	1.00	10	0.80	0167	500	2.43	245	9.50	215	2.1	0	1:73	1.54	1.59	1.28	1.23				
	Fayetteville, NC VES Inlet	-4/44	21 13	201 123	Velocity	Head (in. H ₂ O)	-			2000	0.88		0.38	030	0:51			180	190	Cio.	1210	51:0	0.68	0.02	0,55	650	orte	Orig				
-		rs 12	ne /40	e 145	Sample Sample	Time (min)	4			20			32						90			1.1	76	80	84	88		96				
Client	Location Source	Date Operators	Start Time	End Time	Sample	Point	A1	2	с, .	4 10	9	2	8	6	10	11	12	B1	70	0 4	1 1	9	7	8	6	10	11	12				

RAMBCLL

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4
Sample Train Recovery Data Sheet

	Final ml or gm	Initial ml or gm	Net Gain	
(mpinger #1	574.2	491.6	22.6	Filter #1 000010
impinger #2	751-8	754.4	-2:4	Filter #2
Impinger #3	129.6	730.8	-1.2	
(mpinger #4 (mpinger #5	9966	869.4	17.7 -	Filter #3
impinger #6	-000.0	0.1.1	100	(C) + C
mpinger #7				Run Start Time 873
Impinger #8				1
		Table Calm	-11	Run End Time 1040
		Total Gain	ml/gm	Recovery Technician P. Grady

Run # <u>R2</u>

	Final ml or gm	Initial ml or gm	Net Gain	Filter #1 MODIO
Impinger #1	486-8	467.4	19-4	Filter #1
mpinger #2	765.6	769.6	-40	Filter #2
Impinger #3 Impinger #4	524.0	519.0	-1.6	Filter #3
impinger #5	870.0	850.6	24.4	Filter #3
mpinger #6				and the second second
mpinger #7 mpinger #8				Run Start Time 112
mpinger #8				Run End Time 1317
		Total Gain	ml/g	Im
				Recovery Technician P. Grady

Run # 13

	Final ml or gm	Initial ml or gm	Net Gain	Filter #1 MODIO
Impinger #1	513.4	499-3	13.6	Filter #1 00010
Impinger #2	756.4	159-8	-3.4	Filter #2
Impinger #3	742.6	19202	0.4	2010
Impinger #4	532.0	248.7	3.2	Filter #3
Impinger #5	181.6	169.2	-18.9	
Impinger #6		· · · · · · · · · · · · · · · · · · ·	1 -	1455
Impinger #7				Run Start Time 1702
Impinger #8				Run End Time 1555
		Total Gain	ml/gn	n
				Recovery Technician P. Grady

Nozzle Calibration Form

Plant I.D. CHEMOURS

((i) the columns wave/service//me

Project No.

Personnel B6-

Source I.D. VESOUTH OUTLET

Date 9/31/20

Nozzle ID:	Stainless Steel
Diameter 1	0.245
Diameter 2	0.245
Diameter 3	0.244
Average	0.245

< 0.004" between high & low diameters



32" 2 to2

Cyclonic Flow Determination Data Sheet

FAV	ETTEN ETTEN ET ES	NES 20	VE.	Stack Diam Upstream I Downstrea Minimum 7	Distance	36"		Barometric Probe ID Velocity Gu Static Press	age ID	PS F2
.Ι	IS Angle			Port Collar	Length	5" 10 4	5" BATE.	Time		-
Traverse Point Number	Point Position	Delta P (in. H20)	Stack Temp (⁰ F)	Angle at Null	~	Traverse Point Number	Point Position	Delta P (in. H20)	Stack Temp (⁰ F)	Angle at Null
1	2	.95		1		1				
2	2	98	·	1		2				1
3	2	.97		105		3		10.0		
4	3	.97		105		4				· · · · · · · ·
5	5	.95		105		5				
6	10	.82		105		6				
7	10	.55		108		7				
8	5	.30		101		8				
9	4	,30		101		9		1 - 4		
10	18	,32		10)		10		$1 \equiv 1$		1000
11	4	.28	12	103		11				
12	12	,26		(00		12			1.	
1	1	. 75						NL 1	1000	
2	2	.85						0.150		
3	3	.85	-	101				124		
4	7	-85	-					1.11.1		I mail
5	10	.80		1.000				1.1.1.1		
6	10	,80	-							
7	4	68	-	104						
8	5	.66								
9	5	.64							1	
10	5	.60								
ч	15	.58		108						1
12	15	.50							7	
1.2				1						



C\State(Vield Data Forms\Volumetrig Flow Rate)Cyclonics.xis(Cyc

VES Carbon Bed Outlet Field Test Data

Field Data Summary The Chemours Company - Fayetteville Works Vinyl Ethers South Carbon Bed Outlet Fayetteville, North Carolina

			Run 1						Run 2						Run 3			
Traverse	Stack	Delta	Delta	Tm	(F)	SQRT	Stack	Delta	Delta	Tm	i(F)	SQRT	Stack	Delta	Delta	Tm	(F)	SQRT
Point	Temp(F)	Р	н	in	out	Delta P	Temp(F)	Р	н	in	out	Delta P	Temp(F)	Р	н	in	out	Delta P
A1	85	0.44	1.41	83	83	0.6633	89	0.41	1.31	94	94	0.6403	92	0.41	1.31		100	0.6403
2	85	0.42	1.34	86	83	0.6481	88	0.41	1.31	95	94	0.6403	92	0.41	1.31		100	0.6403
3	87	0.43	1.38	87	83	0.6557	89	0.43	1.38	97	95	0.6557	92	0.43	1.38		100	0.6557
4	85	0.43	1.38	89	83	0.6557	89	0.43	1.38	99	95	0.6557	92	0.43	1.38		100	0.6557
5	86	0.35	1.12	90	84	0.5916	89	0.35	1.12	100	95	0.5916	 92	0.36	1.15		100	0.6000
6	85	0.37	1.18	90	84 84	0.6083	89 89	0.38	1.22 1.12	99 99	95 96	0.6164	92 92	0.35	1.12		101	0.5916
7	<u>85</u>	0.34	1.09 0.96	91 91	84	0.5831	89	0.35	0.99	100	96	0.5916	92	0.35	1.12 0.90		101 101	0.5916
9	88	0.30	0.90	91	85	0.5000	90	0.31	0.99		95	0.5292	92	0.28		103	101	0.5292
10	88	0.23	0.67	91	85	0.4583	91	0.23	0.30	100	96	0.4690	92	0.23	0.30		100	0.4690
11	86	0.21	0.74	91	85	0.4796	91	0.22	0.74		96	0.4796	92	0.22		104	100	0.4690
12	86	0.23	0.74	91	86	0.4796	91	0.23	0.74	100	97	0.4796	92	0.21	0.67		100	0.4583
B1	86	0.35	1.12	88	87	0.5916	92	0.35	1.12	97	98	0.5916	93	0.35	1.12		100	0.5916
2	86	0.35	1.12	89	87	0.5916	92	0.35	1.12	99	97	0.5916	93	0.35	1.12		100	0.5916
3	87	0.37	1.18	92	87	0.6083	92	0.35	1.12	100	97	0.5916	93	0.34	1.09		100	0.5831
4	86	0.37	1.18	93	88	0.6083	92	0.35	1.12	101	98	0.5916	93	0.35	1.12	104	101	0.5916
5	88	0.35	1.12	92	88	0.5916	94	0.37	1.18	103	101	0.6083	92	0.31	0.99	105	101	0.5568
6	86	0.32	1.02	93	88	0.5657	94	0.32	1.02	103	101	0.5657	92	0.31	0.99	105	102	0.5568
7	87	0.23	0.74	94	89	0.4796	94	0.23	0.73	103	99	0.4796	92	0.21	0.67	105	102	0.4583
8	87	0.20	0.64	94	89	0.4472	91	0.20	0.60		99	0.4472	92	0.19	0.61		101	0.4359
9	88	0.18	0.58	94	90	0.4243	91	0.18	0.58	102	99	0.4243	92	0.18	0.58		101	0.4243
10	87	0.18	0.58	94	90	0.4243	92	0.18	0.58		99	0.4243	92	0.16		102	101	0.4000
11	87	0.16	0.51	94	90	0.4000	92	0.16	0.51	102	99	0.4000	92	0.16	0.51		100	0.4000
12	88	0.16	0.51	94	91	0.4000	92	0.16	0.51	102	100	0.4000	 92	0.17	0.54	101	100	0.4123
						0.0000						0.0000						0.0000
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						0.0000						0.0000						0.0000
			0.01			0.0000		0.05		10-	0=	0.0000		0.00	0.07	10.		0.0000
Average	86	0.30	0.96	91	86	0.5418	91	0.30	0.96	100	97	0.5426	92	0.29	0.93	104	101	0.5335



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Test Data Summary and Calculations The Chemours Company - Fayetteville Works Vinyl Ethers South Carbon Bed Outlet Fayetteville, North Carolina

Parameter	<u>Run 1</u>	<u>Run 2</u>	<u>Run 3</u>
Run Date Start/Stop Time Duration of Run, Minutes Ave. Nozzle Diameter, inches Pitot Calibration Factor, CF Meter Gamma Meter Delta H, inches of H2O Stack Diameter, inches Rectangular Width, inches	$\begin{array}{r} 9/1/20\\ 843.1040\\ 96\\ 0.245\\ 0.84\\ 0.975\\ 1.56\\ 41.5\\ 0\\ \end{array}$	$\begin{array}{r} 9/1/20\\ 1124 \cdot 1317\\ 96\\ 0.245\\ 0.84\\ 0.975\\ 1.56\\ 41.5\\ 0\\ \end{array}$	$\begin{array}{r} 9/1/20\\ 1402-1555\\ 96\\ 0.245\\ 0.84\\ 0.975\\ 1.56\\ 41.5\\ 0\\ \end{array}$
Rectangular Length, inches Stack Area, sq.ft. Barometric Pressure, inches of Hg Static Pressure, inches of H2O Dry Gas Meter Sample Volume, (VM)ft3 Initial	0 9.39 29.98 1.4 170.418	0 9.39 29.98 1.4 229.002	0 9.39 29.98 1.4 287.872
Final Total Volume Ave. Stack Temperature, Ts(F) Ave. Meter Temperature, Tm(F) Ave. Run Delta H, inches of H2O Ave. Square Root of Delta P	228.526 57.977 86.4 88.6 0.96 0.5418	287.229 58.111 90.9 98.5 0.96 0.5426	344.638 56.617 92.2 102.0 0.93 0.5335
<u>Moisture Data</u> Volume of water collected, mls Silica Gel, grams Total Collected, mls	13.2 13.2 26.4	14.2 13.2 27.4	10 12.8 22.8
ORSAT Data %O2 %CO2 %CO	20.90 0.0	20.90 0.0	20.90 0.0
Calculations			
Vw(std), scf = Vm(std), dscf = Bws= Md= Ms= Vs, ft/sec = Qs, acfm = Qs(std), dscfm = Isokinetic Sampling Rate, %	1.243 54.638 0.022 28.84 28.60 31.0 17,477 16,602 98.4	1.290 53.796 0.023 28.84 28.58 31.2 17,577 16,541 97.2	1.073 52.083 0.020 28.84 28.62 30.7 17,291 16,289 95.6

Where:

An = area of the nozzle

As = area of the stack

Vw(std) = volume of water vapor in gas, standard conditions = 0.04707*Vlc

Vm(std) = vol. of gas sampled, standard conditions = 17.647 x Vm x gamma x [Pb + (dH/13.6)]/Tm(R)

Bws = water vapor in gas stream, proportion by volume = Vw(std)/(Vm(std) + Vw(std))

Md = molecular weight of stack gas, dry basis = (0.44 x%CO2) + (0.32 x%O2) + [0.28 x (%N2 + %CO)]Ms = molecular weight of stack gas, wet basis = [Md x (1-Bws)] + (18.0 x Bws)

Vs = stack gas velocity = $85.49 \times Cp \times (avg. Sq.Rt. dP) \times [Sq.Rt. (Ts(R))/(Ms \times Ps)]$

Qs = stack gas flow rate = Vs x As x 60

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Qs(std) = stack gas flow rate - VS x rate volume and a volume value of the stack gas flow rate - VS x rate volume value of the stack gas flow rate - VS x rate value value of the stack gas flow rate - VS x rate value valu



Results Summary The Chemours Company - Fayetteville Works Vinyl Ethers South Carbon Bed Outlet Fayetteville, North Carolina

								Fayettev	ille, North Ca	arolina							
Parameter:			R	un 1			R	un 2			R	un 3			Av	erage	
	Mol. Wt.	mg	mg/dscm	<u>ppm</u>	lb/hr	mg	mg/dscm	ppm	<u>lb/hr</u>	mg	mg/dscm	ppm	<u>lb/hr</u>	mg	mg/dscm	<u>ppm</u>	lb/hr
HFPO - Dimer Acid	330	0.00322	2.08E-03	1.52E-04	1.29E-04	0.00704	4.62E-03	3.37E-04	2.86E-04	0.00408	2.77E-03	2.01E-04	1.69E-04	0.00	3.16E-03	2.30E-04	1.95E-04

 Where:

 Pollutant Emission Concentration:

 mq= total sample collected, milliarams

 mq/dscm = milliarams of pollutant per dry standard cubic meter sampled = (mq/dscf) x (35.314 cubic feet/cubic meter)

 pom = parts per million = ((mq/dscm x 24.04 liters/mol)/mol.wt))

Pollutant Emission Rate: lb/hr = pounds of pollutant emitted per hour = mq/1000/[(453.59 q/lb)/(dscf)] x dscfm x 60 min/hr

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Example Calculations

The Chemours Company - Fayetteville Works Vinyl Ethers South Carbon Bed Outlet Fayetteville, North Carolina Note: Values are shown for example purposes only.

Vm,a =	Dry gas volume at actual conditions (acf)
	Initial gas meter volume:170.418Final gas meter volume:228.526Difference:58.108
	Volume of dry gas at standard conditions (dscf) = 17.647x Vm, a x Gamma*[Pbar+(DeltaH/13.6)]/Tm(R) = 17.647 x 0.000 x 0.975 x (29.98 + [(1.560 /13.6)/ 549 = 54.638
VI,c =	Volume of water collected in impingers and silica gel (ml)
impinger	catch (mls): 13 silica gel (g) 13.2 total: 26.4
	Volume of water vapor in gas at standard conditions (cu.ft.) = (0.04707) × (VI,c) = 0.04707 × 26.4 = 1.243
	Proportion by volume of water vapor in gas stream = Vw,std/(Vw,std+Vm,std) = 1.24 / (1.24 + 54.638) = 0.022
	Stack gas static pressure (in. Hg) = St/13.6 = 1.40 / 13.6 = 0.103
	Absolute stack gas pressure (in. Hg) = Ps+Pbar = 0.103 + 29.98 = 30.08
	Dry mole fraction of stack gas = 1-Bwo = 1 - 0.022 = 0.978
	Dry molecular weight of stack gas (lb/lb-mol) = (0.32 x %O2) + (0.44 x %CO2) + (0.28 x %N2) = (0.32 x 20.90)+(0.44 x 0.00) + (0.28 x 79.10) = 28.84
	Wet molecular weight of stack gas (lb/lb-mol) = (Md) x (MFD) + (0.18) x (Bwo*100) = 28.84 x 0.978 + 0.18 x 2.22375 = 28.60

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Example Calculations

The Chemours Company - Fayetteville Works Vinyl Ethers South Carbon Bed Outlet Fayetteville, North Carolina Note: Values are shown for example purposes only.

Vs,avg = Average stack gas velocity (fps) = Kp x (Cp) x (sqrt,deltaP) x sqrt((Ts + 460° R)/Mw*Pa)) $= 85.48 \times 0.84 \times 0.54 \times sqrt(0.64)$ = 31.0 Α Cross sectional areas of stack (sq. ft) $= pi/4*d^{2}$ = 3.14159/4 x 3.46 ^2 9.39 = Volumetric flow rate at actual conditions (acfm) Qa = (60)sec/min(A)(Vs, avg) 60 x 9.3934 x 31.01 = = 17,475 Ostd Volumetric flow rate at standard conditions (scfm) = Qa x (528/Ts,avg + 460) x Pa/29.92 17,475 x (528 / 546) x 1.005 = 16,978 = Volumetric flow rate at dry standard conditions per minute(dscfm) Qstd,dry = Qstd x (1-Bwo) = 16,978 x 0.9778 = 16,601 mg/dscm HFPO-DA concentration = (mg/dscf) x 35.314 cu. ft./cu. meter = (0.003 / 54.64):35.314 = 2.08E-03 lb/hr **HFPO-DA Mass Emission Rate** = mg/1000/[(453.59 g/lb)/(dscf)] x dscfm x 60 min/hr = 0.00 / 1,000 / [453.59) / 54.64)] x 16,602 x

= 1.29E-04



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EPA Isokinetic Field Sheet

	ata (vol) Final					ata (am)	Final				Gain	ml.	dm	1	Total		40	Taro	מוע				nt Data (%	CO ₂			
Leak Check Rates Sample Rate in. cfm イロ o.oo5 タ o.oo5 タ o.oo5	Impinger Data (vol) # Initial Final	- 7 -	ω 4	2	9	Silica Gel Data (am)	# Initial	-	2		Moisture Gain						Eilter Data	# Nimber	+	-	1 0	2	Nolecular Weight Data (%	# 0 ²	1	2	~
Initial Mid Mid Final	Comments/Notes										NowME- 200.561											Stolloyo					
0.84 NA	Vacuum (in. ho)	N	n lo	5	21	5	2	4	4	5	4	6	5	9	9	4	0 9		2	4	4	4					
P43	Meter	83	200	50	200	24	84	50	58	58	86	12	53	507	880	200	000	00	25	90	90	16					1
Pitot Number Pitot Coefficient Stack TC I.D. Oven Box I.D. Impinger Out I.D. Nozzle Size XAD Trap I.D.	Temperature Readings in Degrees Farenheit Probe Dven Impinger Aux Meter 1 Inler 0	200	25.	85	52	25	14	16	15	41	16	38	50	26	500	22	01	94	44	44	44	44					
	Degrees	12	60	Ss	50	200	20	59	60	69	60	62	60	56	200	n a	28	60	22	5-5	60	Sg					
7	tadings in Impinger	S	400	96	47	48	47	44	48	45	45	24	46	46	48	117	17	67	49	49	44	43					
nches 18 15	Oven Box	60	14	36	95	93	53	92	16	16	94	26	94	55	96	94	10	06	25	55	35	95					
25.	Tempera	93	14	26	22	36	15	53	93	44	93	25	15	25	50	10	94	36	76	95	96	95					
Run Number Stack Diameter Barometric Pres Static Pressure Meter Box # Meter delta H Meter Gamma	Stack	500	87	280	200	550	35	28	80	98		\sim	200	67	200	200	12	100	8	57	63						
	Meter Volume (ft ³)	B14.011	176.4	(10.4 5	187.4	190.6	192.2	4.491	196.6	198.5	200-5-002	1	206.0	- M	211.2	1	213.9	220.9	1	724.7	726.7	229,526				
Company	Orifice Setting (in. H ₂ O)	141	1.38	1.38	21.1	1.09	0.96	0.20	0.67	46.0	PT-0	1.12	211	1.100		111	74.0	0.64	0.78	0,58	0.51	15.0					
The Chemours Company Fayetteville, NC VES Outlet 9/i/2020 CE/55 0845 0845 Helfo 640	Velocity Head (in. H ₂ O)		0.93	0.43	0.37	0.34	0.30	0,25	12.0	0. 23	0.23	0.35	0.35	0.37	120.37	0.37	+	.20	. 18	0.18	0.16	0.16				T	
	Sample Time (min)	4α			24		32			44	48			60	64 6	77	76	80 6	84	88	92 (96				1	Ī
Client Location Source Date Operators Start Time End Time	Sample Sample Point Time (min)	A1	3 6	4 L	0 9	2	8	6	10	11		B1	2	m	4 1	n y	2	80	6	10	11	12					
											57427	2510															

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Methods Performed M0010

	Impinger Data (vol)	al Final							il Data (gm)	al Final				Moisture Gain	ml.	mg		Total			Filter Data	ber Tare					10lecular Weight Data (%	CO2			
Sample Rate in. cfm 6 e.o./0 6 b.oog 7 0.00 7 0.00 7 0.00	Impinge	# Initial	2	ę	4	2	9		Silica Gel Data	# Initial	1	2	Į								+	# Number	1	2	m		Nolecular W	# 0 ₂	-1 c	4 m	
Initial Mid Final		Comments/Notes												VOLUME: 259.418(BU	Volume: 259/118	Vacuta6:259:75															
0.84 -2 245 NA		Vacuum (in. hg)	4	4	4	4	4	2	4	4	4	a	P	m	4	5	6	s'	s	5	4	4	4	4	4	4					
70-70 08-2 124	it	Meter		44	56	56	35	36	96	95	95	96	96	16	98	25	60	28	107	101	8	66	99	66	99	100					
efficient X I.D. X I.D. r Out I.D ize p I.D.	Farenhe	Meter	44	1A o	97	66	001	99	66	100	100	100	100	100	16	95	100	101	103	(63	503	102	102	102	102	102					
Pitot Coefficient Stack TC I.D. Oven Box I.D. Impinger Out I.I Nozzle Size XAD Trap I.D.	Degrees	Aux	62	60	61	60	60	S3	5	5	50	29	59	00	64	59	29	63	64	64	64	62	00	20	58	56					
	Temperature Readings in Degrees Farenheit	Impinger	65	25	54	53	So	5	S3	03	29	15	51	65	20	SG	54	56	200	56	23	22	20	45	45	44					
ches	ture Rea	Oven I Box	95	96	96	35	35	96	35	25	28	98	66	100	00/	56	99	100	164	60	46	65	100	100	94	36	1 2 2 3				
41.5-inches 29.48 1.4 8 1.56 0.575	empera	Probe	94	96	16		56	26	26		65	96	65	67	100	100	100	101	104	103	102	60	9,6	101	101	101					
ameter ric Pres. essure ox # sita H amma	F	Stack	18	38	Sol	8	00	39	89	89	06	-6	16	15	26	26	26	92	46	94	46	16	16	52	92.	92		E			
stack Diameter Barometric Pres. Static Pressure Meter Box # Meter delta H Meter Gamma	Meter	Volume (ft ³)	229.002	1	234.9	237.5	240.2	242.9	245.5	248.3	250.7	253.0	255.3	257,4	259,534	1	264.4	1	1	١	277.6	l	280.46	281.3	282.5	285.5		287.229			
4	Orifice	Setting (in. H ₂ 0)	1.31	1.31	1.39	1.38	1.12	1.22	1.17	66.0	0.90	0.70	PT: 0	11:0	1.12	1.17	1.12	1.12	1.68	1.02	. 73	60	58	58	51	15.					
Fayetteville, NC VES Outlet 1//2020 CG / 55 /12月 トヨイワ 13/1	Velocity	Head (in. H ₂ O)	-	16-0	54.0	0.43	0.35	0,38	0.35	0.31	0.28	22.0	0.23	0.23	0.35	0.35	0.35	.35	-37	.32	52.	20	018	000	.16	210					
	ample	Time (min) (8	12	1.1			28		36 6	40 4		48 0	52 0	56 C		64	68	72	76	80	84	88	92	96				1	
Location Source Date Operators Start Time End Time	Sample Sample	Point	A1	2	3	4	5	9	2	8	6	10	11	12	12 29 81	2	3	4	5	9	2	8	6	10	11	12					

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Pitot	7 7	ata (vol)	Final							ata (gm)	Final				Gain	ш.	mg		Total			Data	Tare					ht Data (%	C02	
	2000 2 2000 6 0,000 7 0,009	Impinger Data (vol)	# Initial1	2	0	4	2	9			# Initial	1	2		Moisture Gain							Filter Data	# Number	F	2	3		ecular	# 02	1
	Initial Mid Mid Final		Comments/Notes				2P-0-43								V= 317.796	V= 317,945														
0.84 7C	NA		Vacuum (in. hg)	Ч	5	ġ	5	4	4	4	ω	m	3	M	3	Ц	4	4	ý	5	5	4	4	J	4	4	4			1
10-	2-215 275	+	Veter	100	100	100	100	100	101	101	191	100	100	100	100	100	100	100	101	101	102	102	101	101	101	100	100			
fficient I.D.	< I.D. Out I.D. ze 1.D.	Farenhe	Meter Inlet	100	103	104	105	105	605	105	105	104	104	104	104	101	201	104	104	Sel	105	105	104	103	102	181	101	-		
Pitot Coefficient Stack TC I.D.	Oven Box I.D. Impinger Out Nozzle Size XAD Trap I.D.	Degrees	Aux	52	60	60	09	60	23	Se	20	57	57	58	S6	64	20	SS	25	Set	SS	54	5	56	50	22	S7			1
	UHEA	Temperature Readings in Degrees Farenheit	Impinger	SS	48	23	20	48	46	44	46	47	44	45	44	5.6	43	43	12	42	47	41	24	43	54	24	42			Ī
ches	a	ure Rea	Oven Ir Box	001	101	001	99	100	98	100	66	101	100	001	101	102	101	102	101	100	100	99	56	96	67	52	97			ĺ
41.5-inches	89.98 8 1.56 0.975	emperat	Probe	128	66	100	100	66	/•0		98	100	101	66	100	10.3	100	100	1001	66	98	99	98	66	100	98	98			
ameter ric Pres.	essure x # Ita H imma	F	Stack	00	26	26	26	25	26	25	25	26	26	26	26	56	93	93	93	25	26	93	26	25	26	92	23			
	Static Pressure Meter Box # Meter delta H Meter Gamma	Meter	Volume (ft ³)	287.872)	293.5	1)	301.6	204.2	306.9	309.6	311.6	313.5	315.6	317.945	1	22305	325.7)	3306	333.1	335.2	337.7	2.955	1	342.7	344.638		
	111	Orifice	Setting (in. H ₂ 0)	1.51	1.31	1.38	1.38	7.15	1.12	1.12	0,90	6.80	01.0	0.70	69.0	1.12	211	1.09	1,12	0.99	106.0	10.67	1910	0.58	0,57	0.51	42.0			
Fayetteville, NC VES Joutlet	1/1/2020 1402 1555	Velocity	-	11.0	14.0	0.43	00000	0.36	0,35	0.35	0.28	52.0	0.22	0.22	12.0	0.35	0:35	0.34	0 35	0.31	0.31	0.21	61.0	0.18	0110	0:16	11.0			
1-1-1	10011		Time (min)	4	8		16					36	40		48	52	56		64	_	72	76	80 6	84	88	92	96	U		
Location Source	Date Operators Start Time End Time	Sample Sample	Point	A1	2	m	4	5	9	2	80	6	10	11	12	B1	2	S	4	2	9	7	8	6	10	11	12			
																1507														

EPA Isokinetic Field Sheet

Methods Performed M0010

3 Avg

RAMBOLL

Ct/Stantovect Data P

Sample Train Recovery Data Sheet

-			
Final ml or gm	Initial ml or gm	Net Gain	
510 11	0776	11.1.	Filter #1 MODIO
	199.6	-11-0-	Filter #2
777.8	773.2	~. Y	
492.2	490.2	2.0	Filter #3
295-8	882.6	13-2	
			240
			Run Start Time
	· · · · · · · · · · · · · · · · · · ·		10
			Run End Time 1010
	Final ml or gm 519:4 699:6 772:8 492:2 895:8	519.4 507.8	$\begin{array}{c ccccccccccccccccccccccccccccccccccc$

Run # 2

1.0.0	Final ml or gm	Initial ml or gm	Net Gain			
Impinger #1	493-6	493.6	10.0		Filter #1 MD	010
mpinger #2	785.6	786.2	-3.6		Filter #2	
mpinger #3	779.0	779.0	-0-		-	
mpinger #4 mpinger #5	835.0	821.8	13.2		Filter #3	-
mpinger #6						450
mpinger #7 mpinger #8					Run Start Time	1127
inpinger we			·;		Run End Time	1317
		Total Gain		ml/gm	1	
					Recovery Technician	P. Grady

Run # 3

	Final ml or gm	Initial ml or gm	Net Gain	
Impinger #1	516-4	508.0	8.4	Filter #1
Impinger #2	705-2	705-2	e	Filter #2
Impinger #3	764.2	7642	Ø	
Impinger #4	492.0	490.4	1.6	Filter #3
Impinger #5	908.2	895.4	12.8	
Impinger #6				1.
Impinger #7				Run Start Time 1402
Impinger #8				
				Run End Time 155
		Total Gain		ml/gm
(Recovery Technician P. Grady



Nozzle Calibration Form

Plant I.D.	Chemours
Source I.D.	VES Inlet
	Date 18 31/20

Project No. _____ Personnel <u>P.Grady</u>

Nozzle ID:	Stainless Steel
Diameter 1	. 230
Diameter 2	.229
Diameter 3	.230
Average	1230

< 0.004" between high & low diameters

ene Wew Name aley 0.7 and Qill I

RAMBOLL

Cyclonic Flow Determination Data Sheet

Client CHEMODES Location FAYETTE VILLE NC Source OVILET VES Date R:31-20 Operator SKS

Г

Stack Diameter C Upstream Distance Downstream Distance Minimum Traverse Points Port Collar Length

Leak Ck Int. Post Barometric Pressure Probe ID Velocity Guage ID Static Pressure Time

Traverse Point Number	Point Position	Delta P (in. H20)	Stack Temp (⁰ F)	Angle at Null
1		Ao	108	2
2		.45		3
3	1	.45	104	5
4		,45	104	- 5
5 6 7	21	.40	104	
6		.35	104	and the second second
7		,25	103	7
8		.25	103	7
8		-20		5
10		,20	103	15
11		,15	103	.5
12		100 I	103	10
1		40	101	5
2		.48	101	
3		.50	102	7
4		.53	102	5
5		.45	602	10
6		.40	102	10
7		. 25	102	5
8		.30	102	7
8		.25	102	6
10		,20	102	7
11		.15	102	15
12		,10	102	10

Traverse Point Number	Point Position	Delta P (in. H20)	Stack Temp (⁰ F)	Angle at Null
		1		
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1.2.2		1.1 (1.4 (1.4))		
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			1	-



Ramboll - Source Emissions Testing Of The Vinyl Ethers South Carbon Bed

APPENDIX D LABORATORY DATA **VES Carbon Bed Inlet Laboratory Data**

🔅 eurofins

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 140-20288-1

Client Project/Site: VES CB Inlet - M0010

For:

LINKS

Review your project results through

Total Access

Have a Question?

Ask-

The

www.eurofinsus.com/Env

Visit us at:

Expert

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

Attn: Michael Aucoin

ownerf Aclohnis

Authorized for release by: 9/21/2020 2:13:37 PM

Courtney Adkins, Project Manager II (865)291-3019 courtney.adkins@eurofinset.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Client: The Chemours Company FC, LLC Project/Site: VES CB Inlet - M0010

Qualifiers

LCMS
Qualifier

Q	Y	ι	l	ê
_				

Qualifiers		_ 3
LCMS		
Qualifier	Qualifier Description	4
В	Compound was found in the blank and sample.	_
Glossary		- 5
Abbreviation	These commonly used abbreviations may or may not be present in this report.	6
¤	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	0
CNF	Contains No Free Liquid	0
DER	Duplicate Error Ratio (normalized absolute difference)	
Dil Fac	Dilution Factor	9
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: 140-20288-1

Laboratory: Eurofins TestAmerica, Knoxville

Narrative

Job Narrative 140-20288-1

Sample Receipt

The samples were received on September 4, 2020 at 12:35 PM in good condition and properly preserved. The temperature of the cooler at receipt was 1.6° C.

LCMS

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): QF-2322,2324 VES BC INLET R1 M0010 FH (140-20288-1), QF-2329,2330 VES BC INLET R2 M0010 FH (140-20288-5) and QF-2336,2337 VES BC INLET R3 M0010 FH (140-20288-9). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: QF-2322,2324 VES BC INLET R1 M0010 FH (140-20288-1), QF-2329,2330 VES BC INLET R2 M0010 FH (140-20288-5) and QF-2336,2337 VES BC INLET R3 M0010 FH (140-20288-9). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): Results for samples QF-2331,2332,2334 VES BC INLET R2 M0010 BH (140-20288-6) and QF-2338,2339,2341 VES BC INLET R3 M0010 BH (140-20288-10) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): QF-2324,2325,2327 VES BC INLET R1 M0010 BH (140-20288-2). 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 method blank for preparation batch 140-42523 and 140-42590 contained HFPO-DA above the reporting limit (RL). The entire sample was consumed during analysis or extraction, therefore, the data have been reported.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: QF-2324,2325,2327 VES BC INLET R1 M0010 BH (140-20288-2), QF-2331,2332,2334 VES BC INLET R2 M0010 BH (140-20288-6) and QF-2338,2339,2341 VES BC INLET R3 M0010 BH (140-20288-10). The sample was analyzed at a dilution based on screening results.

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

Organic Prep

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

Client: The Chemours Company FC, LLC Project/Site: VES CB Inlet - M0010

Detection Summary

Job ID: 140-20288-1

Client Sample ID: QF-2322,	2324 VE	S BC INI	ET R1 M	0010 FH		Lab Sa	mple ID: 14	0-20288-1
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Ргер Туре
HFPO-DA	96.9		2.00	1.16	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2324,	2325,232	27 VES B	BC INLET	R1 M001	0	Lab Sa	mple ID: 14	0-20288-2
BH								
Analyte		Qualifier	RL	MDL	Unit	Dil Fac	Method	Prep Туре
HFPO-DA	27.1	В	0.800	0.700	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2326 CONDENSATE	VES BC	INLET R	1 M0010	IMP 1,28	.3	Lab Sa	ample ID: 14	0-20288-3
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Туре
HFPO-DA	0.478		0.0585	0.00965	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2328 BREAKTHROUGH XAD-2 R			1 M0010			Lab Sa	ample ID: 14	0-20288-4
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA	0.00988	В	0.00160	0.00140	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2329,	2330 VE	S BC INI	ET R2 M	0010 FH		Lab Sa	mple ID: 14	0-20288-5
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA	6.11		0.100	0.0580	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2331, BH	2332,233	84 VES B	BC INLET	R2 M001	0	Lab Sa	ample ID: 14	0-20288-6
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA	0.833	В	0.0320	0.0280	ug/Sample	20	537 (modified)	Total/NA
Client Sample ID: QF-2333 CONDENSATE	VES BC	INLET R	2 M0010	IMP 1,28	.3	Lab Sa	ample ID: 14	0-20288-7
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA	0.112		0.0570	0.00941	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2335 BREAKTHROUGH XAD-2 R			2 M0010			Lab Sa	ample ID: 14	0-20288-8
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA	0.00890	В	0.00160	0.00140	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2336,	2337 VE	S BC INI	ET R3 M	0010 FH		Lab Sa	mple ID: 14	0-20288-9
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA	5.86		0.100	0.0580	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2338, BH	2339,234	1 VES E	BC INLET	R3 M001	10	Lab Sar	nple ID: 140	-20288-10
Analyte HFPO-DA	Result 1.27	Qualifier B	RL 0.0320	MDL 0.0280	Unit ug/Sample		Method 537 (modified)	Prep Type Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Knoxville

Detection Summary

Client: The Chemours Company FC, LLC Project/Site: VES CB Inlet - M0010

5

Client Sample ID: QF-2340 VES BC INLET R3 M0010 IMP 1,2&3 Lab Sample ID: 140-20288-11 CONDENSATE

Analyte HFPO-DA	Result 0.224	Qualifier	RL 0.0605	MDL 0.00999	Unit ug/Sample	Dil Fac	D Method 537 (modified)	Prep Type Total/NA
Client Sample ID: 0 BREAKTHROUGH			3 M0010			Lab Sa	mple ID: 140	-20288-12
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D Method	Prep Type
HFPO-DA	0.00806	B	0.00160	0.00140	ug/Sample	1	537 (modified)	Total/NA

		Client S	Sample	Result	ts				
Client: The Chemours Company Project/Site: VES CB Inlet - M001								Job ID: 140-2	0288-1
Client Sample ID: QF-2322 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train	,2324 VE	S BC INLE	ET R1 M0	010 FH		L	ab Sample	e ID: 140-20 Mat	288-1 rix: Air
Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2324	Result 96.9 %Recovery 90	Qualifier Qualifier	RL 2.00 Limits 25 - 150		ug/Sample	Ē	Prepared 09/09/20 11:52 Prepared 09/09/20 11:52 ab Sample	Analyzed	Dil Fac 1 Dil Fac 1 288-2
BH Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train									rix: Air
Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	-	Qualifier B	ES RL 0.800 Limits 25 - 150	MDL 0.700	Unit ug/Sample	D	Prepared 09/08/20 09:30 Prepared 09/08/20 09:30	Analyzed 09/18/20 18:04 Analyzed 09/18/20 18:04	Dil Fac 1 Dil Fac 1
Client Sample ID: QF-2326 CONDENSATE Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train				VIP 1,28	ເວັ		ab Sample	e ID: 140-20 Mat	rix: Air
Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	-	Qualifier	RL 0.0585 Limits 25 - 150	MDL 0.00965	Unit ug/Sample	D	Prepared 09/14/20 11:33 Prepared 09/14/20 11:33	Analyzed 09/15/20 13:33 Analyzed 09/15/20 13:33	Dil Fac 1 Dil Fac 1
Client Sample ID: QF-2328 BREAKTHROUGH XAD-2 I Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train			M0010			L	.ab Sample	e ID: 140-20 Mat	288-4 rix: Air
Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	-	Qualifier B	ES RL 0.00160 Limits 25 - 150	MDL 0.00140	Unit ug/Sample	<u>D</u>	Prepared 09/08/20 09:30 Prepared 09/08/20 09:30	Analyzed 09/18/20 18:13 Analyzed 09/18/20 18:13	Dil Fac 1 Dil Fac 1
Client Sample ID: QF-2329 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train	,2330 VE	S BC INLE	ET R2 M0	010 FH		L	ab Sample.	e ID: 140-20 Mat	288-5 rix: Air
Method: 537 (modified) - Fluor Analyte HFPO-DA	-	I Substance Qualifier	es RL 0.100	MDL 0.0580	Unit ug/Sample	D	Prepared 09/09/20 11:52	Analyzed	Dil Fac

Eurofins TestAmerica, Knoxville

		Client	Sample	Result	ts		
Client: The Chemours Company Project/Site: VES CB Inlet - M001			·			Job ID: 140-20288-1	2
Client Sample ID: QF-2329 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35),2330 VE	S BC INL	ET R2 M0	010 FH		Lab Sample ID: 140-20288-5 Matrix: Air	
Sample Container: Air Train							
Isotope Dilution 13C3 HFPO-DA	%Recovery 96	Qualifier	Limits			Prepared Analyzed Dil Fac 09/09/20 11:52 09/16/20 17:05 1	5
					-		6
Client Sample ID: QF-2331	,2332,233	B4 VES B	C INLET F	R2 M001	0	Lab Sample ID: 140-20288-6	
BH Date Oalla stade 00/04/00 00:00							
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train						Matrix: Air	8
Method: 537 (modified) - Fluo	rinated Alk	d Substan	205				9
Analyte		Qualifier	RL	MDL	Unit	D Prepared Analyzed Dil Fac	
HFPO-DA	0.833	В	0.0320	0.0280	ug/Sample	<u> </u>	
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared Analyzed Dil Fac	
13C3 HFPO-DA	89		25 - 150			09/08/20 09:30 09/18/20 18:22 20	
Client Sample ID: QF-2333 CONDENSATE	B VES BC	INLET R	2 M0010 II	MP 1,28	.3	Lab Sample ID: 140-20288-7	12
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35						Matrix: Air	13
Sample Container: Air Train							
Method: 537 (modified) - Fluo	rinated Alky	/I Substan	ces				
Analyte		Qualifier	RL	MDL		D Prepared Analyzed Dil Fac	
HFPO-DA	0.112		0.0570	0.00941	ug/Sample	09/14/20 11:33 09/15/20 13:41 1	
Isotope Dilution 13C3 HFPO-DA	%Recovery 105	Qualifier	Limits 25 - 150			Prepared Analyzed Dil Fac 09/14/20 11:33 09/15/20 13:41 1	
Client Sample ID: QF-2335			2 M0010			Lab Sample ID: 140-20288-8	
BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00	RESIN TU	IBE				Matrix: Air	
Date Received: 09/04/20 12:35						Matrix. All	
Sample Container: Air Train							
Method: 537 (modified) - Fluo	rinated Alky	/I Substan	202				
Analyte	-	Qualifier	RL	MDL	Unit	D Prepared Analyzed Dil Fac	
HFPO-DA	0.00890	В	0.00160	0.00140	ug/Sample	09/08/20 09:30 09/18/20 18:31 1	
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared Analyzed Dil Fac	
13C3 HFPO-DA	71		25 - 150			09/08/20 09:30 09/18/20 18:31 1	
Client Sample ID: QF-2336	6,2337 VE	S BC INL	ET R3 M0	010 FH		Lab Sample ID: 140-20288-9	
Date Collected: 09/01/20 00:00						Matrix: Air	
Date Received: 09/04/20 12:35							
Sample Container: Air Train							
Method: 537 (modified) - Fluo							
Analyte		Qualifier	RL	MDL		D Prepared Analyzed Dil Fac	
HFPO-DA	5.86		0.100	0.0580	ug/Sample	09/09/20 11:52 09/16/20 17:14 1	
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared Analyzed Dil Fac 09/09/20 11:52 09/16/20 17:14 1	
13C3 HFPO-DA	93		25 - 150			09/09/20 11:52 09/16/20 17:14 1	

		Client	Sample	Result	ts				
Client: The Chemours Company F Project/Site: VES CB Inlet - M001								Job ID: 140-	20288-1
Client Sample ID: QF-2338 3H	8,2339,234	1 VES B	C INLET F	R3 M001	0	La	b Sample	ID: 140-20	288-10
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Gample Container: Air Train								Ма	trix: Air
Method: 537 (modified) - Fluor	inotod Alka	d Substan							
Analyte	-	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	1.27		0.0320		ug/Sample		09/08/20 09:30		
Isotope Dilution	%Recovery		Limits				Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	80	quanto	25 - 150			-		09/18/20 18:39	
			0 140040 1		•		h 0 a manual a	ID. 440.00	000 44
lient Sample ID: QF-2340	VES BC	INLET R	3 M0010 II	MP 1,28	.3	La	b Sample	e ID: 140-20	288-11
Client Sample ID: QF-2340 CONDENSATE	VES BC	INLET R	3 M0010 II	MP 1,28	.3	La	b Sample		
Client Sample ID: QF-2340 CONDENSATE Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35	VES BC	INLET R	3 M0010 II	MP 1,28	.3	La	b Sample		288-11 trix: Air
Client Sample ID: QF-2340 CONDENSATE Pate Collected: 09/01/20 00:00	VES BC	INLET R	3 M0010 II	WP 1,28	.3	La	b Sample		
Client Sample ID: QF-2340 CONDENSATE Pate Collected: 09/01/20 00:00 Pate Received: 09/04/20 12:35 Pample Container: Air Train				MP 1,28	.3	La	b Sample		
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor	rinated Alky			MP 1,28		La	b Sample		
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor Analyte	rinated Alky	/I Substan	Ces	MDL		D		Ma Analyzed	trix: Air
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA	rinated Alky Result	<mark>/I Substan</mark> Qualifier	Ces RL	MDL	Unit	D	Prepared	Ma Analyzed	trix: Air
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution	rinated Alky Result 0.224	<mark>/I Substan</mark> Qualifier	Ces 	MDL	Unit	D	Prepared 09/14/20 11:33 Prepared	Ma Analyzed 3 09/15/20 13:50	Dil Fac
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	rinated Alky Result 0.224 %Recovery 103	<mark>/I Substan</mark> Qualifier Qualifier	RL 0.0605 Limits 25 - 150	MDL	Unit	D	Prepared 09/14/20 11:33 Prepared 09/14/20 11:33	Ma <u>Analyzed</u> <u>09/15/20 13:50</u> <u>Analyzed</u> <u>09/15/20 13:50</u>	trix: Air Dil Fac 1 Dil Fac 1
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Sotope Dilution 13C3 HFPO-DA	rinated Alky Result 0.224 %Recovery 103 2 VES BC	/I Substan Qualifier Qualifier INLET R	RL 0.0605 Limits 25 - 150	MDL	Unit	D	Prepared 09/14/20 11:33 Prepared 09/14/20 11:33	Ma Analyzed 09/15/20 13:50 Analyzed	trix: Air Dil Fac 1 Dil Fac 1
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2342 REAKTHROUGH XAD-2 I	rinated Alky Result 0.224 %Recovery 103 2 VES BC	/I Substan Qualifier Qualifier INLET R	RL 0.0605 Limits 25 - 150	MDL	Unit	D	Prepared 09/14/20 11:33 Prepared 09/14/20 11:33	Ma <u>Analyzed</u> <u>09/15/20 13:50</u> <u>Analyzed</u> <u>09/15/20 13:50</u> D: 140-20	Dil Fac 1 Dil Fac 1 288-12
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2342 REAKTHROUGH XAD-2 I ate Collected: 09/01/20 00:00	rinated Alky Result 0.224 %Recovery 103 2 VES BC	/I Substan Qualifier Qualifier INLET R	RL 0.0605 Limits 25 - 150	MDL	Unit	D	Prepared 09/14/20 11:33 Prepared 09/14/20 11:33	Ma <u>Analyzed</u> <u>09/15/20 13:50</u> <u>Analyzed</u> <u>09/15/20 13:50</u> D: 140-20	trix: Air Dil Fac 1 Dil Fac 1
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2342 REAKTHROUGH XAD-2 I ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35	rinated Alky Result 0.224 %Recovery 103 2 VES BC	/I Substan Qualifier Qualifier INLET R	Ces 0.0605 Limits 25 - 150	MDL	Unit	D	Prepared 09/14/20 11:33 Prepared 09/14/20 11:33	Ma <u>Analyzed</u> <u>09/15/20 13:50</u> <u>Analyzed</u> <u>09/15/20 13:50</u> D: 140-20	Dil Fac 1 Dil Fac 1 288-12
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2342 CREAKTHROUGH XAD-2 I ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train	rinated Alky Result 0.224 %Recovery 103 2 VES BC RESIN TU	/I Substan Qualifier Qualifier INLET R IBE	RL 0.0605 Limits 25 - 150 3 M0010	MDL	Unit	D	Prepared 09/14/20 11:33 Prepared 09/14/20 11:33	Ma <u>Analyzed</u> <u>09/15/20 13:50</u> <u>Analyzed</u> <u>09/15/20 13:50</u> D: 140-20	Dil Fac 1 Dil Fac 1 288-12
Client Sample ID: QF-2340 CONDENSATE ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35 ample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2342 CREAKTHROUGH XAD-2 I ate Collected: 09/01/20 00:00 ate Received: 09/04/20 12:35	rinated Alky Result 0.224 %Recovery 103 2 VES BC RESIN TU	/I Substan Qualifier Qualifier INLET R IBE	RL 0.0605 Limits 25 - 150 3 M0010	MDL	Unit ug/Sample	D	Prepared 09/14/20 11:33 Prepared 09/14/20 11:33	Ma <u>Analyzed</u> <u>09/15/20 13:50</u> <u>Analyzed</u> <u>09/15/20 13:50</u> D: 140-20	Dil Fac 1 Dil Fac 1 288-12

Analyte	-	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
HFPO-DA	0.00806	В	0.00160	0.00140	ug/Sample		09/08/20 09:30	09/18/20 18:48	1
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C3 HFPO-DA	73		25 - 150				09/08/20 09:30	09/18/20 18:48	1

Default Detection Limits

Client: The Chemours Company FC, LLC Project/Site: VES CB Inlet - M0010

5

6 7

Method: 537 (modified) - Fluorinated Alkyl Substances Prep: None

Analyte	RL	MDL	Units
HFPO-DA	0.00100	0.000580	ug/Sample
HFPO-DA	0.00160	0.00140	ug/Sample
HFPO-DA	0.00200	0.000330	ug/Sample

Eurofins TestAmerica, Knoxville

Client: The Chemours Company FC, LLC Project/Site: VES CB Inlet - M0010 Job ID: 140-20288-1

Method: 537 (modified) - Fluorinated Alkyl Substances Matrix: Air

			Percent Isotope Dilution Recovery (Acceptance Limits)	
		HFPODA		
Lab Sample ID	Client Sample ID	(25-150)		
140-20288-1	QF-2322,2324 VES BC INLET F	90		-
140-20288-2	QF-2324,2325,2327 VES BC INLET R1 M0010 BH	84		
140-20288-3	QF-2326 VES BC INLET R1 M0010 IMP 1,2&3 CONDENSATE	99		
140-20288-4	QF-2328 VES BC INLET R1 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	84		
140-20288-5	QF-2329,2330 VES BC INLET R2 M0010 FH	96		
140-20288-6	QF-2331,2332,2334 VES BC INLET R2 M0010 BH	89		
140-20288-7	QF-2333 VES BC INLET R2 M0010 IMP 1,2&3 CONDENSATE	105		
140-20288-8	QF-2335 VES BC INLET R2 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	71		
140-20288-9	QF-2336,2337 VES BC INLET R3 M0010 FH	93		
40-20288-10	QF-2338,2339,2341 VES BC INLET R3 M0010 BH	80		
40-20288-11	QF-2340 VES BC INLET R3 M0010 IMP 1,2&3 CONDENSATE	103		
140-20288-12	QF-2342 VES BC INLET R3 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	73		
_CS 140-42523/2-B	Lab Control Sample	55		
-CS 140-42561/2-B	Lab Control Sample	87		
.CS 140-42711/2-B	Lab Control Sample	97		
CSD 140-42523/3-B	Lab Control Sample Dup	64		
CSD 140-42561/3-B	Lab Control Sample Dup	83		
CSD 140-42711/3-B	Lab Control Sample Dup	103		
/IB 140-42523/15-B	Method Blank	59		
MB 140-42523/1-B	Method Blank	51		
		-		

Surrogate Legend

MB 140-42561/1-B

MB 140-42711/1-B

HFPODA = 13C3 HFPO-DA

Method Blank

Method Blank

85

99

QC Sample Results

Job ID: 140-20288-1

7 8 9

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-4	2523/15-B						Clie		ole ID: Metho	
Matrix: Air									Prep Type:	Total/N/
Analysis Batch: 42907									Prep Batc	h: <mark>4252</mark> 3
	Μ	B MB								
Analyte	Resu	It Qualifier	RL	MDL	Unit	D	Р	repared	Analyzed	Dil Fa
HFPO-DA	0.00166	3	0.00160	0.00140	ug/Sample		09/0	8/20 09:30	09/18/20 14:04	1 ·
	M	B MB								
Isotope Dilution	%Recover	y Qualifier	Limits				Р	repared	Analyzed	Dil Fa
13C3 HFPO-DA		9	25 - 150					-	09/18/20 14:04	4
Lab Sample ID: MB 140-4	2523/1-B						Clie	ont Samr	ole ID: Metho	od Blani
Matrix: Air	2323/1-0						One		Prep Type:	
Analysis Batch: 42907									Prep Batc	
Analysis Batch. 42907	м	в мв							Fiep Date	11. 4252.
Analyta		It Qualifier	RL	MDI	Unit	D	Б	roporod	Analyzad	Dil Fa
Analyte HFPO-DA	Kesu		0.00160		ug/Sample			repared 8/20 09:30	Analyzed 09/18/20 13:55	
HFFO-DA			0.00100	0.00140	ug/Sample		09/0	10/20 09.30	09/16/20 13.5)
		BMB					_			
Isotope Dilution		y Qualifier	Limits					repared	Analyzed	Dil Fa
13C3 HFPO-DA	5	1	25 - 150				09/0	18/20 09:30	09/18/20 13:55	5
Lab Sample ID: LCS 140-	42523/2-B				(Clien	t Sai	mple ID:	Lab Control	Sample
Matrix: Air									Prep Type:	
Analysis Batch: 42907									Prep Batc	
			Spike	LCS LCS	6				%Rec.	
Analyte			Added	Result Qua	alifier Unit	t	D	%Rec	Limits	
HFPO-DA				0.01854		- Sample		93	60 - 140	
	LCS L	25			- 3					
Isotope Dilution	%Recovery Q		Limits							
13C3 HFPO-DA	55		25 - 150							
Lab Sample ID: LCSD 14	0-42523/3-В				Clien	t San	nple	ID: Lab	Control Sam	
Matrix: Air									Prep Type:	
Analysis Batch: 42907									Prep Batc	
			Spike	LCSD LCS					%Rec.	RPI
Analyte			Added	Result Qua			_ D	%Rec	Limits RF	
HFPO-DA			0.0200	0.01662	ug/S	Sample		83	60 - 140	11 30
	LCSD L	CSD								
Isotope Dilution	%Recovery Q	ualifier	Limits							
13C3 HFPO-DA	64		25 - 150							
Lab Sample ID: MB 140-4	2561/1 B						Clic	ont Samr	ole ID: Metho	d Blan
Matrix: Air	2301/1-0						Cile			
									Prep Type:	
Analysis Batch: 42824	R.A.	B MB							Prep Batc	11: 4230
	IVI		RL	мп	Unit	D	P	repared	Analyzed	Dil Fa
	Reen	It Qualifier								
Analyte		It Qualifier					na/r	-	09/16/20 15.14	1 .
Analyte HFPO-DA	N	D	0.00100		ug/Sample		09/0)9/20 11:52	09/16/20 15:1	<u> </u>
Analyte	N. M.				ug/Sample	!		-	09/16/20 15:11 Analyzed	Dil Fa

Project/Site: VES CB Inlet - M0010

QC Sample Results

Job ID: 140-20288-1

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Method: 537 (modified) - Fluorinated Alkyl Substances (Continued) **Client Sample ID: Lab Control Sample** Lab Sample ID: LCS 140-42561/2-B Matrix: Air Prep Type: Total/NA Analysis Batch: 42824 Prep Batch: 42561 Spike LCS LCS %Rec. Result Qualifier Added Limits Analyte Unit D %Rec HFPO-DA 0.0200 0.01768 ug/Sample 88 60 - 140 LCS LCS Isotope Dilution %Recovery Qualifier Limits 13C3 HFPO-DA 25 - 150 87 Lab Sample ID: LCSD 140-42561/3-B **Client Sample ID: Lab Control Sample Dup** Prep Type: Total/NA Matrix: Air Analysis Batch: 42824 Prep Batch: 42561 LCSD LCSD Spike %Rec. RPD Analyte Added Result Qualifier Unit %Rec Limits RPD Limit D HFPO-DA 0.0200 0.01792 ug/Sample 90 60 - 140 1 30 LCSD LCSD Isotope Dilution %Recovery Qualifier Limits 13C3 HFPO-DA 83 25 - 150 Lab Sample ID: MB 140-42711/1-B **Client Sample ID: Method Blank** Prep Type: Total/NA Matrix: Air Analysis Batch: 42757 Prep Batch: 42711 MB MB Analyte **Result Qualifier** MDL Unit D Prepared Analyzed Dil Fac RI HFPO-DA 0.000500 0.0000825 ug/Sample 09/14/20 11:33 09/15/20 11:47 ND MB MB Isotope Dilution Qualifier Limits Prepared Analyzed Dil Fac %Recovery 13C3 HFPO-DA 25 - 150 09/14/20 11:33 09/15/20 11:47 99 1 Lab Sample ID: LCS 140-42711/2-B **Client Sample ID: Lab Control Sample** Prep Type: Total/NA Matrix: Air Prep Batch: 42711 Analysis Batch: 42757 LCS LCS Spike %Rec. Analyte Added **Result Qualifier** %Rec Limits Unit D HFPO-DA 0.0100 0.009984 100 60 - 140 ug/Sample LCS LCS Isotope Dilution %Recovery Qualifier Limits 13C3 HFPO-DA 25 - 150 97 Lab Sample ID: LCSD 140-42711/3-B Client Sample ID: Lab Control Sample Dup Matrix: Air Prep Type: Total/NA Analysis Batch: 42757 Prep Batch: 42711 Spike LCSD LCSD %Rec. RPD Added **Result Qualifier** Limits RPD Limit Analyte Unit %Rec D HFPO-DA 0.0100 0.009072 ug/Sample 91 60 - 140 10 30 LCSD LCSD Isotope Dilution %Recovery Qualifier Limits

13C3 HFPO-DA 103

Eurofins TestAmerica, Knoxville

25 - 150

QC Association Summary

Job ID: 140-20288-1

LCMS Prep Batch: 42523

-					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20288-2	QF-2324,2325,2327 VES BC INLET R1 M0010 B	Total/NA	Air	None	
140-20288-4	QF-2328 VES BC INLET R1 M0010 BREAKTHR	Total/NA	Air	None	
140-20288-6	QF-2331,2332,2334 VES BC INLET R2 M0010 B	Total/NA	Air	None	
140-20288-8	QF-2335 VES BC INLET R2 M0010 BREAKTHR	Total/NA	Air	None	
140-20288-10	QF-2338,2339,2341 VES BC INLET R3 M0010 B	Total/NA	Air	None	
140-20288-12	QF-2342 VES BC INLET R3 M0010 BREAKTHR	Total/NA	Air	None	
MB 140-42523/15-B	Method Blank	Total/NA	Air	None	
MB 140-42523/1-B	Method Blank	Total/NA	Air	None	
LCS 140-42523/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-42523/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Prep Batch: 42561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20288-1	QF-2322,2324 VES BC INLET R1 M0010 FH	Total/NA	Air	None	
140-20288-5	QF-2329,2330 VES BC INLET R2 M0010 FH	Total/NA	Air	None	
140-20288-9	QF-2336,2337 VES BC INLET R3 M0010 FH	Total/NA	Air	None	
MB 140-42561/1-B	Method Blank	Total/NA	Air	None	
LCS 140-42561/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-42561/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Cleanup Batch: 42590

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20288-2	QF-2324,2325,2327 VES BC INLET R1 M0010 B	Total/NA	Air	Split	42523
140-20288-4	QF-2328 VES BC INLET R1 M0010 BREAKTHR	Total/NA	Air	Split	42523
140-20288-6	QF-2331,2332,2334 VES BC INLET R2 M0010 B	Total/NA	Air	Split	42523
140-20288-8	QF-2335 VES BC INLET R2 M0010 BREAKTHR	Total/NA	Air	Split	42523
140-20288-10	QF-2338,2339,2341 VES BC INLET R3 M0010 B	Total/NA	Air	Split	42523
140-20288-12	QF-2342 VES BC INLET R3 M0010 BREAKTHR(Total/NA	Air	Split	42523
MB 140-42523/15-B	Method Blank	Total/NA	Air	Split	42523
MB 140-42523/1-B	Method Blank	Total/NA	Air	Split	42523
LCS 140-42523/2-B	Lab Control Sample	Total/NA	Air	Split	42523
LCSD 140-42523/3-B	Lab Control Sample Dup	Total/NA	Air	Split	42523

Cleanup Batch: 42591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20288-1	QF-2322,2324 VES BC INLET R1 M0010 FH	Total/NA	Air	Split	42561
140-20288-5	QF-2329,2330 VES BC INLET R2 M0010 FH	Total/NA	Air	Split	42561
140-20288-9	QF-2336,2337 VES BC INLET R3 M0010 FH	Total/NA	Air	Split	42561
MB 140-42561/1-B	Method Blank	Total/NA	Air	Split	42561
LCS 140-42561/2-B	Lab Control Sample	Total/NA	Air	Split	42561
LCSD 140-42561/3-B	Lab Control Sample Dup	Total/NA	Air	Split	42561

Prep Batch: 42711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20288-3	QF-2326 VES BC INLET R1 M0010 IMP 1,2&3 C	Total/NA	Air	None	
140-20288-7	QF-2333 VES BC INLET R2 M0010 IMP 1,2&3 C	Total/NA	Air	None	
140-20288-11	QF-2340 VES BC INLET R3 M0010 IMP 1,2&3 C	Total/NA	Air	None	
MB 140-42711/1-B	Method Blank	Total/NA	Air	None	
LCS 140-42711/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-42711/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Eurofins TestAmerica, Knoxville

Client Sample ID

Method Blank

Lab Control Sample

Client Sample ID

Method Blank

Lab Control Sample

Client Sample ID

Lab Control Sample Dup

Lab Control Sample Dup

QF-2326 VES BC INLET R1 M0010 IMP 1,2&3 C

QF-2333 VES BC INLET R2 M0010 IMP 1,2&3 C

QF-2340 VES BC INLET R3 M0010 IMP 1,2&3 C

QF-2326 VES BC INLET R1 M0010 IMP 1,2&3 C

QF-2333 VES BC INLET R2 M0010 IMP 1,2&3 C

QF-2340 VES BC INLET R3 M0010 IMP 1,2&3 C

QF-2322,2324 VES BC INLET R1 M0010 FH

QF-2329,2330 VES BC INLET R2 M0010 FH

QF-2336,2337 VES BC INLET R3 M0010 FH

QF-2322.2324 VES BC INLET R1 M0010 FH

LCMS

Cleanup Batch: 42725

Lab Sample ID

140-20288-3

140-20288-7

140-20288-11

MB 140-42711/1-B

LCS 140-42711/2-B

Lab Sample ID

140-20288-3

140-20288-7

140-20288-11

MB 140-42711/1-B

LCS 140-42711/2-B

Lab Sample ID

140-20288-1

140-20288-5

140-20288-9

Lab Sample ID

140-20288-1

LCSD 140-42711/3-B

Cleanup Batch: 42822

Analysis Batch: 42824

LCSD 140-42711/3-B

Analysis Batch: 42757

QC Association Summary

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Prep Type

Total/NA

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Prep Type

Total/NA

Matrix

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Job ID: 140-20288-1

Method

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537 (modified)

Prep Batch

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42822

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42591

Prep Batch

Prep Batch

Prep Batch

	3

15

8
9
10

140-20288-5	QF-2329.2330 VES BC INLET R2 M0010 FH	Total/NA
140-20288-9	QF-2336.2337 VES BC INLET R3 M0010 FH	Total/NA
MB 140-42561/1-B	Method Blank	Total/NA
LCS 140-42561/2-B	Lab Control Sample	Total/NA
LCSD 140-42561/3-B	Lab Control Sample Dup	Total/NA

Client Sample ID

Cleanup Batch: 42906

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20288-2	QF-2324,2325,2327 VES BC INLET R1 M0010 B	Total/NA	Air	Dilution	42590

Analysis Batch: 42907

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20288-2	QF-2324,2325,2327 VES BC INLET R1 M0010 B	Total/NA	Air	537 (modified)	42906
140-20288-4	QF-2328 VES BC INLET R1 M0010 BREAKTHR	Total/NA	Air	537 (modified)	42590
140-20288-6	QF-2331,2332,2334 VES BC INLET R2 M0010 B	Total/NA	Air	537 (modified)	42590
140-20288-8	QF-2335 VES BC INLET R2 M0010 BREAKTHR	Total/NA	Air	537 (modified)	42590
140-20288-10	QF-2338,2339,2341 VES BC INLET R3 M0010 B	Total/NA	Air	537 (modified)	42590
140-20288-12	QF-2342 VES BC INLET R3 M0010 BREAKTHR(Total/NA	Air	537 (modified)	42590
MB 140-42523/15-B	Method Blank	Total/NA	Air	537 (modified)	42590
MB 140-42523/1-B	Method Blank	Total/NA	Air	537 (modified)	42590
LCS 140-42523/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	42590
LCSD 140-42523/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	42590

Client Sample ID: QF-2322,2324 VES BC INLET R1 M0010 FH Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	120 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			60 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Cleanup	Dilution			5 uL	10000 uL	42822	09/16/20 13:31	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 16:57	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Lab Chronicle

Client Sample ID: QF-2324,2325,2327 VES BC INLET R1 M0010 BH

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42523	09/08/20 09:30	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42590	09/10/20 10:00	DWS	TAL KNX
Total/NA	Cleanup	Dilution			20 uL	10000 uL	42906	09/18/20 12:20	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 18:04	JRC	TAL KNX
	Instrumer	tID: LCA								

Client Sample ID: QF-2326 VES BC INLET R1 M0010 IMP 1,2&3 CONDENSATE

Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			0.00855 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 13:33	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: QF-2328 VES BC INLET R1 M0010 BREAKTHROUGH XAD-2 RESIN TUBE Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42523	09/08/20 09:30	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42590	09/10/20 10:00	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 18:13	JRC	TAL KNX
	Instrumer	t ID: LCA								

Lab Sample ID: 140-20288-4

Job ID: 140-20288-1

Lab Sample ID: 140-20288-1 Matrix: Air

Lab Sample ID: 140-20288-2 Matrix: Air

Matrix: Air

9/21/2020

Job ID: 140-20288-1

Matrix: Air

Lab Sample ID: 140-20288-5

Lab Sample ID: 140-20288-7

Lab Sample ID: 140-20288-8

Client Sample ID: QF-2329,2330 VES BC INLET R2 M0010 FH Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	120 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			60 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	42822	09/16/20 13:31	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 17:05	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: QF-2331,2332,2334 VES BC INLET R2 M0010

Lab Sample ID: 140-20288-6

```
Matrix: Air
```

Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

BH

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42523	09/08/20 09:30	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42590	09/10/20 10:00	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		20			42907	09/18/20 18:22	JRC	TAL KNX
	Instrumen	t ID: LCA								

Client Sample ID: QF-2333 VES BC INLET R2 M0010 IMP 1,2&3 **CONDENSATE**

Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			0.00877 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 13:41	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: QF-2335 VES BC INLET R2 M0010 **BREAKTHROUGH XAD-2 RESIN TUBE** Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42523	09/08/20 09:30	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42590	09/10/20 10:00	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 18:31	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Matrix: Air

Matrix: Air

9/21/2020

Job ID: 140-20288-1

Client Sample ID: QF-2336,2337 VES BC INLET R3 M0010 FH Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

Lab Sample ID: 140-20288-9 Matrix: Air

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	128 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			64 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	42822	09/16/20 13:31	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 17:14	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: QF-2338,2339,2341 VES BC INLET R3 M0010

BH Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42523	09/08/20 09:30	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42590	09/10/20 10:00	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		20			42907	09/18/20 18:39	JRC	TAL KNX
	Instrumer	t ID: LCA								

Client Sample ID: QF-2340 VES BC INLET R3 M0010 IMP 1,2&3 **CONDENSATE**

Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			0.00826	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
					Sample					
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 13:50	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: QF-2342 VES BC INLET R3 M0010 **BREAKTHROUGH XAD-2 RESIN TUBE** Date Collected: 09/01/20 00:00

Lab Sample ID: 140-20288-12

Lab Sample ID: 140-20288-10

Lab Sample ID: 140-20288-11

Matrix: Air

Date Received: 09/04/20 12:35

Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Prep	None			1 Sample	360 mL	42523	09/08/20 09:30	DWS	TAL KNX
Cleanup	Split			180 mL	10 mL	42590	09/10/20 10:00	DWS	TAL KNX
Analysis	537 (modified)		1			42907	09/18/20 18:48	JRC	TAL KNX
	Type Prep Cleanup Analysis	TypeMethodPrepNoneCleanupSplit	TypeMethodRunPrepNoneCleanupCleanupSplitAnalysis537 (modified)	TypeMethodRunFactorPrepNoneCleanupSplit1Analysis537 (modified)1	TypeMethodRunFactorAmountPrepNone1 SampleCleanupSplit180 mLAnalysis537 (modified)1	TypeMethodRunFactorAmountAmountPrepNone11360 mLCleanupSplit1180 mL10 mLAnalysis537 (modified)11	TypeMethodRunFactorAmountAmountNumberPrepNone1 Sample360 mL42523CleanupSplit-180 mL10 mL42590Analysis537 (modified)1-42907	Type Method Run Factor Amount Amount Number or Analyzed Prep None 1 1 Sample 360 mL 42523 09/08/20 09:30 Cleanup Split 180 mL 10 mL 42590 09/10/20 10:00 Analysis 537 (modified) 1 42907 09/18/20 18:48	TypeMethodRunFactorAmountAmountNumberor AnalyzedAnalysedAnalystPrepNone11 Sample360 mL4252309/08/20 09:30DWSCleanupSplit180 mL10 mL4259009/10/20 10:00DWSAnalysis537 (modified)14290709/18/20 18:48JRC

Matrix: Air

Matrix: Air

Client Sample ID: Method Blank Date Collected: N/A **Date Received: N/A**

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42523	09/08/20 09:30	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42590	09/10/20 10:00	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 14:04	JRC	TAL KNX
	Instrumer	t ID: LCA								

Client Sample ID: Method Blank Date Collected: N/A Date Received: N/A

Method None	Run	Factor	Amount 1 Sample	Amount 360 mL	Number 42523	or Analyzed	Analyst	
None		·	1 Sample	260 ml	10500	00/09/20 00:20	DWC	TAL KAIV
			i Gampic	300 IIIL	42525	09/06/20 09.30	DVV5	TAL KNX
Split			180 mL	10 mL	42590	09/10/20 10:00	DWS	TAL KNX
537 (modified)		1			42907	09/18/20 13:55	JRC	TAL KNX
	•	537 (modified)	537 (modified) 1	537 (modified) 1	537 (modified) 1	537 (modified) 1 42907	537 (modified) 1 42907 09/18/20 13:55	537 (modified) 1 42907 09/18/20 13:55 JRC

Client Sample ID: Method Blank Date Collected: N/A **Date Received: N/A**

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 15:11	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: Method Blank Date Collected: N/A **Date Received: N/A**

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 11:47	JRC	TAL KNX
TOTAI/INA	- ,	nt ID: LCA		I			42/0/	09/15/20 11.47	JRC	

Client Sample ID: Lab Control Sample Date Collected: N/A Date Received: N/A

Lab Sample ID: LCS 140-42523/2-B Matrix: Air

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42523	09/08/20 09:30	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42590	09/10/20 10:00	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 14:13	JRC	TAL KNX
	Instrumer	it ID: LCA								

Eurofins TestAmerica, Knoxville

Matrix: Air

Matrix: Air

Lab Sample ID: MB 140-42561/1-B Matrix: Air

Lab Sample ID: MB 140-42711/1-B

Lab Sample ID: MB 140-42523/15-B
Lab Sample ID: LCS 140-42561/2-B

Lab Sample ID: LCS 140-42711/2-B

Lab Sample ID: LCSD 140-42523/3-B

Lab Sample ID: LCSD 140-42561/3-B

Matrix: Air

Matrix: Air

Matrix: Air

Matrix: Air

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Client Sample ID: Lab Control Sample Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 15:29	JRC	TAL KNX
	Instrumer	t ID: LCA								

Client Sample ID: Lab Control Sample Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 12:05	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: Lab Control Sample Dup Date Collected: N/A Date Received: N/A

Method None	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Nono								
NULLE			1 Sample	360 mL	42523	09/08/20 09:30	DWS	TAL KNX
Split			180 mL	10 mL	42590	09/10/20 10:00	DWS	TAL KNX
537 (modified)		1			42907	09/18/20 14:21	JRC	TAL KNX
		537 (modified)	537 (modified) 1	537 (modified) 1	537 (modified) 1	537 (modified) 1 42907	537 (modified) 1 42907 09/18/20 14:21	537 (modified) 1 42907 09/18/20 14:21 JRC

Client Sample ID: Lab Control Sample Dup Date Collected: N/A Date Received: N/A

Dil Initial Batch Batch Final Batch Prepared Method Prep Type Туре Run Factor Amount Amount Number or Analyzed Analyst Lab Prep Total/NA None 1 Sample 50 mL 42561 09/09/20 11:52 DWS TAL KNX Total/NA Cleanup Split 25 mL 10 mL 42591 09/10/20 10:01 DWS TAL KNX Total/NA Analysis 537 (modified) 42824 09/16/20 15:38 JRC TAL KNX 1 Instrument ID: LCA

Client Sample ID: Lab Control Sample Dup Date Collected: N/A Date Received: N/A

Lab Sample ID: LCSD 140-42711/3-B Matrix: Air

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 12:14	JRC	TAL KNX
	Instrumer	it ID: LCA								

Laboratory References:

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

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC Project/Site: VES CB Inlet - M0010 Job ID: 140-20288-1

12 13 14

Laboratory: Eurofins TestAmerica, 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	02-13-22	
ANAB	Dept. of Energy	L2311.01	02-13-22	
ANAB	ISO/IEC 17025	L2311	02-13-22	
ANAB	ISO/IEC 17025	L2311	02-14-22	
Arkansas DEQ	State	88-0688	06-17-21	
California	State	2423	06-30-21	
Colorado	State	TN00009	02-28-21	
Connecticut	State	PH-0223	09-30-21	
Florida	NELAP	E87177	07-01-21	
Georgia (DW)	State	906	12-11-22	
Hawaii	State	NA	12-11-21	
Kansas	NELAP	E-10349	11-01-20	
Kentucky (DW)	State	90101	01-01-21	
Louisiana	NELAP	LA110001	12-31-12 *	
Louisiana	NELAP	83979	06-30-21	
₋ouisiana (DW)	State	LA019	12-31-20	
Maryland	State	277	03-31-21	
Vichigan	State	9933	12-11-22	
Nevada	State	TN00009	07-31-21	
New Hampshire	NELAP	299919	01-17-21	
New Jersey	NELAP	TN001	07-01-21	
New York	NELAP	10781	03-31-21	
North Carolina (DW)	State	21705	07-31-21	
North Carolina (WW/SW)	State	64	12-31-20	
Ohio VAP	State	CL0059	06-02-23	
Oklahoma	State	9415	08-31-21	
Oregon	NELAP	TNI0189	01-02-21	
Pennsylvania	NELAP	68-00576	12-31-20	
Tennessee	State	02014	12-11-22	
Texas	NELAP	T104704380-18-12	08-31-21	
US Fish & Wildlife	US Federal Programs	058448	07-31-21	
USDA	US Federal Programs	P330-19-00236	08-20-22	
Jtah	NELAP	TN00009	07-31-21	
√irginia	NELAP	460176	09-14-21	
Washington	State	C593	01-19-21	
West Virginia (DW)	State	9955C	01-01-21	
West Virginia DEP	State	345	05-01-21	
Wisconsin	State	998044300	08-31-21	

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

Method Summary

Client: The Chemours Company FC, LLC Project/Site: VES CB Inlet - M0010

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL KNX
Dilution	Dilution and Re-fortification of Standards	None	TAL KNX
lone	Leaching Procedure	TAL SOP	TAL KNX
lone	Leaching Procedure for Condensate	TAL SOP	TAL KNX
one	Leaching Procedure for Filter	TAL SOP	TAL KNX
plit	Source Air Split	None	TAL KNX

EPA = US Environmental Protection Agency

None = None

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: The Chemours Company FC, LLC Project/Site: VES CB Inlet - M0010

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
140-20288-1	QF-2322,2324 VES BC INLET R1 M0010 FH	Air	09/01/20 00:00	09/04/20 12:35
140-20288-2	QF-2324,2325,2327 VES BC INLET R1 M0010 BH	Air	09/01/20 00:00	09/04/20 12:35
140-20288-3	QF-2326 VES BC INLET R1 M0010 IMP 1,2&3 CONDENSATE	Air	09/01/20 00:00	09/04/20 12:35
140-20288-4	QF-2328 VES BC INLET R1 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/01/20 00:00	09/04/20 12:35
140-20288-5	QF-2329,2330 VES BC INLET R2 M0010 FH	Air	09/01/20 00:00	09/04/20 12:35
140-20288-6	QF-2331,2332,2334 VES BC INLET R2 M0010 BH	Air	09/01/20 00:00	09/04/20 12:35
140-20288-7	QF-2333 VES BC INLET R2 M0010 IMP 1,2&3 CONDENSATE	Air	09/01/20 00:00	09/04/20 12:35
40-20288-8	QF-2335 VES BC INLET R2 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/01/20 00:00	09/04/20 12:35
140-20288-9	QF-2336,2337 VES BC INLET R3 M0010 FH	Air	09/01/20 00:00	09/04/20 12:35
140-20288-10	QF-2338,2339,2341 VES BC INLET R3 M0010 BH	Air	09/01/20 00:00	09/04/20 12:35
140-20288-11	QF-2340 VES BC INLET R3 M0010 IMP 1,2&3 CONDENSATE	Air	09/01/20 00:00	09/04/20 12:35
140-20288-12	QF-2342 VES BC INLET R3 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/01/20 00:00	09/04/20 12:35

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Request for Analysis/Chain-of-Custody - RFA/COC #001 The Chemours Company – Fayetteville NC Facility **HFPO-DA Testing on VES Carbon Bed Inlet**

Chemours Emissions Test

Ms. Christel Compton

Ms. Courtney Adkins

Mr. Billy Anderson Office: (865) 291-3080 Cell: (865) 206-9004

Office: (910) 678-1213 Cell: (910) 975-3386

Office: (865) 291-3019

The Chemours Company FC, LLC

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Field Sample		Sample	Project QC	Sample		40-20288 Chain of Custody
No./Sample Coding ID	Run No.	Collection Date	Require -ments	Bottle/ Container	Sample Type/Analysis	Analytical Specifications
QF-2322 VES CB Inlet R1 M0010 Filter	1	9/1/20		125 mL HDPE Wide- Mouth Bottle	Particulate Filter (90 mm Whatman Glass Microfiber)	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the
		1 100			Method 0010 Train	solvent extraction of the Particulate
					HFPO-DA Analysis	Knoxville: Analyze for HFPO-DA.
QF-2323 VES CB Inlet R1 M0010 FH of Filter Holder & Probe MeOH Rinse	1	9/1/20		125 mL HDPE Wide- Mouth Bottle	Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse	<u>Knoxville</u> : Use this solvent sample in the Particulate Filter extraction.
					Method 0010 Train	
					HFPO-DA Analysis	
QF-2324 VES CB Inlet R1 M0010 XAD-2 Resin Tube	1	al 1/20		XAD-2 Resin Tube	XAD-2 Resin Tube	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the
		ų tris.			HFPO-DA Analysis	Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the
						XAD-2 resin sample. <u>Knoxville</u> : Analyze for HFPO-DA.

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

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

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

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Project Identification:

TestAmerica Project Manager:

TestAmerica Program Manager:

Client Name:

Client Contact:

F

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

5

28 Days from Lab Receipt

Eurofins TestAmerica

Knoxville, TN 37921

865.291.3000

Hand Deliver

5815 Middlebrook Pike

Environment Testing

Page 1 of 5



(Review-Released Data)

Data Package Due Date:

Laboratory Destination:

Lab Phone Number:

Courier:

Request for Analysis/Chain-of-Custody – RFA/COC #001 The Chemours Company – Fayetteville NC Facility HFPO-DA Testing on VES Carbon Bed Inlet

Environment	Testing
7	

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Test	٨	n	•	e	r	17	•	л				

🔅 eurofins

Field Sample No:/Sample Run So. Project. QC Sample Bottle/ Analytical Specifications QC Sample Bottle/ Bottle/ Bottle/ Analytical Specifications QF-2325 VES CB 1 125 mL Back Half of Filter Holder Knoxville: Use this solvent sample	雪
	2
Inlet R1 M0010HDPE Wide- Mouth Bottle& Coil Condenser Methanol/5% Ammonium Hydroxide Rinseand the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.MeOH Rinse9(1) 20Nouth BottleMethanol/5% Ammonium Hydroxide RinseMethanol/5% Ammonium Hydroxide Rinse	5
Method 0010 Train	7
QF-2326 VES CB 1 500 mL Impinger #1, #2 & #3 Knoxville: Measure the volume of the volume	
Impingers 1,2 & 3 Condensate 9/1/20 Mouth Bottle mL portion to Knoxville for analysis. Method 0010 Train Method 0010 Train Knoxville: Analyze for HFPO-DA.	1
QF-2327 VES CB 1 250 mL Impinger Glassware Knoxville: Use this solvent sample in the VAD 2	,-17
Inlet R1 M0010 HDPE Wide- Methanol/5% Ammonium the XAD-2 Resin Extraction. Impinger Glassware MeOH Mouth Bottle Hydroxide Rinse Hydroxide Rinse Method 0010 Train Method 0010 Train Method 0010 Train Interview	1
HFPO-DA Analysis	1 1
QF-2328 VES CB 1 Inlet R1 M0010 Tube Breakthrough Page VAD 2 Resin Tube Breakthrough Page	,
XAD-2 Resin Tube Image: The second	
QF-2329 VES CB 2 125 mL Particulate Filter (90 mm Knoxville: Spike sample with the Isotope Dilution Internal Standard Inlet R2 M0010 Filter Mouth Bottle Microfiber) Microfiber) UDIS at the regular level. Use the	
9 1 20 Method 0010 Train Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample.	
HFPO-DA Analysis <u>Knoxville</u> : Analyze for HFPO-DA.	
QF-2330 VES CB 2 Inlet R2 M0010 FH 125 mL of Filter Holder & Probe MeOH Rinse 125 mL HDPE Wide- Ammonium Hydroxide Rinse 125 mL	
Method 0010 Train	
HFPO-DA Analysis	

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Request for Analysis/Chain-of-Custody – RFA/COC #001 The Chemours Company – Fayetteville NC Facility _HFPO-DA Testing on VES Carbon Bed Inlet

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Field Sample No:/Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
QF-2331 VES CB Inlet R2 M0010 XAD-2 Resin Tube	2	9/1120	,	XAD-2 Resin Tube	XAD-2 Resin Tube Method 0010 Train HFPO-DA Analysis	Knoxville : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample.
QF-2332 VES CB Inlet R2 M0010 BH of Filter Holder & Coil Condenser MeOH Rinse	2	91,120	· · · · · · · · · · · · · · · · · · · ·	125 mL HDPE Wide- Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse Method 0010 Train HFPO-DA Analysis	<u>Knoxville</u> : Analyze for HFPO-DA. <u>Knoxville</u> : Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. <u>Knoxville</u> : Analyze for HFPO-DA.
QF-2333 VES CB Inlet R2 M0010 Impingers 1,2 & 3 Condensate	2	9/1/20		500 mL HDPE Wide- Mouth Bottle	Impinger #1, #2 & #3 Condensate Method 0010 Train HFPO-DA Analysis	<u>Knoxville</u> : Measure the volume of the Impinger Composite and forward a 250 mL portion to Knoxville for analysis. <u>Knoxville</u> : Analyze for HFPO-DA.
QF-2334 VES CB Inlet R2 M0010 Impinger Glassware MeOH Rinse	2	911/20		250 mL HDPE Wide- Mouth Bottle	Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse Method 0010 Train HFPO-DA Analysis	<u>Knoxville</u> : Use this solvent sample in the XAD-2 Resin Extraction.
QF-2335 VES CB Inlet R2 M0010 Breakthrough XAD-2 Resin Tube	2	9/1/20		XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube Method 0010 Train HFPO-DA Analysis	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. <u>Knoxville</u> : Analyze for HFPO-DA.
QF-2336 VES CB Inlet R3 M0010 Filter	3	9(1)20		125 mL HDPE Wide- Mouth Bottle	Particulate Filter (90 mm Whatman Glass Microfiber) Method 0010 Train HFPO-DA Analysis	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. <u>Knoxville</u> : Analyze for HFPO-DA.

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Request for Analysis/Chain-of-Custody – RFA/COC #001 The Chemours Company – Fayetteville NC Facility HFPO-DA Testing on VES Carbon Bed Inlet



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Field Sample No./Sample Coding ID	Run	Sample Collection Date	Project QC Require	Sample Bottle/	S	
QF-2337 VES CB Inlet R3 M0010 FH of Filter Holder & Probe MeOH Rinse	3	9/1/30	<u>-ments</u>	Container 125 mL HDPE Wide- Mouth Bottle	Sample Type/Analysis Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse Method 0010 Train	Analytical Specifications <u>Knoxville</u> : Use this solvent sample in the Particulate Filter extraction.
					HFPO-DA Analysis	
QF-2338 VES CB Inlet R3 M0010 XAD-2 Resin Tube	3	9/1/20		XAD-2 Resin Tube	XAD-2 Resin Tube Method 0010 Train HFPO-DA Analysis	Knoxville : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample.
QF-2339 VES CB Inlet R3 M0010 BH of Filter Holder & Coil Condenser MeOH Rinse	3	9/1/20		125 mL HDPE Wide- Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse Method 0010 Train	<u>Knoxville</u> : Analyze for HFPO-DA. <u>Knoxville</u> : Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. <u>Knoxville</u> : Analyze for HFPO-DA.
QF-2340 VES CB Inlet R3 M0010 Impingers 1,2 & 3 Condensate	3	9/1/20		500 mL HDPE Wide- Mouth Bottle	HFPO-DA Analysis Impinger #1, #2 & #3 Condensate Method 0010 Train HFPO-DA Analysis	<u>Knoxville</u> : Measure the volume of the Impinger Composite and forward a 250 mL portion to Knoxville for analysis. <u>Knoxville</u> : Analyze for HFPO-DA.
QF-2341 VES CB Inlet R3 M0010 Impinger Glassware MeOH Rinse	3	9/1/20		250 mL HDPE Wide- Mouth Bottle	Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse Method 0010 Train HFPO-DA Analysis	Knoxville: Use this solvent sample in the XAD-2 Resin Extraction.
QF-2342 VES CB Inlet R3 M0010 Breakthrough XAD-2 Resin Tube	3	91,120		XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube Method 0010 Train HFPO-DA Analysis	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction. <u>Knoxville</u> : Analyze for HFPO-DA.

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Please fill in th	e following information:	Comme	nts
	j	(Please write "NONE" if no	
	lentities of any samples that were listed ut were not found in the sample shipment.	NOME	
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(3) Record any a	pparent sample loss/breakage.	NONE	
(4) Record any u shipment of s	inidentified samples transported with this samples:	MNE	
	samples were received according to the uired specifications (i.e. no nonconformances):	HAND DEWARD , NO WSTORY SEA	L\
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EUROFINS/TESTAMERICA KNOXVILLE SAMPLE RECEIPT/CONDITION UPON RECEIPT ANOMALY CHECKLIST

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Log In Number:

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H D	🗆 Holding Time - Receipt	Preservative:
	pH Adjusted, pH Included	Lot Number:
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Date: 9-7.20	O.	QA026R32.doc, 062719
Date: 9		 Incorrect Preservative Headspace (VOA only) Residual Chlorine If no, notify lab to adjust Project missing info

VES Carbon Bed Outlet Laboratory Data

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Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 140-20289-1

Client Project/Site: VES CB Outlet - M0010

For:

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

Attn: Michael Aucoin

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Authorized for release by: 9/21/2020 2:18:18 PM

Courtney Adkins, Project Manager II (865)291-3019 courtney.adkins@eurofinset.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

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Qualifiers

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Qualifier	Qualifier Description
В	Compound was found in the blank and sample.
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: 140-20289-1

Laboratory: Eurofins TestAmerica, Knoxville

Narrative

Job Narrative 140-20289-1

Sample Receipt

The samples were received on September 4, 2020 at 12:35 PM in good condition and properly preserved. The temperature of the cooler at receipt was 0.8° C.

LCMS

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): QF-2343,2344 VES BC OUTLET R1 M0010 FH (140-20289-1), QF-2350,2351 VES BC OUTLET R2 M0010 FH (140-20289-5) and QF-2357,2358 VES BC OUTLET R3 M0010 FH (140-20289-9). As such, the dilution was achieved by taking a subsample of the undiluted extract, adding sufficient solvent, and re-spiking the extract with IDA.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: QF-2343,2344 VES BC OUTLET R1 M0010 FH (140-20289-1), QF-2350,2351 VES BC OUTLET R2 M0010 FH (140-20289-5) and QF-2357,2358 VES BC OUTLET R3 M0010 FH (140-20289-9). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): The following samples were reported with elevated reporting limits for all analytes: QF-2345,2346,2348 VES BC OUTLET R1 M0010 BH (140-20289-2), QF-2352,2353,2355 VES BC OUTLET R2 M0010 BH (140-20289-6), QF-2359,2360,2362 VES BC OUTLET R3 M0010 BH (140-20289-10) and QF-2363 VES BC OUTLET R3 M0010 BREAKTHROUGH XAD-2 RESIN TUBE (140-20289-12). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): Results for samples QF-2345,2346,2348 VES BC OUTLET R1 M0010 BH (140-20289-2), QF-2352,2353,2355 VES BC OUTLET R2 M0010 BH (140-20289-6), QF-2359,2360,2362 VES BC OUTLET R3 M0010 BH (140-20289-10) and QF-2363 VES BC OUTLET R3 M0010 BREAKTHROUGH XAD-2 RESIN TUBE (140-20289-12) were reported from the analysis of a diluted extract due to high concentration of the target analyte in the analysis of the undiluted extract. The dilution factor was applied to the labeled internal standard area counts and these area counts were within acceptance limits

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

Organic Prep

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

Detection Summary

Result Qualifier

Result Qualifier

Result Qualifier

2.46

0.608

Client Sample ID: QF-2343,2344 VES BC OUTLET R1 M0010

Client Sample ID: QF-2345,2346,2348 VES BC OUTLET R1

Client Sample ID: QF-2347 VES BC OUTLET R1 M0010 IMP

Client: The Chemours Company FC, LLC Project/Site: VES CB Outlet - M0010

FH

Analyte

HFPO-DA

M0010 BH

Analyte

Analyte

FH

HFPO-DA

1.2&3 CONDENSATE

HFPO-DA 0.0603 0.060 0.06	DUTLET	0.0585 R1 M001(<u>RL</u> 0.00160) MDL		Lab Sa	537 (modified) mple ID: 14 Method	Total/NA 0-20289-4 Prep Type
Analyte Result HFPO-DA 0.0603 Client Sample ID: QF-2350,2351 VE	JBE	RL	MDL			· · · · · ·	
HFPO-DA 0.0603 Client Sample ID: QF-2350,2351 VE	3				Dil Fac D	Method	Prep Type
_HFPO-DA 0.0603 Client Sample ID: QF-2350,2351 VE FH		0.00160	0.00140				
•	S BC OU		0.00140	ug/Sample	1	537 (modified)	Total/NA
FH		TLET R2 I	M0010		Lab Sa	mple ID: 14	0-20289-5
– Analyte Result	t Qualifier	RL	MDL	Unit	Dil Fac D	Method	Ргер Туре
HFPO-DA 2.67	,	0.100	0.0580	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2352,2353,23 M0010 BH						mple ID: 14	
	Qualifier	RL	MDL		Dil Fac D		Prep Type
HFPO-DA 2.53	5	0.0320	0.0280	ug/Sample	20	537 (modified)	Total/NA
Client Sample ID: QF-2354 VES BC 1,2&3 CONDENSATE	OUTLET	R2 M0010) IMP		Lab Sa	mple ID: 14	0-20289-7
Analyte Result	t Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Туре
HFPO-DA 1.80	B	0.0585	0.00965	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2356 VES BC BREAKTHROUGH XAD-2 RESIN TI		R2 M0010)		Lab Sa	mple ID: 14	0-20289-8
AnalyteResult	t Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA 0.0400)	0.00160	0.00140	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: QF-2357,2358 VE	S BC OU	TLET R3 I	M0010		Lab Sa	mple ID: 14	0-20289-9

RL

RL

RL

0.00800

0.0991

MDL

Unit

0.0575 ug/Sample

MDL Unit

MDL Unit

0.00700 ug/Sample

Analyte **Result Qualifier** RL MDL Unit Dil Fac D Method Prep Type HFPO-DA 2.29 0.100 0.0580 ug/Sample Total/NA 1 537 (modified)

This Detection Summary does not include radiochemical test results.

Eurofins TestAmerica, Knoxville

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Lab Sample ID: 140-20289-1

Method

537 (modified)

537 (modified)

Lab Sample ID: 140-20289-3

Lab Sample ID: 140-20289-2

Dil Fac D

1

Dil Fac D Method

Dil Fac D Method

5

Job ID: 140-20289-1

Prep Type

Prep Type

Prep Type

Total/NA

Total/NA

Detection Summary

Client: The Chemours Company FC, LLC Project/Site: VES CB Outlet - M0010

Eurofins TestAmerica, Knoxville

alyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
EAKTHROUGH XAD-2 R	ESIN TU	BE						
ent Sample ID: QF-2363	VES BC	OUTLET	R3 M0010)		Lab San	nple ID: 140	-20289-12
PO-DA	0.135	В	0.0570	0.00941	ug/Sample	1	537 (modified)	Total/NA
alyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
&3 CONDENSATE								
ent Sample ID: QF-2361	VES BC	OUTLET	R3 M0010) IMP		Lab San	nple ID: 140	-20289-11
	0.950		0.0160		ug/Sample	10	537 (modified)	Total/NA
PO-DA								
alyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type

Client Sample ID: QF-2359,2360,2362 VES BC OUTLET R3 M0010 BH

Anal HFP Clie 1,2& Analy HFP Clie

Analyte	Result Qualifier	RL	MDL Unit	Dil Fac D	Method	Ргер Туре
HFPO-DA	0.704	0.00800	0.00700 ug/Sample	5	537 (modified)	Total/NA

Job ID: 140-20289-1

Lab Sample ID: 140-20289-10

Client Sample Results

Client: The Chemours Company FC, LLC Project/Site: VES CB Outlet - M0010

Job ID: 140-20289-1

Client Sample ID: QF-2343 FH	,2344 VE	S BC OUTL	ET R1 I	M0010		I	Lab Sample	e ID: 140-20	289-1
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train								Mat	rix: Air
Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	-	Qualifier	RL 0.0991 Limits 25 - 150	MDL 0.0575	Unit ug/Sample	_ <u>D</u>	09/09/20 11:52 Prepared	Analyzed 09/16/20 17:23 Analyzed 09/16/20 17:23	Dil Fac 1 Dil Fac 1
Client Sample ID: QF-2345 M0010 BH Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train	5 ,2346,23 4	8 VES BC	OUTLE	T R1			Lab Sample		289-2 rix: Air
Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	Result 0.608 %Recovery 70	Qualifier	RL 0.00800 Limits 25 - 150	0.00700	Unit ug/Sample	_ D	09/09/20 15:00 Prepared 09/09/20 15:00	Analyzed 09/19/20 12:44	Dil Fac 5 Dil Fac 5
Client Sample ID: QF-2347 1,2&3 CONDENSATE Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train	VES BC	OUTLET R	1 M0010) IMP			Lab Sample		289-3 rix: Air
Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	-	Qualifier B Qualifier	RL 0.0585 Limits 25 - 150		Unit ug/Sample	_ <u>D</u>	09/14/20 11:33 Prepared	Analyzed 09/15/20 13:59 Analyzed 09/15/20 13:59	Dil Fac 1 Dil Fac 1
Client Sample ID: QF-2349 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train			1 M001()		1	Lab Sample		289-4 rix: Air
Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	-	Qualifier	RL 0.00160 Limits 25 - 150	MDL 0.00140	Unit ug/Sample	_ <u>D</u>	09/09/20 15:00 Prepared	Analyzed 09/19/20 12:53 Analyzed 09/19/20 12:53	Dil Fac 1 Dil Fac 1

Client Sample Results Client: The Chemours Company FC, LLC Project/Site: VES CB Outlet - M0010 Client Sample ID: QF-2350.2351 VES BC OUTLET R2 M0010 Lab Sample ID: 140-20289-5

5 6

FH									
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train								Mat	rix: Ai
Method: 537 (modified) - Fluor	-								
Analyte HFPO-DA	Result 2.67	Qualifier		MDL	Unit ug/Sample	_ D	Prepared 09/09/20 11:52	Analyzed	Dil Fa
		• ····		0.0560	ug/Sample				
Isotope Dilution 13C3 HFPO-DA	%Recovery 95	Qualifier	Limits 25 - 150				Prepared 09/09/20 11:52	Analyzed	Dil Fa
_									
Client Sample ID: QF-2352 M0010 BH	2,2353,235	55 VES B	C OUTLE	TR2		L	ab Sample	e ID: 140-20	
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train								Mat	rix: Ai
Method: 537 (modified) - Fluor	-				11-14	~	Drenser		
Analyte HFPO-DA	2.53	Qualifier	RL 		Unit ug/Sample	_ D	Prepared 09/09/20 15:00	Analyzed	Dil Fa
		Qualifiar		0.0200	ug/oumpic				
Isotope Dilution 13C3 HFPO-DA	%Recovery 50	Qualifier	Limits 25 - 150				Prepared 09/09/20 15:00	Analyzed	Dil Fa
Date Collected: 09/01/20 00:00								Mat	rix: A
Date Received: 09/04/20 12:35 Sample Container: Air Train									
Sample Container: Air Train	rinated Alky	/I Substan	ces						
		<mark>/I Substan</mark> Qualifier	Ces RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
Sample Container: Air Train - Method: 537 (modified) - Fluor		Qualifier			Unit ug/Sample	<u>D</u>	Prepared 09/14/20 11:33		
Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution	Result	Qualifier B	RL				09/14/20 11:33 Prepared	09/15/20 14:08 Analyzed	
Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA	Result 1.80	Qualifier B	RL 0.0585				09/14/20 11:33	09/15/20 14:08 Analyzed	Dil Fa
Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2356	Result 1.80 %Recovery 106 VES BC	Qualifier B Qualifier	RL 0.0585 Limits 25 - 150	0.00965			09/14/20 11:33 Prepared 09/14/20 11:33	09/15/20 14:08 Analyzed	Dil Fa
Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2356 BREAKTHROUGH XAD-2	Result 1.80 %Recovery 106 VES BC	Qualifier B Qualifier	RL 0.0585 Limits 25 - 150	0.00965			09/14/20 11:33 Prepared 09/14/20 11:33	09/15/20 14:08 <u>Analyzed</u> 09/15/20 14:08 D: 140-20	Dil Fa
Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2356 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00	Result 1.80 %Recovery 106 VES BC	Qualifier B Qualifier	RL 0.0585 Limits 25 - 150	0.00965			09/14/20 11:33 Prepared 09/14/20 11:33	09/15/20 14:08 <u>Analyzed</u> 09/15/20 14:08 D: 140-20	Dil Fa Dil Fa 1289- rix: Al
Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2356 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35	Result 1.80 %Recovery 106 VES BC	Qualifier B Qualifier	RL 0.0585 Limits 25 - 150	0.00965			09/14/20 11:33 Prepared 09/14/20 11:33	09/15/20 14:08 <u>Analyzed</u> 09/15/20 14:08 D: 140-20	Dil Fa
Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2356 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train	Result 1.80 %Recovery 106 VES BC RESIN TU	Qualifier B Qualifier OUTLET IBE	RL 0.0585 Limits 25 - 150	0.00965			09/14/20 11:33 Prepared 09/14/20 11:33	09/15/20 14:08 <u>Analyzed</u> 09/15/20 14:08 D: 140-20	Dil Fa
Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2356 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor	Result 1.80 <u>%Recovery</u> 106 VES BC RESIN TU rinated Alky	Qualifier B Qualifier OUTLET BE	RL 0.0585 Limits 25 - 150 R2 M0010	0.00965	ug/Sample	Ľ	09/14/20 11:33 Prepared 09/14/20 11:33 ab Sample	09/15/20 14:08 Analyzed 09/15/20 14:08 D: 140-20 Mat	<i>Dil Fa</i>)289- rix: A
Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2356 BREAKTHROUGH XAD-2 I Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor Analyte	Result 1.80 %Recovery 106 VES BC RESIN TU rinated Alky Result	Qualifier B Qualifier OUTLET IBE	RL 0.0585 Limits 25 - 150 R2 M0010	0.00965	ug/Sample	L	09/14/20 11:33 Prepared 09/14/20 11:33	09/15/20 14:08 <u>Analyzed</u> 09/15/20 14:08 D: 140-20	<i>Dil Fa</i>)289- rix: A
Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: QF-2356 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor	Result 1.80 <u>%Recovery</u> 106 VES BC RESIN TU rinated Alky	Qualifier B Qualifier OUTLET BE	RL 0.0585 Limits 25 - 150 R2 M0010	0.00965	ug/Sample	L	09/14/20 11:33 Prepared 09/14/20 11:33 ab Sample	09/15/20 14:08 Analyzed 09/15/20 14:08 D: 140-20 Mat Analyzed	Dil Fa

Client Sample Results

		Client	Sample	Resul	ts		
Client: The Chemours Company Project/Site: VES CB Outlet - M00			•			Job ID: 140-20289-1	
Client Sample ID: QF-2357 FH	7,2358 VE	S BC OU	TLET R3 I	M0010		Lab Sample ID: 140-20289-9	
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train						Matrix: Air	
Sample Container: Air Train							5
Method: 537 (modified) - Fluor	rinated Alky	/I Substan	ces				
Analyte	Result	Qualifier	RL		Unit	D Prepared Analyzed Dil Fac	6
HFPO-DA	2.29		0.100	0.0580	ug/Sample	09/09/20 11:52 09/16/20 17:41 1	
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared Analyzed Dil Fac	
13C3 HFPO-DA	97		25 - 150			09/09/20 11:52 09/16/20 17:41 1	0
Client Sample ID: QF-2359 M0010 BH	9,2360,236	S2 VES B	C OUTLE	TR3		Lab Sample ID: 140-20289-10	0
Date Collected: 09/01/20 00:00						Matrix: Air	3
Date Received: 09/04/20 12:35 Sample Container: Air Train						Matrix. All	
Method: 537 (modified) - Fluor				MD	11	D. Durand Andread Differen	
Analyte HFPO-DA		Qualifier				_ D Prepared Analyzed Dil Fac 09/09/20 15:00 09/19/20 13:20 10	
	0.950			0.0140	ug/Sample		
Isotope Dilution 13C3 HFPO-DA	%Recovery 101	Qualifier	Limits 25 - 150			Prepared Analyzed Dil Fac 09/09/20 15:00 09/19/20 13:20 10	13
	101		25 - 150				
Client Sample ID: QF-2361 1,2&3 CONDENSATE	I VES BC	OUTLET	R3 M0010) IMP		Lab Sample ID: 140-20289-11	
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train						Matrix: Air	
Method: 537 (modified) - Fluor	rinated Alky	/I Substan	ces				
Analyte	-	Qualifier	RL	MDL	Unit	D Prepared Analyzed Dil Fac	
HFPO-DA	0.135	В	0.0570	0.00941	ug/Sample	09/14/20 11:33 09/15/20 14:17 1	
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared Analyzed Dil Fac	
13C3 HFPO-DA	106		25 - 150			09/14/20 11:33 09/15/20 14:17 1	
Client Sample ID: QF-2363							
BREAKTHROUGH XAD-2	SVES BC	OUTLET	R3 M0010)		Lab Sample ID: 140-20289-12	
			R3 M0010	0		Lab Sample ID: 140-20289-12	
			R3 M0010)		-	
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35			R3 M0010)		Lab Sample ID: 140-20289-12 Matrix: Air	
Date Collected: 09/01/20 00:00			R3 M0010)		-	
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor	RESIN TU	IBE	ces			Matrix: Air	
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor Analyte	RESIN TU	IBE	Ces RL	MDL	Unit	Matrix: Air	
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA	RESIN TU	IBE /I Substand Qualifier	Ces 	MDL	Unit ug/Sample	D Prepared Analyzed Dil Fac 09/09/20 15:00 09/19/20 13:29 5	
Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor Analyte	RESIN TU	IBE /I Substand Qualifier	Ces RL	MDL		Matrix: Air	

Default Detection Limits

Client: The Chemours Company FC, LLC Project/Site: VES CB Outlet - M0010

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Method: 537 (modified) - Fluorinated Alkyl Substances Prep: None

Analyte	RL	MDL	Units
HFPO-DA	0.00100	0.000580	ug/Sample
HFPO-DA	0.00160	0.00140	ug/Sample
HFPO-DA	0.00200	0.000330	ug/Sample

Client: The Chemours Company FC, LLC Project/Site: VES CB Outlet - M0010 Job ID: 140-20289-1

Method: 537 (modified) - Fluorinated Alkyl Substances Matrix: Air

Pren	Type:	Total/NA
i i op	Type.	TOTA THA

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		Percent Isotope Dilution R	ecovery (Acceptance Limits)
Lab Sample ID	Client Sample ID	<u>(5-150)</u>	
140-20289-1	QF-2343,2344 VES BC OUTLE	91	
140-20289-2	QF-2345,2346,2348 VES BC OUTLET R1 M0010 BH	70	
140-20289-3	QF-2347 VES BC OUTLET R1 M0010 IMP 1,2&3 CONDENSATE	109	
140-20289-4	QF-2349 VES BC OUTLET R1 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	50	
140-20289-5	QF-2350,2351 VES BC OUTLE1 R2 M0010 FH	95	
140-20289-6	QF-2352,2353,2355 VES BC OUTLET R2 M0010 BH	50	
140-20289-7	QF-2354 VES BC OUTLET R2 M0010 IMP 1,2&3 CONDENSATE	106	
140-20289-8	QF-2356 VES BC OUTLET R2 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	80	
140-20289-9	QF-2357,2358 VES BC OUTLE R3 M0010 FH	97	
140-20289-10	QF-2359,2360,2362 VES BC OUTLET R3 M0010 BH	101	
140-20289-11	QF-2361 VES BC OUTLET R3 M0010 IMP 1,2&3 CONDENSATE	106	
140-20289-12	QF-2363 VES BC OUTLET R3 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	99	
LCS 140-42561/2-B	Lab Control Sample	87	
LCS 140-42566/2-B	Lab Control Sample	76	
_CS 140-42711/2-B	Lab Control Sample	97	
LCSD 140-42561/3-B	Lab Control Sample Dup	83	
LCSD 140-42566/3-B	Lab Control Sample Dup	47	
LCSD 140-42711/3-B	Lab Control Sample Dup	103	
MB 140-42561/14-B	Method Blank	88	
MB 140-42561/1-B	Method Blank	85	
MB 140-42566/1-B	Method Blank	68	
MB 140-42711/14-B	Method Blank	95	
MB 140-42711/1-B	Method Blank	99	

HFPODA = 13C3 HFPO-DA

QC Sample Results

Job ID: 140-20289-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-42	2561/14-B						Client Samp	ole ID: Metho	
Matrix: Air								Prep Type: T	
Analysis Batch: 42824								Prep Batch	: 4256
	ME	MB							
Analyte	Resul	t Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
HFPO-DA	NC)	0.00100	0.000580	ug/Sam	ple	09/09/20 11:52	09/16/20 15:20	
	ME	B MB							
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
13C3 HFPO-DA	88	3	25 - 150				09/09/20 11:52	09/16/20 15:20	
Lab Sample ID: MB 140-4	2561/1-B						Client Sam	ole ID: Method	l Blan
Matrix: Air								Prep Type: T	
Analysis Batch: 42824								Prep Batch	
	MF	MB						Trop Buton	. 4200
Analyte		dualifier	RL	МП	Unit	D	Prepared	Analyzed	Dil Fa
HFPO-DA			0.00100				09/09/20 11:52		Diria
		, 3 MB	0.00100	0.000300	uy/Sam	hie	09/09/20 11.32	09/10/20 13.11	
In stan a Dilution			l invite				Dueneus	Ameliand	
Isotope Dilution 13C3 HFPO-DA	%Recovery		<i>Limits</i> 25 _ 150				Prepared	Analyzed 09/16/20 15:11	Dil Fa
1303 HFPO-DA	00)	25 - 150				09/09/20 11.52	09/10/20 15.11	
Lab Sample ID: LCS 140-4	42561/2-B					Client	Sample ID:	Lab Control	Sampl
Matrix: Air								Prep Type: T	otal/N
Analysis Batch: 42824								Prep Batch	
			Spike	LCS LCS	3			%Rec.	
Analyte			Added	Result Qua	alifier U	Jnit	D %Rec	Limits	
HFPO-DA				0.01768		ig/Sample		60 - 140	
	LCS LC	s				J = 1			
Isotope Dilution	%Recovery Qu		Limits						
13C3 HFPO-DA	87		25 - 150						
					0				
					Clie	ent Sam	ple ID: Lab	Control Same	. I.a. D
-)-42561/3-B								
Matrix: Air)-42561/3-B							Prep Type: T	otal/N/
Matrix: Air)-42561/3-B							Prep Type: T Prep Batch	otal/N/ : 4256
Matrix: Air Analysis Batch: 42824)-42561/3-В		Spike	LCSD LCS				Prep Type: T Prep Batch %Rec.	otal/N/ : 4256 RPI
Matrix: Air Analysis Batch: 42824)-42561/3-В		Added	Result Qua		Jnit	D %Rec	Prep Type: T Prep Batch	otal/N/ : 4256 RPI D Limi
Matrix: Air Analysis Batch: 42824 Analyte)-42561/3-В 		Added		alifier U		D %Rec	Prep Type: T Prep Batch %Rec. Limits RPI	otal/N/ : 4256 RPI D Limi
Matrix: Air Analysis Batch: 42824 Analyte	-42561/3-B		Added	Result Qua	alifier U	Jnit		Prep Type: T Prep Batch %Rec. Limits RPI	otal/N/ : 4256 RPI D Limi
Lab Sample ID: LCSD 140 Matrix: Air Analysis Batch: 42824 Analyte HFPO-DA Isotope Dilution			Added	Result Qua	alifier U	Jnit		Prep Type: T Prep Batch %Rec. Limits RPI	otal/NA : 42561 RPI D Limi
Matrix: Air Analysis Batch: 42824 Analyte HFPO-DA Isotope Dilution	LCSD LC		Added	Result Qua	alifier U	Jnit		Prep Type: T Prep Batch %Rec. Limits RPI	otal/N/ : 4256 RPI D Limi
Matrix: Air Analysis Batch: 42824 Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	LCSD LC %Recovery Qu 83		Added 0.0200 Limits	Result Qua	alifier U	Jnit Ig/Sample	90	Prep Type: T Prep Batch %Rec. Limits RPI 60 - 140	otal/N/ : 4256 RPI 0 13
Matrix: Air Analysis Batch: 42824 Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-43	LCSD LC %Recovery Qu 83		Added 0.0200 Limits	Result Qua	alifier U	Jnit Ig/Sample	90	Prep Type: T Prep Batch %Rec. Limits RPI 60 - 140	otal/N/ : 4256 RPI 0 1 2 1 3
Matrix: Air Analysis Batch: 42824 Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Lab Sample ID: MB 140-4 Matrix: Air	LCSD LC %Recovery Qu 83		Added 0.0200 Limits	Result Qua	alifier U	Jnit Ig/Sample	90	Prep Type: T Prep Batch %Rec. Limits RPI 60 - 140	otal/N/ : 4256 RPI 0 1 2 1 3 3 3 3 3 3 3 3
Matrix: Air Analysis Batch: 42824 Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-43	LCSD LC <u>%Recovery Qu</u> 83 2566/1-B	alifier	Added 0.0200 Limits	Result Qua	alifier U	Jnit Ig/Sample	90	Prep Type: T Prep Batch %Rec. Limits RPI 60 - 140	otal/NJ : 4256 RPI 0 1 2 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Matrix: Air Analysis Batch: 42824 Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-42 Matrix: Air Analysis Batch: 42934	LCSD LC <u>%Recovery Qu</u> 83 2566/1-B	alifier	Added 0.0200 Limits 25 - 150	Result Qua	alifier U	Jnit Ig/Sample	Client Samp	Prep Type: T Prep Batch %Rec. Limits RPI 60 - 140	otal/N/ : 4256 RPI 0 Lim 1 3 4 Blan otal/N/ : 4256
Matrix: Air Analysis Batch: 42824 Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-4 Matrix: Air Analysis Batch: 42934 Analyte	LCSD LC <u>%Recovery Qu</u> 83 2566/1-B ME Result	alifier MB t Qualifier	Added 0.0200 Limits 25 - 150 RL	Result Qua 0.01792	unit	Jnit Ig/Sample	Client Sam	Prep Type: T Prep Batch %Rec. Limits RPI 60 - 140 Dele ID: Method Prep Type: T Prep Batch Analyzed	otal/N/ : 4256 RPI 0 Lim 1 3 d Blan otal/N/ : 4256 Dil Fa
Matrix: Air Analysis Batch: 42824 Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-4 Matrix: Air Analysis Batch: 42934 Analyte	LCSD LC <u>%Recovery Qu</u> 83 2566/1-B ME <u>Result</u>	B MB	Added 0.0200 Limits 25 - 150	Result Qua 0.01792	alifier U	Jnit Ig/Sample	Client Sam	Prep Type: T Prep Batch %Rec. Limits RPI 60 - 140	otal/NJ : 4256 RPI 0 Lim 1 3 d Blan otal/NJ : 4256 Dil Fa
Matrix: Air Analysis Batch: 42824 Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Lab Sample ID: MB 140-42 Matrix: Air	LCSD LC <u>%Recovery Qu</u> 83 2566/1-B ME <u>Result</u>	B MB Qualifier B MB	Added 0.0200 Limits 25 - 150 RL	Result Qua 0.01792	unit	Jnit Ig/Sample	Client Sam	Prep Type: T Prep Batch %Rec. Limits RPI 60 - 140 Dele ID: Method Prep Type: T Prep Batch Analyzed	otal/N/ : 4256 RPI 0 1 2 1 3 3 3 3 3 3 3 3

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Method: 537 (modified) - Fluorinated Alkyl Substances (Continued) **Client Sample ID: Lab Control Sample** Lab Sample ID: LCS 140-42566/2-B Matrix: Air Prep Type: Total/NA Analysis Batch: 42934 Prep Batch: 42566 Spike LCS LCS %Rec. Result Qualifier Added Limits Analyte Unit D %Rec HFPO-DA 0.0200 0.02000 ug/Sample 100 60 - 140 LCS LCS Isotope Dilution %Recovery Qualifier Limits 13C3 HFPO-DA 25 - 150 76 Lab Sample ID: LCSD 140-42566/3-B **Client Sample ID: Lab Control Sample Dup** Prep Type: Total/NA Matrix: Air Analysis Batch: 42934 Prep Batch: 42566 Spike LCSD LCSD %Rec. RPD Analyte Added Result Qualifier Unit %Rec Limits RPD Limit D HFPO-DA 0.0200 0.02047 ug/Sample 102 60 - 140 2 30 LCSD LCSD Isotope Dilution %Recovery Qualifier Limits 13C3 HFPO-DA 25 - 150 47 Lab Sample ID: MB 140-42711/14-B **Client Sample ID: Method Blank** Prep Type: Total/NA Matrix: Air Analysis Batch: 42757 Prep Batch: 42711 MB MB Analyte **Result Qualifier** MDL Unit Prepared Analyzed Dil Fac RI D HFPO-DA 0.000500 0.0000825 ug/Sample 09/14/20 11:33 09/15/20 11:56 0.0001444 J 1 MB MB %Recovery Qualifier Isotope Dilution Limits Prepared Analyzed Dil Fac 13C3 HFPO-DA 25 - 150 09/14/20 11:33 09/15/20 11:56 95 1 Lab Sample ID: MB 140-42711/1-B **Client Sample ID: Method Blank Prep Type: Total/NA** Matrix: Air Analysis Batch: 42757 Prep Batch: 42711 MB MB Analyte Result Qualifier MDL Unit Prepared Analyzed Dil Fac RL D HFPO-DA ND 0.000500 0.0000825 ug/Sample 09/14/20 11:33 09/15/20 11:47 1 MB MB Isotope Dilution Qualifier Dil Fac %Recovery Limits Prepared Analyzed 13C3 HFPO-DA 25 - 150 09/14/20 11:33 09/15/20 11:47 99 1 Lab Sample ID: LCS 140-42711/2-B **Client Sample ID: Lab Control Sample** Matrix: Air Prep Type: Total/NA Prep Batch: 42711 Analysis Batch: 42757 Spike LCS LCS %Rec. Analyte Added **Result Qualifier** Limits Unit %Rec D 0.009984 ug/Sample 100 60 - 140

HFPO-DA			0.0100
	LCS I	LCS	
Isotope Dilution	%Recovery	Qualifier	Limits
13C3 HFPO-DA	97		25 - 150

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

Lab Sample ID: LCSD 140 Matrix: Air Analysis Batch: 42757	-42711/3-B				C	Client Sam	ple	ID: Lat	Prep Ty	pe: Tot	
			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
HFPO-DA			0.0100	0.009072		ug/Sample	_	91	60 - 140	10	30
	LCSD	LCSD									
Isotope Dilution	%Recovery	Qualifier	Limits								
13C3 HFPO-DA	103		25 - 150								

QC Association Summary

Job ID: 140-20289-1

LCMS Prep Batch: 42561

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20289-1	QF-2343,2344 VES BC OUTLET R1 M0010 FH	Total/NA	Air	None	
140-20289-5	QF-2350,2351 VES BC OUTLET R2 M0010 FH	Total/NA	Air	None	
140-20289-9	QF-2357,2358 VES BC OUTLET R3 M0010 FH	Total/NA	Air	None	
MB 140-42561/14-B	Method Blank	Total/NA	Air	None	
MB 140-42561/1-B	Method Blank	Total/NA	Air	None	
LCS 140-42561/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-42561/3-B	Lab Control Sample Dup	Total/NA	Air	None	
Prep Batch: 42566					
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20289-2	QF-2345,2346,2348 VES BC OUTLET R1 M0010	Total/NA	Air	None	
140-20289-4	QF-2349 VES BC OUTLET R1 M0010 BREAKTH	Total/NA	Air	None	
140-20289-6	QF-2352,2353,2355 VES BC OUTLET R2 M001(Total/NA	Air	None	
140-20289-8	QF-2356 VES BC OUTLET R2 M0010 BREAKTH	Total/NA	Air	None	
140-20289-10	QF-2359,2360,2362 VES BC OUTLET R3 M0010	Total/NA	Air	None	
140-20289-12	QF-2363 VES BC OUTLET R3 M0010 BREAKTH	Total/NA	Air	None	
MB 140-42566/1-B	Method Blank	Total/NA	Air	None	
LCS 140-42566/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-42566/3-B	Lab Control Sample Dup	Total/NA	Air	None	
Cleanup Batch: 4259	1				

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20289-1	QF-2343,2344 VES BC OUTLET R1 M0010 FH	Total/NA	Air	Split	42561
140-20289-5	QF-2350,2351 VES BC OUTLET R2 M0010 FH	Total/NA	Air	Split	42561
140-20289-9	QF-2357,2358 VES BC OUTLET R3 M0010 FH	Total/NA	Air	Split	42561
MB 140-42561/14-B	Method Blank	Total/NA	Air	Split	42561
MB 140-42561/1-B	Method Blank	Total/NA	Air	Split	42561
LCS 140-42561/2-B	Lab Control Sample	Total/NA	Air	Split	42561
LCSD 140-42561/3-B	Lab Control Sample Dup	Total/NA	Air	Split	42561

Cleanup Batch: 42680

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20289-2	QF-2345,2346,2348 VES BC OUTLET R1 M0010	Total/NA	Air	Split	42566
140-20289-4	QF-2349 VES BC OUTLET R1 M0010 BREAKTH	Total/NA	Air	Split	42566
140-20289-6	QF-2352,2353,2355 VES BC OUTLET R2 M001(Total/NA	Air	Split	42566
140-20289-8	QF-2356 VES BC OUTLET R2 M0010 BREAKTH	Total/NA	Air	Split	42566
140-20289-10	QF-2359,2360,2362 VES BC OUTLET R3 M001(Total/NA	Air	Split	42566
140-20289-12	QF-2363 VES BC OUTLET R3 M0010 BREAKTH	Total/NA	Air	Split	42566
MB 140-42566/1-B	Method Blank	Total/NA	Air	Split	42566
LCS 140-42566/2-B	Lab Control Sample	Total/NA	Air	Split	42566
LCSD 140-42566/3-B	Lab Control Sample Dup	Total/NA	Air	Split	42566

Prep Batch: 42711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batcl
140-20289-3	QF-2347 VES BC OUTLET R1 M0010 IMP 1,2&3	Total/NA	Air	None	
140-20289-7	QF-2354 VES BC OUTLET R2 M0010 IMP 1,2&3	Total/NA	Air	None	
140-20289-11	QF-2361 VES BC OUTLET R3 M0010 IMP 1,2&3	Total/NA	Air	None	
MB 140-42711/14-B	Method Blank	Total/NA	Air	None	
MB 140-42711/1-B	Method Blank	Total/NA	Air	None	
LCS 140-42711/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-42711/3-B	Lab Control Sample Dup	Total/NA	Air	None	

8 9 10 11 12 13

Cleanup Batch: 42725

LCMS

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20289-3	QF-2347 VES BC OUTLET R1 M0010 IMP 1,2&3	Total/NA	Air	Split	42711
140-20289-7	QF-2354 VES BC OUTLET R2 M0010 IMP 1,2&3	Total/NA	Air	Split	42711
140-20289-11	QF-2361 VES BC OUTLET R3 M0010 IMP 1,2&3	Total/NA	Air	Split	42711
MB 140-42711/14-B	Method Blank	Total/NA	Air	Split	42711
/IB 140-42711/1-B	Method Blank	Total/NA	Air	Split	42711
CS 140-42711/2-B	Lab Control Sample	Total/NA	Air	Split	42711
LCSD 140-42711/3-B	Lab Control Sample Dup	Total/NA	Air	Split	42711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20289-3	QF-2347 VES BC OUTLET R1 M0010 IMP 1,2&3	Total/NA	Air	537 (modified)	42725
140-20289-7	QF-2354 VES BC OUTLET R2 M0010 IMP 1,2&3	Total/NA	Air	537 (modified)	42725
140-20289-11	QF-2361 VES BC OUTLET R3 M0010 IMP 1,2&3	Total/NA	Air	537 (modified)	42725
MB 140-42711/14-B	Method Blank	Total/NA	Air	537 (modified)	42725
MB 140-42711/1-B	Method Blank	Total/NA	Air	537 (modified)	42725
LCS 140-42711/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	42725
LCSD 140-42711/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	42725

Cleanup Batch: 42822

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20289-1	QF-2343,2344 VES BC OUTLET R1 M0010 FH	Total/NA	Air	Dilution	42591
140-20289-5	QF-2350,2351 VES BC OUTLET R2 M0010 FH	Total/NA	Air	Dilution	42591
140-20289-9	QF-2357,2358 VES BC OUTLET R3 M0010 FH	Total/NA	Air	Dilution	42591

Analysis Batch: 42824

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20289-1	QF-2343,2344 VES BC OUTLET R1 M0010 FH	Total/NA	Air	537 (modified)	42822
140-20289-5	QF-2350,2351 VES BC OUTLET R2 M0010 FH	Total/NA	Air	537 (modified)	42822
140-20289-9	QF-2357,2358 VES BC OUTLET R3 M0010 FH	Total/NA	Air	537 (modified)	42822
MB 140-42561/14-B	Method Blank	Total/NA	Air	537 (modified)	42591
MB 140-42561/1-B	Method Blank	Total/NA	Air	537 (modified)	42591
LCS 140-42561/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	42591
LCSD 140-42561/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	42591

Analysis Batch: 42934

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20289-2	QF-2345,2346,2348 VES BC OUTLET R1 M0010	Total/NA	Air	537 (modified)	42680
140-20289-4	QF-2349 VES BC OUTLET R1 M0010 BREAKTH	Total/NA	Air	537 (modified)	42680
140-20289-6	QF-2352,2353,2355 VES BC OUTLET R2 M001(Total/NA	Air	537 (modified)	42680
140-20289-8	QF-2356 VES BC OUTLET R2 M0010 BREAKTH	Total/NA	Air	537 (modified)	42680
140-20289-10	QF-2359,2360,2362 VES BC OUTLET R3 M001(Total/NA	Air	537 (modified)	42680
140-20289-12	QF-2363 VES BC OUTLET R3 M0010 BREAKTH	Total/NA	Air	537 (modified)	42680
MB 140-42566/1-B	Method Blank	Total/NA	Air	537 (modified)	42680
LCS 140-42566/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	42680
LCSD 140-42566/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	42680

Batch

Туре

Prep

Cleanup

Cleanup

Analysis

Batch

Туре

Prep

Cleanup

Analysis

Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

FH.

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

M0010 BH

Prep Type

Total/NA

Total/NA

Total/NA

Client Sample ID: QF-2343,2344 VES BC OUTLET R1 M0010

Batch

None

Split

Instrument ID: LCA

Dilution

Batch

None

Split

Instrument ID: LCA

Method

537 (modified)

Client Sample ID: QF-2347 VES BC OUTLET R1 M0010 IMP

537 (modified)

Client Sample ID: QF-2345,2346,2348 VES BC OUTLET R1

Method

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1,2&3 CONDENSATE Date Collected: 09/01/20 00:00

Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			0.00855 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis Instrumer	537 (modified) ht ID: LCA		1			42757	09/15/20 13:59	JRC	TAL KNX

Client Sample ID: QF-2349 VES BC OUTLET R1 M0010 **BREAKTHROUGH XAD-2 RESIN TUBE**

Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42566	09/09/20 15:00	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42680	09/13/20 05:56	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42934	09/19/20 12:53	JRC	TAL KNX
	Instrumer	it ID: LCA								

Final

Amount

111 mL

10 mL

10000 uL

Final

Amount

360 mL

10 mL

Batch

42561

42591

42822

42824

Batch

42566

42680

42934

Number

Number

Lab Chronicle

Initial

Amount

1 Sample

56 mL

100 uL

Initial

Amount

1 Sample

180 mL

Dil

1

Dil

5

Factor

Factor

Run

Run

Lab Sample ID: 140-20289-1

Prepared

or Analyzed

Prepared

or Analyzed

09/09/20 15:00 DWS

09/13/20 05:56 DWS

09/19/20 12:44 JRC

09/09/20 11:52 DWS

09/10/20 10:01 DWS

09/16/20 13:31 JRC

09/16/20 17:23 JRC TAL KNX

Lab

Job ID: 140-20289-1

Lab Sample ID: 140-20289-2

Analyst

Lab Sample ID: 140-20289-3

Lab Sample ID: 140-20289-4

Analyst

Matrix: Air

TAL KNX

TAL KNX

TAL KNX

 ~		

Lab









TAL KNX

TAL KNX

TAL KNX

Matrix: Air

Matrix: Air

9/21/2020

Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

FH

Prep Type

Total/NA

Total/NA

Batch Batch Method Туре Prep None

Split

Total/NA	Cleanup	Dilution		100 uL	10000 uL
Total/NA	Analysis	537 (modified)	1		
	Instrument	ID: LCA			
Client Sample	D: QF-2	2352,2353,2355 VES BC	: OL	ITLET R2	

Client Sample ID: QF-2350,2351 VES BC OUTLET R2 M0010

M0010 BH Date Collected: 09/01/20 00:00

Cleanup

Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42566	09/09/20 15:00	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42680	09/13/20 05:56	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		20			42934	09/19/20 13:02	JRC	TAL KNX
	Instrumen	t ID: LCA								

Lab Chronicle

Initial

Amount

1 Sample

65 mL

Final

Amount

130 mL

10 mL

Batch

42561

42591

42822

42824

Number

Dil

Factor

Run

Client Sample ID: QF-2354 VES BC OUTLET R2 M0010 IMP 1,2&3 CONDENSATE

Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			0.00855 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis Instrumer	537 (modified) nt ID: LCA		1			42757	09/15/20 14:08	JRC	TAL KNX

Client Sample ID: QF-2356 VES BC OUTLET R2 M0010 **BREAKTHROUGH XAD-2 RESIN TUBE**

Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42566	09/09/20 15:00	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42680	09/13/20 05:56	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42934	09/19/20 13:11	JRC	TAL KNX
	Instrumer	t ID: LCA								

Job ID: 140-20289-1

Matrix: Air

TAL KNX

TAL KNX

TAL KNX

TAL KNX

Matrix: Air

Lab

Lab Sample ID: 140-20289-5

Analyst

Lab Sample ID: 140-20289-6

Prepared

or Analyzed

09/09/20 11:52 DWS

09/10/20 10:01 DWS

09/16/20 13:31 JRC

09/16/20 17:32 JRC

Lab Sample ID: 140-20289-7

Matrix: Air

Lab Sample ID: 140-20289-8

Matrix: Air

9/21/2020

Batch

Туре

Prep

Cleanup

Cleanup

Analysis

Batch

Туре

Prep

Cleanup

Analysis

Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

FH.

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

M0010 BH

Prep Type

Total/NA

Total/NA

Total/NA

Client Sample ID: QF-2357,2358 VES BC OUTLET R3 M0010

Batch

None

Split

Instrument ID: LCA

Dilution

Batch

None

Split

Instrument ID: LCA

Method

537 (modified)

Client Sample ID: QF-2361 VES BC OUTLET R3 M0010 IMP

537 (modified)

Client Sample ID: QF-2359,2360,2362 VES BC OUTLET R3

Method

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1,2&3 CONDENSATE Date Collected: 09/01/20 00:00

Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			0.00877 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis Instrumer	537 (modified) ht ID: LCA		1			42757	09/15/20 14:17	JRC	TAL KNX

Lab Chronicle

Initial

Amount

1 Sample

44 mL

100 uL

Initial

Amount

1 Sample

180 mL

Final

Amount

88 mL

10 mL

10000 uL

Final

Amount

360 mL

10 mL

Batch

42561

42591

42822

42824

Batch

42566

42680

42934

Number

Number

Prepared

or Analyzed

Prepared

or Analyzed

09/09/20 15:00 DWS

09/13/20 05:56 DWS

09/19/20 13:20 JRC

09/09/20 11:52 DWS

09/10/20 10:01 DWS

09/16/20 13:31 JRC

09/16/20 17:41 JRC

Dil

1

Dil

10

Factor

Factor

Run

Run

Client Sample ID: QF-2363 VES BC OUTLET R3 M0010 **BREAKTHROUGH XAD-2 RESIN TUBE**

Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42566	09/09/20 15:00	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42680	09/13/20 05:56	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		5			42934	09/19/20 13:29	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Job ID: 140-20289-1

Analyst

Lab Sample ID: 140-20289-9 Matrix: Air

Lab Sample ID: 140-20289-10

Matrix: Air

Lab

Lab

TAL KNX

TAL KNX

TAL KNX

TAL KNX

TAL KNX TAL KNX

Matrix: Air

Matrix: Air

TAL KNX

Lab Sample ID: 140-20289-11

Analyst



Lab Sample ID: 140-20289-12

Client Sample ID: Method Blank

Lab Sample ID: MB 140-42561/14-B

Matrix: Air

Lab

TAL KNX

TAL KNX

TAL KNX

Matrix: Air

Matrix: Air

Date Collected: N/A Date Received: N/A Batch Dil Initial Batch Batch Final Prepared Method Factor Number or Analyzed Prep Type Type Run Amount Amount Analyst Total/NA None 1 Sample 50 mL 42561 09/09/20 11:52 DWS Prep Total/NA 42591 Cleanup Split 25 mL 10 mL 09/10/20 10:01 DWS Total/NA Analysis 537 (modified) 1 42824 09/16/20 15:20 JRC

Instrument ID: LCA

Client Sample ID: Method Blank Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None	_		1 Sample	50 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 15:11	JRC	TAL KNX

Client Sample ID: Method Blank Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42566	09/09/20 15:00	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42680	09/13/20 05:56	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42934	09/19/20 12:18	JRC	TAL KNX
	Instrumer	nt ID [.] I CA								

Client Sample ID: Method Blank Date Collected: N/A **Date Received: N/A**

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 11:56	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: Method Blank Date Collected: N/A Date Received: N/A

Lab Sample ID: MB 140-42711/1-B Matrix: Air

Lab Sample ID: MB 140-42566/1-B

Lab Sample ID: MB 140-42711/14-B

Batch Batch Dil Initial Final Batch Prepared Method Prep Type Туре Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep None 1 Sample 10 mL 42711 09/14/20 11:33 DWS TAL KNX Total/NA Cleanup Split 10 mL 10 mL 42725 09/14/20 14:08 DWS TAL KNX Total/NA 537 (modified) Analysis 1 42757 09/15/20 11:47 JRC TAL KNX Instrument ID: LCA

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Lab Sample ID: LCS 140-42561/2-B

Matrix: Air

Matrix: Air

Client Sample ID: Lab Control Sample Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 15:29	JRC	TAL KNX
	Instrumen	t ID: LCA								

Client Sample ID: Lab Control Sample Date Collected: N/A **Date Received: N/A**

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42566	09/09/20 15:00	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42680	09/13/20 05:56	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42934	09/19/20 12:27	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: Lab Control Sample Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 12:05	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: Lab Control Sample Dup Date Collected: N/A Date Received: N/A

Batch Dil Initial Batch Batch Final Prepared Method Prep Type Туре Run Factor Amount Amount Number or Analyzed Analyst Lab Prep Total/NA None 1 Sample 50 mL 42561 09/09/20 11:52 DWS TAL KNX 09/10/20 10:01 DWS Total/NA Cleanup Split 25 mL 10 mL 42591 TAL KNX Total/NA Analysis 537 (modified) 42824 09/16/20 15:38 JRC TAL KNX 1 Instrument ID: LCA

Client Sample ID: Lab Control Sample Dup Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42566	09/09/20 15:00	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42680	09/13/20 05:56	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42934	09/19/20 12:36	JRC	TAL KNX
	Instrumer	it ID: LCA								

Lab Sample ID: LCS 140-42711/2-B

Lab Sample ID: LCSD 140-42561/3-B Matrix: Air

Lab Sample ID: LCSD 140-42566/3-B

Eurofins TestAmerica, Knoxville

Matrix: Air

Lab Sample ID: LCS 140-42566/2-B Matrix: Air

Client Sample ID: Lab Control Sample Dup Date Collected: N/A Date Received: N/A

Lab Sample ID: LCSD 140-42711/3-B

Matrix: Air

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 12:14	JRC	TAL KNX
	Instrumer	t ID: LCA								

Laboratory References:

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

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC Project/Site: VES CB Outlet - M0010 Job ID: 140-20289-1

Laboratory: Eurofins TestAmerica, 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	02-13-22
ANAB	Dept. of Energy	L2311.01	02-13-22
ANAB	ISO/IEC 17025	L2311	02-13-22
ANAB	ISO/IEC 17025	L2311	02-14-22
Arkansas DEQ	State	88-0688	06-17-21
California	State	2423	06-30-21
Colorado	State	TN00009	02-28-21
Connecticut	State	PH-0223	09-30-21
Florida	NELAP	E87177	07-01-21
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-21
Kansas	NELAP	E-10349	11-01-20
Kentucky (DW)	State	90101	01-01-21
Louisiana	NELAP	LA110001	12-31-12 *
Louisiana	NELAP	83979	06-30-21
Louisiana (DW)	State	LA019	12-31-20
Maryland	State	277	03-31-21
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-21
New Hampshire	NELAP	299919	01-17-21
New Jersey	NELAP	TN001	07-01-21
New York	NELAP	10781	03-31-21
North Carolina (DW)	State	21705	07-31-21
North Carolina (WW/SW)	State	64	12-31-20
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-21
Oregon	NELAP	TNI0189	01-02-21
Pennsylvania	NELAP	68-00576	12-31-20
Tennessee	State	02014	12-11-22
Texas	NELAP	T104704380-18-12	08-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-19-00236	08-20-22
Utah	NELAP	TN00009	07-31-21
Virginia	NELAP	460176	09-14-21
Washington	State	C593	01-19-21
West Virginia (DW)	State	9955C	01-01-21
West Virginia DEP	State	345	05-01-21
Wisconsin	State	998044300	08-31-21

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

Method Summary

Client: The Chemours Company FC, LLC Project/Site: VES CB Outlet - M0010

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL KNX
Dilution	Dilution and Re-fortification of Standards	None	TAL KNX
lone	Leaching Procedure	TAL SOP	TAL KNX
lone	Leaching Procedure for Condensate	TAL SOP	TAL KNX
lone	Leaching Procedure for Filter	TAL SOP	TAL KNX
Split	Source Air Split	None	TAL KNX

EPA = US Environmental Protection Agency

None = None

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: The Chemours Company FC, LLC Project/Site: VES CB Outlet - M0010

Job ID: 140-20289-1

ab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset
10-20289-1	QF-2343,2344 VES BC OUTLET R1 M0010 FH	Air	09/01/20 00:00	09/04/20 12:35	
40-20289-2	QF-2345,2346,2348 VES BC OUTLET R1 M001(BH	Air	09/01/20 00:00	09/04/20 12:35	
0-20289-3	QF-2347 VES BC OUTLET R1 M0010 IMP 1,2&3 CONDENSATE	Air	09/01/20 00:00	09/04/20 12:35	
0-20289-4	QF-2349 VES BC OUTLET R1 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/01/20 00:00	09/04/20 12:35	
40-20289-5	QF-2350,2351 VES BC OUTLET R2 M0010 FH	Air	09/01/20 00:00	09/04/20 12:35	
0-20289-6	QF-2352,2353,2355 VES BC OUTLET R2 M001(BH	Air	09/01/20 00:00	09/04/20 12:35	
0-20289-7	QF-2354 VES BC OUTLET R2 M0010 IMP 1,2&3 CONDENSATE	Air	09/01/20 00:00	09/04/20 12:35	
)-20289-8	QF-2356 VES BC OUTLET R2 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/01/20 00:00	09/04/20 12:35	
0-20289-9	QF-2357,2358 VES BC OUTLET R3 M0010 FH	Air	09/01/20 00:00	09/04/20 12:35	
)-20289-10	QF-2359,2360,2362 VES BC OUTLET R3 M001(BH	Air	09/01/20 00:00	09/04/20 12:35	
0-20289-11	QF-2361 VES BC OUTLET R3 M0010 IMP 1,2&3 CONDENSATE	Air	09/01/20 00:00	09/04/20 12:35	
0-20289-12	QF-2363 VES BC OUTLET R3 M0010 BREAKTHROUGH XAD-2 RESIN TUBE	Air	09/01/20 00:00	09/04/20 12:35	
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Project Identificati	on:	Cher	nours Emi	ssions Test		Laboratory Delive	rable Tur	naround Requirements:
Client Name:				Company FC, Ll	C	Analytical Due Date		21 Days from Lab Receipt
Client Contact:		Offic	Christel Cor e: (910) 67 (910) 975-	8-1213		(Review-Released	Data)	
TestAmerica Projec	t Mana	ger: Ms. (Courtney Ac e: (865) 29	dkins		Data Package Due	Date:	28 Days from Lab Receipt
TestAmerica Progra	am Man	Office	Billy Anders e: (865) 29 (865) 206-	1-3080				
Analytical Testing The Legend for Pro the "QC" column as "MS" = Matrix Spike Duplicate, "PB" = P	ject-Sp follows , "MSD	ecific Quality C : "BT" = Blank " = Matrix Spik	Train, "RB e Duplicate	" = Reagent Bla	d in nk,	Laboratory Destin		Eurofins TestAmerica 5815 Middlebrook Pike Knoxville, TN 37921 865.291.3000 Hand Deliver
Project Deliverable	es:			a packages. Ind	I		"Sample	Type", and "Run Number" on all
Analytical Parame	ter:		Holding	Time Requirem	ents:		Preser	vation Requirements:
HFPO-DA (CAS No	b. 1325	2-13-6)	14 Days t	o Extraction; 40	Days to	Analysis		τηγητιματική του μαριαγότειμα το το του το
Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample	140 Týpe/Analysis		ain of Custody
QF-2343 VES CB Outlet R1 M0010 Filter	1	4/11/20		125 mL HDPE Wide- Mouth Bottle	Whatm Microfi Method	late Filter (90mm an Glass ber) 0010 Train DA Analysis	Isotope (IDIS) a Front-H solvent Filter sa	
QF-2344 VES CB Outlet R1 M0010 FH of Filter Holder & Probe MeOH Rinse	1	9/1/20		125 mL HDPE Wide- Mouth Bottle	& Prob Ammo Rinse Method	lalf of Filter Holder e Methanol/5% nium Hydroxide 0010 Train DA Analysis	Knoxvi	ille: Analyze for HFPO-DA. ille: Use this solvent sample in ticulate Filter extraction.
QF-2345 VES CB Outlet R1 M0010 XAD-2 Resin Tube	1	9/1/20		XAD-2 Resin Tube	XAD-2 Method	Resin Tube 0010 Train DA Analysis	Isotope (IDIS) a Back-H Impinge assist ti XAD-2	ille: Spike sample with the Dilution Internal Standard at the regular level. Use the lalf Glassware Rinse and the er Glassware Methanol Rinse to he solvent extraction of the resin sample.

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Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications	3
QF-2346 VES CB Outlet R1 M0010 BH of Filter Holder & Coil Condenser MeOH Rinse	1			125 mL HDPE Wide- Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse	Knoxville: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.	5 6
		9/1/20			Method 0010 Train	Knoxville: Analyze for HFPO-DA.	7
			:		HFPO-DA Analysis		0
QF-2347 VES CB Outlet R1 M0010 Impingers 1,2 & 3	1			500 mL HDPE Wide- Mouth Bottle	Impinger #1, #2 & #3 Condensate	<u>Knoxville</u> : Measure the volume of the Impinger Composite and forward a 250 mL portion to Knoxville for analysis.	9
Condensate		91,120			Method 0010 Train	The period to release to analysis.	10
					HFPO-DA Analysis	Knoxville: Analyze for HFPO-DA.	11
QF-2348 VES CB	1			250 mL	Impinger Glassware	Knoxville: Use this solvent sample in	12
Outlet R1 M0010 Impinger Glassware MeOH		9/1/20		HDPE Wide- Mouth Bottle	Methanol/5% Ammonium Hydroxide Rinse	the XAD-2 Resin Extraction.	13
Rinse					Method 0010 Train		14
4					HFPO-DA Analysis		15
QF-2349 VES CB Outlet R1 M0010 Breakthrough	1			XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform	
XAD-2 Resin Tube		9/1/20			Method 0010 Train	the regular XAD-2 Resin Extraction.	
					HFPO-DA Analysis	Knoxville: Analyze for HFPO-DA.	
QF-2350 VES CB Outlet R2 M0010 Filter	2	9/1/20		125 mL HDPE Wide- Mouth Bottle	Particulate Filter (90 mm Whatman Glass Microfiber)	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the	
					Method 0010 Train	solvent extraction of the Particulate Filter sample.	
					HFPO-DA Analysis	Knoxville: Analyze for HFPO-DA.	
QF-2351 VES CB Outlet R2 M0010 FH of Filter Holder & Probe MeOH Rinse	2	9(1120		125 mL HDPE Wide- Mouth Bottle	Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse	Knoxville: Use this solvent sample in the Particulate Filter extraction.	
					Method 0010 Train		
					HFPO-DA Analysis		

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Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications	4
QF-2352 VES CB Outlet R2 M0010 XAD-2 Resin Tube	2	9/1/20		XAD-2 Resin Tube	XAD-2 Resin Tube Method 0010 Train HFPO-DA Analysis	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to assist the solvent extraction of the XAD-2 resin sample. <u>Knoxville</u> : Analyze for HFPO-DA.	5 6 7 8
QF-2353 VES CB Outlet R2 M0010 BH of Filter Holder & Coil Condenser MeOH Rinse	2	91.120		125 mL HDPE Wide- Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse Method 0010 Train HFPO-DA Analysis	Knoxville: Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. Knoxville: Analyze for HFPO-DA.	9 10 11 12
QF-2354 VES CB Outlet R2 M0010 Impingers 1,2 & 3 Condensate	2	વાતિઝ		500 mL HDPE Wide- Mouth Bottle	Impinger #1, #2 & #3 Condensate Method 0010 Train HFPO-DA Analysis	Knoxville: Measure the volume of the Impinger Composite and forward a 250 mL portion to Knoxville for analysis. Knoxville: Analyze for HFPO-DA.	13 14 15
QF-2355 VES CB Outlet R2 M0010 Impinger Glassware MeOH Rinse	2	9/1120		250 mL HDPE Wide- Mouth Bottle	Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse Method 0010 Train HFPO-DA Analysis	<u>Knoxville</u> : Use this solvent sample in the XAD-2 Resin Extraction.	
QF-2356 VES CB Outlet R2 M0010 Breakthrough XAD-2 Resin Tube	2	9/1/20		XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube Method 0010 Train HFPO-DA Analysis	Knoxville:Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction.Knoxville:Analyze for HFPO-DA.	
QF-2357 VES CB Outlet R3 M0010 Filter	3	glibo		125 mL HDPE Wide- Mouth Bottle	Particulate Filter (90 mm Whatman Glass Microfiber) Method 0010 Train HFPO-DA Analysis	Knoxville : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Front-Half Probe Rinse to assist the solvent extraction of the Particulate Filter sample. Knoxville : Analyze for HFPO-DA.	

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Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications	
QF-2358 VES CB Outlet R3 M0010 FH of Filter Holder & Probe MeOH Rinse	3	9/1120		125 mL HDPE Wide- Mouth Bottle	Front Half of Filter Holder & Probe Methanol/5% Ammonium Hydroxide Rinse	Knoxville: Use this solvent sample in the Particulate Filter extraction.	5 6
		11120			Method 0010 Train		7
					HFPO-DA Analysis		
QF-2359 VES CB Outlet R3 M0010 XAD-2 Resin Tube	3	9/1/20		XAD-2 Resin Tube	XAD-2 Resin Tube Method 0010 Train	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level. Use the Back-Half Glassware Rinse and the Impinger Glassware Methanol Rinse to	9 1 (
		11120			HFPO-DA Analysis	assist the solvent extraction of the XAD-2 resin sample.	
						Knoxville: Analyze for HFPO-DA.	H
QF-2360 VES CB Outlet R3 M0010 BH of Filter Holder & Coil Condenser	3	9/1/22		125 mL HDPE Wide- Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse	<u>Knoxville</u> : Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction.	
MeOH Rinse					Method 0010 Train	Knoxville: Analyze for HFPO-DA.	1
QF-2361 VES CB	3			500 ml	HFPO-DA Analysis		
Outlet R3 M0010 Impingers 1,2 & 3 Condensate	3	9/1/20		500 mL HDPE Wide- Mouth Bottle	Impinger #1, #2 & #3 Condensate	<u>Knoxville</u> : Measure the volume of the Impinger Composite and forward a 250 mL portion to Knoxville for analysis.	
Condensate					Method 0010 Train	Knoxville: Analyze for HFPO-DA.	
				-	HFPO-DA Analysis		
QF-2362 VES CB Outlet R3 M0010 Impinger Glassware MeOH	3	9/11/20		250 mL HDPE Wide- Mouth Bottle	Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse	Knoxville: Use this solvent sample in the XAD-2 Resin Extraction.	
Rinse					Method 0010 Train		
					HFPO-DA Analysis		
QF-2363 VES CB Outlet R3 M0010 Breakthrough	3	9/1/20		XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform	
XAD-2 Resin Tube					Method 0010 Train	the regular XAD-2 Resin Extraction.	
					HFPO-DA Analysis	Knoxville: Analyze for HFPO-DA.	

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(1) Record the ident on the RFA but v	ities of any samples that were listed vere not found in the sample shipment.	NONF-	
	ble shipping cooler temperature of all ting samples listed on this RFA:	RT 0.8/07 0.8 C	
(3) Record any appa	arent sample loss/breakage.	MONF	
(4) Record any unid shipment of sam	entified samples transported with this ples:		
(5) Indicate if all san	nples were received according to the	V V A A ACUM AND A CARTANI C	΄ Δ. <i>κ</i>
project's require	d specifications (i.e. no nonconformances	1: HAND DELIVERED , NO (VSIVOY 3	
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Log In Number:

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inter received intarcf: □ Checked in lab custody seal if present, is it □ N vector or vithin limits? (> freezing □ Cooler Out of Temp, Client 05T: 10°C) □ contracted, Proceed/Cancel 05T: 10°C) □ contracted, Proceed/Cancel 05T: 10°C) □ contracted; Proceed/Cancel 05T: 10°C) □ contracted; Proceed/Cancel 05T: 10°C) □ containers? 05T: 10°C) □ containers? 05B match COC? □ containers. 05B match COC? □ containers. 05B match COC? □ containers. 05B match COC? □ contracted; Proceed/Cancel 05B match COC? □ contracted; Proceed/Cancel 05B match COC? □ collection noted? 05B match COC? □ coC Not Received 15Bed on the COC □ coC Not Received 15Bed on the COC? □ coC Not Received 15Bed on the COC? □ coC Incorrect/Incomplete 15Bed for each sample? □ coC Incorrect/Incomplete <tr< td=""><td>7</td><td></td><td>Containers, Broken</td><td></td></tr<>	7		Containers, Broken	
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COC Not Received COC Not Received Sample on COC; Not Bate/Time; Client Sample on COC; Not Bate/Time; Client Contacted Labeling Verified by: Sampler Not Listed on COC Sampler Not Listed on COC Contacted Contacted Contacted Box Listed on COC Cort Incorrect/Incomplete Ptest strip lot number: Hest strip lot number: DCC Incorrect/Incomplete Holding Time - Receipt Ptestrvation Holding Time - Receipt Ptestrvation Hest strip lot number: Date: Image: Dot Number: Image: Dot Number: Image: Date:	<u> </u>		COC Incorrect/Incomplete	
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Image on COC, Not Received Image on COC, Not Received Image on COC; No Date/Time; Client Image on COC Image on COC; Not Listed on COC Image on COC Image on Ide on Id			🛛 Sample Received, Not on COC	
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Contacted Labeling Verified by: Sampler Not Listed on COC Sampler Not Listed on COC COC Incorrect/Incomplete DeH test strip lot number: COC Incorrect/Incomplete Box 16A: pH COC Incorrect/Incomplete Box 16A: pH Preservation Preservation Preservation Deh Adjusted, pH Included Dete: Deh Adjusted, pH Included Dete: Deh Adjusted, pH Included Dete: Dete:			COC; No Date/Time; Client	
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I was blower Bate: 4-1,20	\$	Date	00-1-2-	QA026R32.doc, 062719
Sample Receiving Associate: 1				Date: 0

QA/QC Laboratory Data

🔅 eurofins

Environment Testing America

ANALYTICAL REPORT

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

Laboratory Job ID: 140-20292-1

Client Project/Site: August Field QC Samples - M0010

For:

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

Attn: Michael Aucoin

Swimerf Acklinis

Authorized for release by: 9/21/2020 3:01:54 PM

Courtney Adkins, Project Manager II (865)291-3019 courtney.adkins@eurofinset.com

The test results in this report meet all 2003 NELAC, 2009 TNI, and 2016 TNI requirements for accredited parameters, exceptions are noted in this report. This report may not be reproduced except in full, and with written approval from the laboratory. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

This report has been electronically signed and authorized by the signatory. Electronic signature is intended to be the legally binding equivalent of a traditionally handwritten signature.

Results relate only to the items tested and the sample(s) as received by the laboratory.

LINKS Review your project results through TOTOLACCESS Have a Question?



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Table of Contents

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Qualifiers

LCMS	
Qualifier	Qualifier Description
В	Compound was found in the blank and sample.
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: 140-20292-1

Laboratory: Eurofins TestAmerica, Knoxville

Narrative

Job Narrative 140-20292-1

Sample Receipt

The samples were received on September 4, 2020 at 12:35 PM in good condition and properly preserved. The temperature of the cooler at receipt was 1.1° C.

LCMS

Method 537 (modified): The required dilution factor for the following samples were higher than could be achieved by "in vial" dilution, as it would dilute out the Isotope Dilution Analytes (IDA): GF-2564,2565 QC VEN CB M0010 FH BT (140-20292-1). 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: GF-2564,2565 QC VEN CB M0010 FH BT (140-20292-1). The sample was analyzed at a dilution based on screening results.

Method 537 (modified): Results for samples GF-2566,2567,2569 QC VEN CB M0010 BH BT (140-20292-2) 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: GF-2566,2567,2569 QC VEN CB M0010 BH BT (140-20292-2). The sample was analyzed at a dilution based on screening results.

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

Organic Prep

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

Detection Summary

Job ID: 140-20292-1

FIDJECI/Sile. August Field C	c Samples - Moo	10						
Client Sample ID: GF	-2564,2565 QC	VEN CE	3 M0010 F	HBT		Lab Sa	mple ID: 14	0-20292-1
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Ргер Туре
HFPO-DA	0.804		0.100	0.0580	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: GF BT	-2566,2567,256	69 QC VE	EN CB MO	010 BH		Lab Sa	mple ID: 14	0-20292-2
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA	1.31		0.0800	0.0700	ug/Sample	50	537 (modified)	Total/NA
Client Sample ID: GF CONDENSATE BT	-2568 QC VEN	CB M00	10 IMP 1,	2&3		Lab Sa	mple ID: 14	0-20292-3
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA	0.00911	В	0.000500	0.0000825	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: GF BREAKTHROUGH XA			10			Lab Sa	mple ID: 14	0-20292-4
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA	0.00476		0.00160	0.00140	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: GF	-2571 QC VEN	CB M00	10 DI WA	TER RB		Lab Sa	mple ID: 14	0-20292-
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Type
HFPO-DA	0.000180	JB	0.000500	0.0000825	ug/Sample	1	537 (modified)	Total/NA
Client Sample ID: GF 5%/NH4OH RB	-2572 QC VEN	CB M00	10 MEOH	WITH		Lab Sa	mple ID: 14	0-20292-0
No Detections.								
Client Sample ID: GF GLASSWARE RINSES				INED		Lab Sa	mple ID: 14	0-20292-7
No Detections.								
Client Sample ID: A-7	162, MEDIA C	HECK X/	٩D			Lab Sa	mple ID: 14	0-20292-
No Detections.								
Client Sample ID: A-7	163, MEDIA C	HECK FI	LTER			Lab Sa	mple ID: 14	0-20292-9
Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac D	Method	Prep Туре
HFPO-DA	0.000653	J	0.00100	0.000580	ug/Sample	1	537 (modified)	Total/NA

This Detection Summary does not include radiochemical test results.

Client: The Chemours Company I					IS	
Project/Site: August Field QC Sar		10				Job ID: 140-20292-1
Client Sample ID: GF-2564 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train	,2565 QC	VEN CB	M0010 F	H BT		Lab Sample ID: 140-20292-1 Matrix: Air
Method: 537 (modified) - Fluor						
Analyte HFPO-DA	Result 0.804	Qualifier		MDL	Unit ug/Sample	D Prepared Analyzed Dil Fac 09/09/20 11:52 09/16/20 19:00 1
		Qualifian		0.0500	ug/Sample	
Isotope Dilution 13C3 HFPO-DA	%Recovery 95	Quaimer	Limits 25 - 150			Prepared Analyzed Dil Fac 09/09/20 11:52 09/16/20 19:00 1
Client Sample ID: GF-2566	,2567,256	69 QC VE	N CB MO	010 BH		Lab Sample ID: 140-20292-2
BT Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train						Matrix: Air
Method: 537 (modified) - Fluor	rinated Alky	/I Substand	es			
Analyte	-	Qualifier	RL	MDL	Unit	D Prepared Analyzed Dil Fac
HFPO-DA	1.31		0.0800	0.0700	ug/Sample	<u> </u>
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared Analyzed Dil Fac
13C3 HFPO-DA	94		25 - 150			09/09/20 15:03 09/18/20 17:01 50
Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor	rinated Alky	/I Substand	ces			
Analyte	Result	Qualifier	RL		11	D Duranana Analyzed Dil Fee
				MDL		D Prepared Analyzed Dil Fac
HFPO-DA	0.00911	B	0.000500	MDL 0.0000825		09/14/20 11:33 09/15/20 16:13 1
Isotope Dilution	%Recovery	B	0.000500 <i>Limits</i>			09/14/20 11:33 09/15/20 16:13 1 Prepared Analyzed Dil Fac
Isotope Dilution 13C3 HFPO-DA	%Recovery 107	B Qualifier	0.000500 Limits 25 - 150			09/14/20 11:33 09/15/20 16:13 1 Prepared Analyzed Dil Fac 09/14/20 11:33 09/15/20 16:13 1
Isotope Dilution 13C3 HFPO-DA Client Sample ID: GF-2570	%Recovery 107	B Qualifier CB M001	0.000500 Limits 25 - 150			09/14/20 11:33 09/15/20 16:13 1 Prepared Analyzed Dil Fac
Isotope Dilution 13C3 HFPO-DA	%Recovery 107	B Qualifier CB M001	0.000500 Limits 25 - 150			09/14/20 11:33 09/15/20 16:13 1 Prepared Analyzed Dil Fac 09/14/20 11:33 09/15/20 16:13 1
Isotope Dilution 13C3 HFPO-DA Client Sample ID: GF-2570 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35	%Recovery 107 QC VEN RESIN TU	B Qualifier CB M001 IBE BT	0.000500 Limits 25 - 150			O9/14/20 11:33 O9/15/20 16:13 1 Prepared Analyzed Dil Fac 09/14/20 11:33 09/15/20 16:13 1 Use of the second seco
Isotope Dilution 13C3 HFPO-DA Client Sample ID: GF-2570 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor Analyte	%Recovery 107 QC VEN RESIN TU rinated Alky Result	B Qualifier CB M001 IBE BT	0.000500 <u>Limits</u> 25 - 150 0 Ces RL	0.0000825	ug/Sample	Og/14/20 11:33 Og/15/20 16:13 1 Prepared Analyzed Dil Fac 09/14/20 11:33 09/15/20 16:13 1 Lab Sample ID: 140-20292-4 Matrix: Air D Prepared Analyzed Dil Fac
Isotope Dilution 13C3 HFPO-DA Client Sample ID: GF-2570 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA	%Recovery 107 0 QC VEN RESIN TU rinated Alky Result 0.00476	B Qualifier CB M001 BE BT	0.000500 <u>Limits</u> 25 - 150 0 0 ces <u>RL</u> 0.00160	0.0000825	ug/Sample	D Prepared 09/14/20 11:33 Analyzed 09/15/20 16:13 Dil Fac 1 Prepared 09/14/20 11:33 Analyzed 09/15/20 16:13 Dil Fac 1 Lab Sample ID: 140-20292-4 Matrix: Air Matrix: Air Dil Fac 09/09/20 15:03 Dil Fac 09/18/20 17:27
Isotope Dilution 13C3 HFPO-DA Client Sample ID: GF-2570 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor Analyte	%Recovery 107 QC VEN RESIN TU rinated Alky Result	B Qualifier CB M001 BE BT	0.000500 <u>Limits</u> 25 - 150 0 Ces RL	0.0000825	ug/Sample	Og/14/20 11:33 Og/15/20 16:13 1 Prepared Analyzed Dil Fac 09/14/20 11:33 09/15/20 16:13 1 Lab Sample ID: 140-20292-4 Matrix: Air D Prepared Analyzed Dil Fac
Isotope Dilution 13C3 HFPO-DA Client Sample ID: GF-2570 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	%Recovery 107 QC VEN RESIN TU finated Alky Result 0.00476 %Recovery 44	B Qualifier CB M001 BE BT /I Substand Qualifier Qualifier	0.000500 Limits 25 - 150 0 0 ces RL 0.00160 Limits 25 - 150	0.0000825	ug/Sample	D Prepared 09/14/20 11:33 Analyzed 09/15/20 16:13 Dil Fac 1 Prepared 09/14/20 11:33 Analyzed 09/15/20 16:13 Dil Fac 1 Lab Sample ID: 140-20292-4 Matrix: Air Matrix: Air Matrix: Air Prepared 09/09/20 15:03 Analyzed 09/18/20 17:27 Dil Fac 1 Prepared Analyzed Dil Fac 01
Isotope Dilution 13C3 HFPO-DA Client Sample ID: GF-2570 BREAKTHROUGH XAD-2 I Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution	%Recovery 107 QC VEN RESIN TU finated Alky Result 0.00476 %Recovery 44	B Qualifier CB M001 BE BT /I Substand Qualifier Qualifier	0.000500 Limits 25 - 150 0 0 ces RL 0.00160 Limits 25 - 150	0.0000825	ug/Sample	D Prepared 09/14/20 11:33 Analyzed 09/15/20 16:13 Dil Fac 1 Prepared 09/14/20 11:33 Analyzed 09/15/20 16:13 Dil Fac 1 Lab Sample ID: 140-20292-4 Matrix: Air Matrix: Air Matrix: Air Prepared 09/09/20 15:03 Analyzed 09/18/20 17:27 Dil Fac 1 Prepared 09/09/20 15:03 Analyzed 09/18/20 17:27 Dil Fac 1
Isotope Dilution 13C3 HFPO-DA Client Sample ID: GF-2570 BREAKTHROUGH XAD-2 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train Method: 537 (modified) - Fluor Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Client Sample ID: GF-2571 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35	%Recovery 107 QC VEN RESIN TU rinated Alky Result 0.00476 %Recovery 44 QC VEN	B Qualifier CB M001 DBE BT /I Substand Qualifier Qualifier CB M001	0.000500 Limits 25 - 150 0 Ces RL 0.00160 Limits 25 - 150 0 DI WA	0.0000825	Unit ug/Sample	D Prepared 09/14/20 11:33 Analyzed 09/15/20 16:13 Dil Fac 1 Prepared 09/14/20 11:33 Analyzed 09/15/20 16:13 Dil Fac 1 Lab Sample ID: 140-20292-4 Matrix: Air Matrix: Air Matrix: Air Prepared 09/09/20 15:03 Analyzed 09/18/20 17:27 Dil Fac 1 Prepared 09/09/20 15:03 Analyzed 09/18/20 17:27 Dil Fac 1 Lab Sample ID: 140-20292-5 Matrix: Air

Client Comple Desults

		Client S	Sample	Resul	ts		1
Client: The Chemours Company Project/Site: August Field QC Sar			•			Job ID: 140-20292-1	2
Client Sample ID: GF-2571 Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35	QC VEN	CB M0010	D DI WAT	ER RB		Lab Sample ID: 140-20292-5 Matrix: Air	
Sample Container: Air Train Isotope Dilution	%Recovery	Qualifier	Limits			Prepared Analyzed Dil Fac	5
13C3 HFPO-DA	97		25 - 150			09/14/20 11:33 09/15/20 15:45 1	6
Client Sample ID: GF-2572	QC VEN	CB M0010	0 MEOH	WITH		Lab Sample ID: 140-20292-6	U
5%/NH4OH RB Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train						Matrix: Air	7 8
Method: 537 (modified) - Fluo	rinated Alky	I Substance	es				9
		Qualifier	RL		Unit	D Prepared Analyzed Dil Fac 09/09/20 15:03 09/18/20 17:38 1	
HFPO-DA	ND	Qualifiar	0.00160	0.00140	ug/Sample		
Isotope Dilution 13C3 HFPO-DA	%Recovery 89	Quaimer	Limits 25 - 150			Prepared Analyzed Dil Fac 09/09/20 15:03 09/18/20 17:38 1	
Client Sample ID: GF-2573		CB M0010		NED		Lab Sample ID: 140-20292-7	12
GLASSWARE RINSES (ME Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train						Matrix: Air	13 14
Method: 537 (modified) - Fluor Analyte	-	I Substance Qualifier	es RL	МП	Unit	D Prepared Analyzed Dil Fac	15
HFPO-DA	ND		0.00160		ug/Sample	<u> </u>	
Isotope Dilution	%Recovery	Qualifier	Limits			Prepared Analyzed Dil Fac	:
13C3 HFPO-DA	82		25 - 150			09/09/20 15:03 09/18/20 17:47 1	
Client Sample ID: A-7162, Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train	MEDIA CI	HECK XAI	כ			Lab Sample ID: 140-20292-8 Matrix: Air	
Method: 537 (modified) - Fluo	-						
Analyte HFPO-DA	Result ND	Qualifier	RL 0.00160		Unit ug/Sample	D Prepared Analyzed Dil Fac 09/09/20 15:03 09/18/20 17:55 1	
Isotope Dilution	%Recovery	Qualifier	Limits	0.00140	ug/oumpic	Prepared Analyzed Dil Fac	
13C3 HFPO-DA	83		25 - 150			09/09/20 15:03 09/18/20 17:55 1	
Client Sample ID: A-7163, Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35 Sample Container: Air Train	MEDIA CI		TER			Lab Sample ID: 140-20292-9 Matrix: Air	
Method: 537 (modified) - Fluo	-						
Analyte		Qualifier _	RL 0.00100		Unit ug/Sample	D Prepared Analyzed Dil Fac 09/09/20 11:52 09/16/20 19:09 1	
HFPO-DA	0.000653			0.000560	uy/Sample		
Isotope Dilution 13C3 HFPO-DA	%Recovery 86	Qualifier	Limits 25 - 150			Prepared Analyzed Dil Fac 09/09/20 11:52 09/16/20 19:09 1	

Method: 537 (modified) - Fluorinated Alkyl Substances Prep: None

Analyte	RL	MDL	Units
HFPO-DA	0.00100	0.000580	ug/Sample
HFPO-DA	0.00160	0.00140	ug/Sample
HFPO-DA	0.00200	0.000330	ug/Sample

Isotope Dilution Summary

Client: The Chemours Company FC, LLC Project/Site: August Field QC Samples - M0010

Job ID: 140-20292-1

Method: 537 (modified) - Fluorinated Alkyl Substances Matrix: Air

Prep	Type:	Total/NA

			Percent Isotope Dilution Recovery (Acceptance Limits)	
		HFPODA		
Lab Sample ID	Client Sample ID	(25-150)		5
140-20292-1	GF-2564,2565 QC VEN CB M00	95		
140-20292-2	GF-2566,2567,2569 QC VEN CB M0010 BH BT	94		
140-20292-3	GF-2568 QC VEN CB M0010 IMP 1,2&3 CONDENSATE BT	107		
140-20292-4	GF-2570 QC VEN CB M0010 BREAKTHROUGH XAD-2 RESI TUBE BT	44		8
140-20292-5	GF-2571 QC VEN CB M0010 DI WATER RB	97		9
140-20292-6	GF-2572 QC VEN CB M0010 MEOH WITH 5%/NH4OH RB	89		
140-20292-7	GF-2573 QC VEN CB M0010 COMBINED GLASSWARE RINSES (MEOH/5% NH4OH) PI	82		
140-20292-8	A-7162, MEDIA CHECK XAD	83		
140-20292-9	A-7163, MEDIA CHECK FILTER	86		
LCS 140-42561/2-B	Lab Control Sample	87		
LCS 140-42567/2-B	Lab Control Sample	49		13
LCS 140-42711/2-B	Lab Control Sample	97		
LCSD 140-42561/3-B	Lab Control Sample Dup	83		
LCSD 140-42567/3-B	Lab Control Sample Dup	51		
LCSD 140-42711/3-B	Lab Control Sample Dup	103		
MB 140-42561/14-B	Method Blank	88		
MB 140-42561/1-B	Method Blank	85		
MB 140-42567/1-B	Method Blank	38		
MB 140-42711/14-B	Method Blank	95		
MB 140-42711/1-B	Method Blank	99		
Surrogate Legend				

Surrogate Legend

HFPODA = 13C3 HFPO-DA

QC Sample Results

Job ID: 140-20292-1

Method: 537 (modified) - Fluorinated Alkyl Substances

Lab Sample ID: MB 140-42	2561/14-B						Client Sam	ole ID: Metho	
Matrix: Air								Prep Type: T	
Analysis Batch: 42824								Prep Batch	: 4256
	ME	MB							
Analyte	Resul	t Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fa
HFPO-DA	NC)	0.00100	0.000580	ug/Sam	nple	09/09/20 11:52	09/16/20 15:20	
	ME	B MB							
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fa
13C3 HFPO-DA	88	3	25 - 150				09/09/20 11:52	09/16/20 15:20	
Lab Sample ID: MB 140-4	2561/1-B						Client Sam	ole ID: Method	d Blan
Matrix: Air								Prep Type: T	
Analysis Batch: 42824								Prep Batch	
	MF	MB						Thep Button	. 4200
Analyte		t Qualifier	RL	МП	Unit	D	Prepared	Analyzed	Dil Fa
HFPO-DA			0.00100				09/09/20 11:52	·	
		, 8 MB	0.00100	0.000000	ug/ouri	ipic	00/00/20 11:02	00/10/20 10:11	
lastana Dilutian			Limits				Bronorod	Analyzad	Dil Fa
Isotope Dilution 13C3 HFPO-DA	%Recovery		<u>25 - 150</u>				Prepared	Analyzed 09/16/20 15:11	DIIFa
1303 HFFO-DA	00)	25 - 150				09/09/20 11.52	09/10/20 15.11	
Lab Sample ID: LCS 140-4	42561/2-B					Client	Sample ID:	Lab Control	Sample
Matrix: Air								Prep Type: T	otal/N/
Analysis Batch: 42824								Prep Batch	: 4256
-			Spike	LCS LCS	3			%Rec.	
Analyte			Added	Result Qua	alifier I	Unit	D %Rec	Limits	
HFPO-DA			0.0200	0.01768		ug/Sample		60 - 140	
	LCS LC	s				0 1			
Isotope Dilution	%Recovery Qu		Limits						
13C3 HFPO-DA	87		25 - 150						
							and a line line line	0	
Lab Sample ID: LCSD 140	-42301/3-B				CII	ient Sam	ipie ID: Lab	Control Samp	
Matrix: Air								Prep Type: T	
A set of Details (0000)								Distant Distant	
Analysis Batch: 42824			• •					Prep Batch	: 4256
			Spike	LCSD LCS			D 4/-	%Rec.	: 4256 RPI
Analyte			Added	Result Qua	alifier l	Unit	D %Rec	%Rec. Limits RPI	: 4256 RPI D Limi
Analyte			Added		alifier l	Unit ug/Sample	_ D <u>%Rec</u>	%Rec. Limits RPI	: 4256 RPI D Limi
Analyte			Added	Result Qua	alifier l			%Rec. Limits RPI	: 4256 RPI D Limi
Analysis Batch: 42824 Analyte HFPO-DA Isotope Dilution	LCSD LC %Recovery Qu		Added	Result Qua	alifier l			%Rec. Limits RPI	: 4256' RPI D Limi
Analyte HFPO-DA Isotope Dilution			Added	Result Qua	alifier l			%Rec. Limits RPI	: 4256 RPI D Limi
Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA	%Recovery Qu 83		Added 0.0200 Limits	Result Qua	alifier l		90	%Rec. Limits RPI 60 - 140	4256 RPI D 1 Lim 3
Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-43	%Recovery Qu 83		Added 0.0200 Limits	Result Qua	alifier l		90	%Rec. Limits RPI 60 - 140	: 4256 RPI 2 Limi 3 3
Analyte HFPO-DA Isotope Dilution 13C3 HFPO-DA Lab Sample ID: MB 140-4 Matrix: Air	%Recovery Qu 83		Added 0.0200 Limits	Result Qua	alifier l		90	%Rec. Limits RPI 60 - 140	: 4256 RPI D Lim 1 3 d Blan otal/N/
Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-43	<u>%Recovery</u> Qu 83 2567/1-B	alifier	Added 0.0200 Limits	Result Qua	alifier l		90	%Rec. Limits RPI 60 - 140	: 4256 RPI D Lim 1 3 d Blan otal/NJ
Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-42 Matrix: Air Analysis Batch: 42907	<u>%Recovery</u> Qu 83 2567/1-B ME	alifier	Added 0.0200 Limits 25 - 150	Result Qua	alifier L	ug/Sample	Client Sam	%Rec. Limits RPI 60 - 140 Dele ID: Method Prep Type: T Prep Batch	: 4256 RP <u>0</u> Lim 1 3 d Blan otal/N : 4256
Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-42 Matrix: Air Analysis Batch: 42907 Analyte	<u>%Recovery</u> Qu 83 2567/1-B ME Result	alifier MB t Qualifier	Added 0.0200 Limits 25 - 150 RL	Result Qua 0.01792	Unit	ug/Sample	Client Sam	%Rec. Limits RPI 60 - 140 Die ID: Methoo Prep Type: T Prep Batch Analyzed	: 4256 RPI 2 Limi 1 3 3 4 Blant otal/N/ : 4256 Dil Fa
Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-42 Matrix: Air Analysis Batch: 42907	<u>%Recovery</u> Qu 83 2567/1-B ME Result	B MB	Added 0.0200 Limits 25 - 150	Result Qua 0.01792 MDL	Unit	ug/Sample	Client Sam	%Rec. Limits RPI 60 - 140 Dele ID: Method Prep Type: T Prep Batch	: 4256 RPI 2 Lim 1 3 3 3 4 Blan otal/N/ : 4256 Dil Fa
Analyte HFPO-DA <i>Isotope Dilution</i> 13C3 HFPO-DA Lab Sample ID: MB 140-42 Matrix: Air Analysis Batch: 42907 Analyte	<u>%Recovery</u> Qu 83 2567/1-B ME Result	B MB Qualifier B MB	Added 0.0200 Limits 25 - 150 RL	Result Qua 0.01792	Unit	ug/Sample	Client Sam	%Rec. Limits RPI 60 - 140 Die ID: Methoo Prep Type: T Prep Batch Analyzed	: 4256 RPI 0 1 1 3 3 3 3

9

Method: 537 (modified) - Fluorinated Alkyl Substances (Continued) **Client Sample ID: Lab Control Sample** Lab Sample ID: LCS 140-42567/2-B Matrix: Air Prep Type: Total/NA Analysis Batch: 42907 Prep Batch: 42567 Spike LCS LCS %Rec. Result Qualifier Added Limits Analyte Unit D %Rec HFPO-DA 0.0200 0.01792 ug/Sample 90 60 - 140 LCS LCS Isotope Dilution %Recovery Qualifier Limits 13C3 HFPO-DA 25 - 150 49 Lab Sample ID: LCSD 140-42567/3-B **Client Sample ID: Lab Control Sample Dup** Prep Type: Total/NA Matrix: Air Analysis Batch: 42907 Prep Batch: 42567 Spike LCSD LCSD %Rec RPD Analyte Added Result Qualifier Unit %Rec Limits RPD Limit D HFPO-DA 0.0200 0.01577 ug/Sample 79 60 - 140 13 30 LCSD LCSD %Recovery Qualifier Isotope Dilution Limits 13C3 HFPO-DA 25 - 150 51 Lab Sample ID: MB 140-42711/14-B **Client Sample ID: Method Blank** Prep Type: Total/NA Matrix: Air Analysis Batch: 42757 Prep Batch: 42711 MB MB Analyte **Result Qualifier** MDL Unit Prepared Analyzed Dil Fac RI D HFPO-DA 0.000500 0.0000825 ug/Sample 09/14/20 11:33 09/15/20 11:56 0.0001444 J MB MB %Recovery Qualifier Isotope Dilution Limits Prepared Analyzed Dil Fac 13C3 HFPO-DA 25 - 150 09/14/20 11:33 09/15/20 11:56 95 Lab Sample ID: MB 140-42711/1-B **Client Sample ID: Method Blank Prep Type: Total/NA** Matrix: Air Analysis Batch: 42757 Prep Batch: 42711 MB MB Analyte Result Qualifier MDL Unit Prepared Analyzed Dil Fac RL D HFPO-DA ND 0.000500 0.0000825 ug/Sample 09/14/20 11:33 09/15/20 11:47 1 MB MB Qualifier Isotope Dilution Dil Fac %Recovery Limits Prepared Analyzed 13C3 HFPO-DA 25 - 150 09/14/20 11:33 09/15/20 11:47 99 1 Lab Sample ID: LCS 140-42711/2-B **Client Sample ID: Lab Control Sample** Matrix: Air Prep Type: Total/NA Prep Batch: 42711 Analysis Batch: 42757 Spike LCS LCS %Rec. Added **Result Qualifier** Limits Analyte Unit %Rec D HFPO-DA 0.0100 0.009984 ug/Sample 100 60 - 140 LCS LCS Isotope Dilution %Recovery Qualifier Limits

13C3 HFPO-DA 97

25 - 150

QC Sample Results

9

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

Lab Sample ID: LCSD 140 Matrix: Air Analysis Batch: 42757	0-42711/3-B				C	Client Sam	ple	ID: Lat	Prep Ty		al/NA
			Spike	LCSD	LCSD				%Rec.		RPD
Analyte			Added	Result	Qualifier	Unit	D	%Rec	Limits	RPD	Limit
HFPO-DA			0.0100	0.009072		ug/Sample	_	91	60 - 140	10	30
	LCSD	LCSD									
Isotope Dilution	%Recovery	Qualifier	Limits								
13C3 HFPO-DA	103		25 - 150								

QC Association Summary

Prep Type

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Matrix

Air

Air

Air

Air

Air

Air

Client: The Chemours Company FC, LLC Project/Site: August Field QC Samples - M0010 Job ID: 140-20292-1

Prep Batch

Method

None

None

None None

None

None

 Lab Sample ID
 Client Sample ID

 140-20292-1
 GF-2564,2565 QC VEN CB M0010 FH BT

 140-20292-9
 A-7163, MEDIA CHECK FILTER

 MB 140-42561/14-B
 Method Blank

 MB 140-42561/1-B
 Method Blank

 LCS 140-42561/2-B
 Lab Control Sample

 LCSD 140-42561/3-B
 Lab Control Sample Dup

LCMS

Prep Batch: 42567

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20292-2	GF-2566,2567,2569 QC VEN CB M0010 BH BT	Total/NA	Air	None	
140-20292-4	GF-2570 QC VEN CB M0010 BREAKTHROUGH	Total/NA	Air	None	
140-20292-6	GF-2572 QC VEN CB M0010 MEOH WITH 5%/N	Total/NA	Air	None	
140-20292-7	GF-2573 QC VEN CB M0010 COMBINED GLAS	Total/NA	Air	None	
140-20292-8	A-7162, MEDIA CHECK XAD	Total/NA	Air	None	
MB 140-42567/1-B	Method Blank	Total/NA	Air	None	
LCS 140-42567/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-42567/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Cleanup Batch: 42591

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20292-1	GF-2564,2565 QC VEN CB M0010 FH BT	Total/NA	Air	Split	42561
140-20292-9	A-7163, MEDIA CHECK FILTER	Total/NA	Air	Split	42561
MB 140-42561/14-B	Method Blank	Total/NA	Air	Split	42561
MB 140-42561/1-B	Method Blank	Total/NA	Air	Split	42561
LCS 140-42561/2-B	Lab Control Sample	Total/NA	Air	Split	42561
LCSD 140-42561/3-B	Lab Control Sample Dup	Total/NA	Air	Split	42561

Cleanup Batch: 42704

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20292-2	GF-2566,2567,2569 QC VEN CB M0010 BH BT	Total/NA	Air	Split	42567
140-20292-4	GF-2570 QC VEN CB M0010 BREAKTHROUGH	Total/NA	Air	Split	42567
140-20292-6	GF-2572 QC VEN CB M0010 MEOH WITH 5%/N	Total/NA	Air	Split	42567
140-20292-7	GF-2573 QC VEN CB M0010 COMBINED GLAS	Total/NA	Air	Split	42567
140-20292-8	A-7162, MEDIA CHECK XAD	Total/NA	Air	Split	42567
MB 140-42567/1-B	Method Blank	Total/NA	Air	Split	42567
LCS 140-42567/2-B	Lab Control Sample	Total/NA	Air	Split	42567
LCSD 140-42567/3-B	Lab Control Sample Dup	Total/NA	Air	Split	42567

Prep Batch: 42711

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20292-3	GF-2568 QC VEN CB M0010 IMP 1,2&3 CONDE	Total/NA	Air	None	
140-20292-5	GF-2571 QC VEN CB M0010 DI WATER RB	Total/NA	Air	None	
MB 140-42711/14-B	Method Blank	Total/NA	Air	None	
MB 140-42711/1-B	Method Blank	Total/NA	Air	None	
LCS 140-42711/2-B	Lab Control Sample	Total/NA	Air	None	
LCSD 140-42711/3-B	Lab Control Sample Dup	Total/NA	Air	None	

Cleanup Batch: 42725

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20292-3	GF-2568 QC VEN CB M0010 IMP 1,2&3 CONDE	Total/NA	Air	Split	42711
140-20292-5	GF-2571 QC VEN CB M0010 DI WATER RB	Total/NA	Air	Split	42711

QC Association Summary

Client: The Chemours Company FC, LLC Project/Site: August Field QC Samples - M0010

LCMS (Continued)

140-20292-7

140-20292-8

MB 140-42567/1-B

LCS 140-42567/2-B

LCSD 140-42567/3-B

Cleanup Batch: 42725 (Continued)

Lab Sample ID	Client Sample ID	Prep Туре	Matrix	Method	Prep Batch
MB 140-42711/14-B	Method Blank	Total/NA	Air	Split	42711
MB 140-42711/1-B	Method Blank	Total/NA	Air	Split	42711
LCS 140-42711/2-B	Lab Control Sample	Total/NA	Air	Split	42711
LCSD 140-42711/3-B	Lab Control Sample Dup	Total/NA	Air	Split	42711
Analysis Batch: 427	57				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20292-3	GF-2568 QC VEN CB M0010 IMP 1,2&3 CONDE	Total/NA	Air	537 (modified)	42725
140-20292-5	GF-2571 QC VEN CB M0010 DI WATER RB	Total/NA	Air	537 (modified)	42725
MB 140-42711/14-B	Method Blank	Total/NA	Air	537 (modified)	42725
MB 140-42711/1-B	Method Blank	Total/NA	Air	537 (modified)	42725
LCS 140-42711/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	42725
LCSD 140-42711/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	42725
leanup Batch: 4282	22				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20292-1	GF-2564,2565 QC VEN CB M0010 FH BT	Total/NA	Air	Dilution	42591
Analysis Batch: 4282	24				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20292-1	GF-2564,2565 QC VEN CB M0010 FH BT	Total/NA	Air	537 (modified)	42822
140-20292-9	A-7163, MEDIA CHECK FILTER	Total/NA	Air	537 (modified)	42591
MB 140-42561/14-B	Method Blank	Total/NA	Air	537 (modified)	42591
MB 140-42561/1-B	Method Blank	Total/NA	Air	537 (modified)	42591
LCS 140-42561/2-B	Lab Control Sample	Total/NA	Air	537 (modified)	42591
LCSD 140-42561/3-B	Lab Control Sample Dup	Total/NA	Air	537 (modified)	42591
Analysis Batch: 4290	70				
Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
140-20292-2	GF-2566,2567,2569 QC VEN CB M0010 BH BT	Total/NA	Air	537 (modified)	42704
140-20292-4	GF-2570 QC VEN CB M0010 BREAKTHROUGH	Total/NA	Air	537 (modified)	42704
140-20292-6	GF-2572 QC VEN CB M0010 MEOH WITH 5%/N	Total/NA	Air	537 (modified)	42704

Total/NA

Total/NA

Total/NA

Total/NA

Total/NA

Air

Air

Air

Air

Air

GF-2573 QC VEN CB M0010 COMBINED GLAS

A-7162, MEDIA CHECK XAD

Method Blank

Lab Control Sample

Lab Control Sample Dup

Job ID: 140-20292-1

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537 (modified)

537 (modified)

537 (modified)

537 (modified)

537 (modified)

42704

42704

42704

42704

42704

Client Sample ID: GF-2564,2565 QC VEN CB M0010 FH BT Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Cleanup	Dilution			100 uL	10000 uL	42822	09/16/20 13:33	JRC	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 19:00	JRC	TAL KNX
	Instrumer	t ID: LCA								

Client Sample ID: GF-2566,2567,2569 QC VEN CB M0010 BH BT

Matrix: Air

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42567	09/09/20 15:03	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42704	09/14/20 09:32	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		50			42907	09/18/20 17:01	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: GF-2568 QC VEN CB M0010 IMP 1,2&3 **CONDENSATE BT**

Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 16:13	JRC	TAL KNX

Client Sample ID: GF-2570 QC VEN CB M0010 **BREAKTHROUGH XAD-2 RESIN TUBE BT** Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42567	09/09/20 15:03	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42704	09/14/20 09:32	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 17:27	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Matrix: Air

Matrix: Air

9/21/2020

Lab Sample ID: 140-20292-1 Matrix: Air

Lab Sample ID: 140-20292-2

Job ID: 140-20292-1

Lab Sample ID: 140-20292-3

Lab Sample ID: 140-20292-4

Client Sample ID: GF-2571 QC VEN CB M0010 DI WATER RB Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 15:45	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: GF-2572 QC VEN CB M0010 MEOH WITH 5%/NH4OH RB Date Collected: 09/01/20 00:00

Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	42567	09/09/20 15:03	DWS	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	42704	09/14/20 09:32	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 17:38	JRC	TAL KNX
	Instrumen	t ID: LCA								

Client Sample ID: GF-2573 QC VEN CB M0010 COMBINED GLASSWARE RINSES (MEOH/5% NH4OH) PB Date Collected: 09/01/20 00:00

Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	42567	09/09/20 15:03	DWS	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	42704	09/14/20 09:32	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 17:47	JRC	TAL KNX
	Instrumen	t ID: LCA								

Client Sample ID: A-7162, MEDIA CHECK XAD Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

Prep Type	Batch Type	Batch Method	Run	Dil Factor	Initial Amount	Final Amount	Batch Number	Prepared or Analvzed	Analvst	Lab
				1 40101						
Total/NA	Prep	None			1 Sample	360 mL	42567	09/09/20 15:03	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42704	09/14/20 09:32	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 17:55	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: A-7163, MEDIA CHECK FILTER Date Collected: 09/01/20 00:00 Date Received: 09/04/20 12:35

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 19:09	JRC	TAL KNX
	Instrumer	it ID: LCA								

Eurofins TestAmerica, Knoxville

Job ID: 140-20292-1

Matrix: Air

Matrix: Air

Lab Sample ID: 140-20292-5

Lab Sample ID: 140-20292-6

Lab Sample ID: 140-20292-7

Lab Sample ID: 140-20292-8

Lab Sample ID: 140-20292-9

Matrix: Air

Matrix: Air

Matrix: Air

Matrix: Air

Client Sample ID: Method Blank Date Collected: N/A Date Received: N/A

_ Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Nono								Lab
None			1 Sample	50 mL	42561	09/09/20 11:52	DWS	TAL KNX
Split			25 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
537 (modified)		1			42824	09/16/20 15:20	JRC	TAL KNX
	Split	Split 537 (modified)	Split 537 (modified) 1	Split25 mL537 (modified)1	Split 25 mL 10 mL 537 (modified) 1	Split 25 mL 10 mL 42591 537 (modified) 1 42824	Split 25 mL 10 mL 42591 09/10/20 10:01 537 (modified) 1 42824 09/16/20 15:20	Split 25 mL 10 mL 42591 09/10/20 10:01 DWS 537 (modified) 1 42824 09/16/20 15:20 JRC

Client Sample ID: Method Blank Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 15:11	JRC	TAL KNX

Client Sample ID: Method Blank Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42567	09/09/20 15:03	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42704	09/14/20 09:32	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 16:35	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: Method Blank Date Collected: N/A Date Received: N/A

Method	Run	Factor	Amount	A				
			Amount	Amount	Number	or Analyzed	Analyst	Lab
None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
537 (modified)		1			42757	09/15/20 11:56	JRC	TAL KNX
	Split	Split 537 (modified)	Split 537 (modified) 1	Split10 mL537 (modified)1	Split 10 mL 10 mL 537 (modified) 1	Split 10 mL 10 mL 42725 537 (modified) 1 42757	Split 10 mL 10 mL 42725 09/14/20 14:08 537 (modified) 1 42757 09/15/20 11:56	Split 10 mL 10 mL 42725 09/14/20 14:08 DWS 537 (modified) 1 42757 09/15/20 11:56 JRC

Client Sample ID: Method Blank Date Collected: N/A Date Received: N/A

Lab Sample ID: MB 140-42711/1-B Matrix: Air

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None	_		1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 11:47	JRC	TAL KNX
	Instrumer	t ID: LCA								

Lab Sample ID: MB 140-42567/1-B Matrix: Air

Lab Sample ID: MB 140-42561/14-B

Lab Sample ID: MB 140-42561/1-B

Lab Sample ID: MB 140-42711/14-B Matrix: Air

Client Sample ID: Lab Control Sample Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	50 mL	42561	09/09/20 11:52	DWS	TAL KNX
Total/NA	Cleanup	Split			25 mL	10 mL	42591	09/10/20 10:01	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42824	09/16/20 15:29	JRC	TAL KNX
	Instrumer	t ID: LCA								

Client Sample ID: Lab Control Sample Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	360 mL	42567	09/09/20 15:03	DWS	TAL KNX
Total/NA	Cleanup	Split			180 mL	10 mL	42704	09/14/20 09:32	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42907	09/18/20 16:43	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: Lab Control Sample Date Collected: N/A Date Received: N/A

	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Prep Type	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 12:05	JRC	TAL KNX
	Instrumer	nt ID: LCA								

Client Sample ID: Lab Control Sample Dup Date Collected: N/A Date Received: N/A

Dil Initial Batch Batch Final Batch Prepared Method Prep Type Туре Run Factor Amount Amount Number or Analyzed Analyst Lab Total/NA Prep None 1 Sample 50 mL 42561 09/09/20 11:52 DWS TAL KNX Total/NA Cleanup Split 25 mL 10 mL 42591 09/10/20 10:01 DWS TAL KNX Total/NA Analysis 537 (modified) 42824 09/16/20 15:38 JRC TAL KNX 1 Instrument ID: LCA

Client Sample ID: Lab Control Sample Dup Date Collected: N/A Date Received: N/A

Instrument ID: LCA

Prep Type

Total/NA

Total/NA

Total/NA

Batch Batch Method Туре Prep None Cleanup Split 180 mL 09/14/20 09:32 DWS 10 mL 42704 TAL KNX 537 (modified) Analysis 1 42907 09/18/20 16:52 JRC TAL KNX

	Dil	Initial	Final	Batch	Prepared			
Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab	
		1 Sample	360 mL	42567	09/09/20 15:03	DWS	TAL KNX	
		100 1	10 1	10701		DIMO	TAL (AD)	

Lab Sample ID: LCS 140-42711/2-B Motrix: Air

			Matrix. All	
Final	Batch	Prepared		

Lab Sample ID: LCSD 140-42561/3-B

Lab Sample ID: LCSD 140-42567/3-B

Matrix: Air

Matrix: Air

Client Sample ID: Lab Control Sample Dup Date Collected: N/A Date Received: N/A

Lab Sample ID: LCSD 140-42711/3-B Matrix: Air

_	Batch	Batch		Dil	Initial	Final	Batch	Prepared		
Ргер Туре	Туре	Method	Run	Factor	Amount	Amount	Number	or Analyzed	Analyst	Lab
Total/NA	Prep	None			1 Sample	10 mL	42711	09/14/20 11:33	DWS	TAL KNX
Total/NA	Cleanup	Split			10 mL	10 mL	42725	09/14/20 14:08	DWS	TAL KNX
Total/NA	Analysis	537 (modified)		1			42757	09/15/20 12:14	JRC	TAL KNX
	Instrumer	t ID: LCA								

Laboratory References:

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

Accreditation/Certification Summary

Client: The Chemours Company FC, LLC Project/Site: August Field QC Samples - M0010

Job ID: 140-20292-1

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12
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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	02-13-22
ANAB	Dept. of Energy	L2311.01	02-13-22
ANAB	ISO/IEC 17025	L2311	02-13-22
ANAB	ISO/IEC 17025	L2311	02-14-22
Arkansas DEQ	State	88-0688	06-17-21
California	State	2423	06-30-21
Colorado	State	TN00009	02-28-21
Connecticut	State	PH-0223	09-30-21
Florida	NELAP	E87177	07-01-21
Georgia (DW)	State	906	12-11-22
Hawaii	State	NA	12-11-21
Kansas	NELAP	E-10349	11-01-20
Kentucky (DW)	State	90101	01-01-21
Louisiana	NELAP	LA110001	12-31-12 *
Louisiana	NELAP	83979	06-30-21
Louisiana (DW)	State	LA019	12-31-20
Maryland	State	277	03-31-21
Michigan	State	9933	12-11-22
Nevada	State	TN00009	07-31-21
New Hampshire	NELAP	299919	01-17-21
New Jersey	NELAP	TN001	07-01-21
New York	NELAP	10781	03-31-21
North Carolina (DW)	State	21705	07-31-21
North Carolina (WW/SW)	State	64	12-31-20
Ohio VAP	State	CL0059	06-02-23
Oklahoma	State	9415	08-31-21
Oregon	NELAP	TNI0189	01-02-21
Pennsylvania	NELAP	68-00576	12-31-20
Tennessee	State	02014	12-11-22
Texas	NELAP	T104704380-18-12	08-31-21
US Fish & Wildlife	US Federal Programs	058448	07-31-21
USDA	US Federal Programs	P330-19-00236	08-20-22
Utah	NELAP	TN00009	07-31-21
Virginia	NELAP	460176	09-14-21
Washington	State	C593	01-19-21
West Virginia (DW)	State	9955C	01-01-21
West Virginia DEP	State	345	05-01-21
Wisconsin	State	998044300	08-31-21

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

Method Summary

Client: The Chemours Company FC, LLC Project/Site: August Field QC Samples - M0010

Method	Method Description	Protocol	Laboratory
537 (modified)	Fluorinated Alkyl Substances	EPA	TAL KNX
Dilution	Dilution and Re-fortification of Standards	None	TAL KNX
None	Leaching Procedure	TAL SOP	TAL KNX
None	Leaching Procedure for Condensate	TAL SOP	TAL KNX
None	Leaching Procedure for Filter	TAL SOP	TAL KNX
Split	Source Air Split	None	TAL KNX

Protocol References:

EPA = US Environmental Protection Agency

None = None

TAL SOP = TestAmerica Laboratories, Standard Operating Procedure

Laboratory References:

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

Sample Summary

Client: The Chemours Company FC, LLC Project/Site: August Field QC Samples - M0010

Job ID: 140-20292-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received	Asset
40-20292-1	GF-2564,2565 QC VEN CB M0010 FH BT	Air	09/01/20 00:00	09/04/20 12:35	
40-20292-2	GF-2566,2567,2569 QC VEN CB M0010 BH BT	Air	09/01/20 00:00	09/04/20 12:35	
40-20292-3	GF-2568 QC VEN CB M0010 IMP 1,2&3 CONDENSATE BT	Air	09/01/20 00:00	09/04/20 12:35	
-20292-4	GF-2570 QC VEN CB M0010 BREAKTHROUGH XAD-2 RESIN TUBE BT	Air	09/01/20 00:00	09/04/20 12:35	
0-20292-5	GF-2571 QC VEN CB M0010 DI WATER RB	Air	09/01/20 00:00	09/04/20 12:35	
-20292-6	GF-2572 QC VEN CB M0010 MEOH WITH 5%/NH4OH RB	Air	09/01/20 00:00	09/04/20 12:35	
20292-7	GF-2573 QC VEN CB M0010 COMBINED GLASSWARE RINSES (MEOH/5% NH4OH) PB	Air	09/01/20 00:00	09/04/20 12:35	
)-20292-8	A-7162, MEDIA CHECK XAD	Air	09/01/20 00:00	09/04/20 12:35	
-20292-9	A-7163, MEDIA CHECK FILTER	Air	09/01/20 00:00	09/04/20 12:35	

Environment Testing TestAmerica

🔅 eurofins

Project Identificati	on:	Cher	nours Emi	ssions Test		Laboratory Deliv	/erable Tu	rnaround Requirements:			
Client Name:				Company FC, LL	C	Analytical Due Da		21 Days from Lab Receipt			
Client Contact:			Christel Cor			(Review-Release		21 Days from Eab Receipt			
ononi oonaati			e: (910) 67				u Duluj				
			(910) 975-								
TestAmerica Projec	t Mana		Courtney Ad			Data Package Du	le Date:	28 Days from Lab Receipt			
,			e: (865) 29								
TestAmerica Progra	m Mar		illy Anderso								
Ŭ			e: (865) 29								
		Cell:	(865) 206-	9004							
Analytical Testing	QC Re	quirements:				Laboratory Dest	ination:	Eurofins TestAmerica			
The Legend for Pro	ject-Sp	ecific Quality C	ontrol Testi	ng is designated	in the			5815 Middlebrook Pike			
"QC" column as foll								Knoxville, TN 37921			
Matrix Spike, "MSD			cate, "DUP"	= Duplicate, "P	B" =	Lab Phone Num	ber:	865.291.3000			
Proof Blank, "TB" =	Trip Bl	ank				Courier:		Hand Deliver			
Project Deliverable	es:										
Report analytical re TALS Reports.	sults or	TALS Reports	and in dat	a packages. Ind	dude "Field	Sample Number",	"Sample Ty	ype", and "Run Number" on all			
Analytical Parame	ter:		Holding	Time Requirem	ents:		Preserva	ation Requirements:			
HFPO-DA (CAS No	o. 1325	2-13-6)	14 Days t	o Extraction; 40	Days to An	alysis _I	Internetien der Kennen einen				
			<u>.</u>								
			Project								
Field Sample		Sample	QC	Sample		1	40-20292 Cł	nain of Custody			
No./Sample Run Collection Require Bottle/											
Coding ID	No.	Date	-ments	Container	Sample T	ype/Analysis	Analytical Specifications				
GF-2564 QC VEN	QC	11	Blank	125 mL	Particulate Filter (90 mm		Knoxville: Spike sample with the				
CB M0010 Filter		91120	Train	HDPE Wide-	Whatmar		Isotope Dilution Internal Standard				
BT		••••		Mouth Bottle	Microfibe	er)		the regular level. Use the			
							1	If Probe Rinse to assist the			
					Method 0	010 Blank Train		extraction of the Particulate			
							Filter san	npie.			
					HFPO-DA	Analysis					
							Knoxvill	e: Analyze for HFPO-DA.			
GF-2565 QC VEN	QC		Blank	125 mL		If of Filter Holder		e: Use this solvent sample in			
CB M0010 FH of			Train	HDPE Wide-		Methanol/5%	the Partic	culate Filter extraction.			
Filter Holder &		مرام		Mouth Bottle		um Hydroxide					
Probe MeOH Rinse BT		4112			Rinse						
		7									
					Method 0	010 Blank Train					
	1				HFPO-DA	Analysis					
				XAD-2 Resin	XAD-2 Re	esin Tube	Knoxvill	e: Spike sample with the			
GF-2566 QC VEN	QC										
GF-2566 QC VEN CB M0010 XAD-2	QC		Blank Train	Tube				Dilution Internal Standard			
	QC	9/1/20			Method 0	010 Blank Train	(IDIS) at	the regular level. Use the			
CB M0010 XAD-2	QC	9/1/20			Method 0	010 Blank Train	(IDIS) at Back-Ha	the regular level. Use the If Glassware Rinse and the			
CB M0010 XAD-2	QC	9/1/20					(IDIS) at Back-Ha Impinger	the regular level. Use the If Glassware Rinse and the Glassware Methanol Rinse to			
CB M0010 XAD-2	QC	9/1/20			Method 0		(IDIS) at Back-Ha Impinger assist the	the regular level. Use the If Glassware Rinse and the Glassware Methanol Rinse to e solvent extraction of the			
CB M0010 XAD-2	QC	9/1/20					(IDIS) at Back-Ha Impinger assist the	the regular level. Use the If Glassware Rinse and the Glassware Methanol Rinse to			
CB M0010 XAD-2	QC	9/1/20					(IDIS) at Back-Ha Impinger assist the XAD-2 re	the regular level. Use the If Glassware Rinse and the Glassware Methanol Rinse to e solvent extraction of the			

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TestAmerica	

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Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications	
GF-2567 QC VEN CB M0010 BH of Filter Holder & Coil Condenser MeOH Rinse BT	QC	9/1/20	Blank Train	125 mL HDPE Wide- Mouth Bottle	Back Half of Filter Holder & Coil Condenser Methanol/5% Ammonium Hydroxide Rinse Method 0010 Blank Train	<u>Knoxville</u> : Use this solvent sample and the Impinger Glassware Methanol Rinse in the XAD-2 Resin extraction. <u>Knoxville</u> : Analyze for HFPO-DA.	
					HFPO-DA Analysis		
GF-2568 QC VEN CB M0010 Impingers 1,2 & 3 Condensate BT	QC	9(1)20	Blank Train	500 mL HDPE Wide- Mouth Bottle	Impinger #1, #2 & #3 Condensate	<u>Knoxville</u> : Measure the volume of the Impinger Composite and forward a 250 mL portion to Knoxville for analysis.	
					Method 0010 Blank Train HFPO-DA Analysis	Knoxville: Analyze for HFPO-DA.	
							J
GF-2569 QC VEN CB M0010 Impinger Glassware MeOH	QC	9/1/3	Blank Train	250 mL HDPE Wide- Mouth Bottle	Impinger Glassware Methanol/5% Ammonium Hydroxide Rinse	Knoxville: Use this solvent sample in the XAD-2 Resin Extraction.	
Rinse BT					Method 0010 Blank Train		
					HFPO-DA Analysis		
GF-2570 QC VEN CB M0010 Breakthrough XAD-2 Resin Tube BT	QC	9/1/2	Blank Train	XAD-2 Resin Tube	Breakthrough XAD-2 Resin Tube Method 0010 Blank Train	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level and perform the regular XAD-2 Resin Extraction.	
					HFPO-DA Analysis	Knoxville: Analyze for HFPO-DA.	
GF-2571 QC VEN CB M0010 DI Water RB	QC	all	Reagent Blank	500 mL HDPE Wide- Mouth Bottle	Deionized (DI) Water Reagent Blank	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level.	-
		1/11 20			Method 0010 Train	Knoxville: Analyze for HFPO-DA.	
					HFPO-DA Analysis		
GF-2572 QC VEN CB M0010 MeOH with 5% NH4OH	QC	9/1/2	Reagent Blank	250 mL HDPE Wide- Mouth Bottle	Methanol with 5% NH₄OH Reagent Blank	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level.	
RB		<u>ل</u> م			Method 0010 Train	Knoxville: Analyze for HFPO-DA.	
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Field Sample No./Sample Coding ID	Run No.	Sample Collection Date	Project QC Require -ments	Sample Bottle/ Container	Sample Type/Analysis	Analytical Specifications
GF-2573 QC VEN CB M0010 Combined Glassware Rinses	QC	9/1	Proof Blank	125 mL HDPE Wide- Mouth Bottle	Front Half, Back Half and Impinger Glassware Rinses Composite Proof Blank	<u>Knoxville</u> : Spike sample with the Isotope Dilution Internal Standard (IDIS) at the regular level.
(MeOH/5% NH₄OH) PB		9/1/ئى			Method 0010 Train HFPO-DA Analysis	Knoxville: Analyze for HFPO-DA.

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Plassa fill in the	e following information:	Comn	nonte
rease ini in the	Flohowing information.	(Please write "NONE" if	
	entities of any samples that were listed It were not found in the sample shipment.	NONE	
	mple shipping cooler temperature of all porting samples listed on this RFA:	RT1.1/CT1.1C	
(3) Record any ap	oparent sample loss/breakage.	NONE	
(4) Record any ur shipment of s	nidentified samples transported with this amples:	NONE	
	amples were received according to the ired specifications (i.e. no nonconformances):	HAND DELIVENED I NO (USTO)	N (64) (
project a requ		THUS PRIVING TWO TASTA	DI DMIKI
	C E E E E E E E E E E E E E E E E E E E		
<u>Custody Trar</u>	nsfer:		
		RAmboll	9/3/20 203
Relinquished By:	Petrik Group		113120
	Dowy Catel	Company ETIA KINNX	Date/Time 9/3/20 2080
ccepted By:	Dary Calif Name Dory Calif	Company FTA KNAX Company ETA KWX	Date/Time 9/3/20 2030 Date/Time 9/4/20 1233
Accepted By:	Dory Carl	Company ETIA KINIX Company ETA KWX Company ETA KWX	Date/Time <i>7/3/202030</i> Date/Time <i>7/4/201233</i> Date/Time 9-4-20 233
Accepted By:	Name Down Calif Name Name Name Name	Company ETA KNAX Company ETA KWX Company ETA KWX Company	Pate/Time <i>Plaid 2013 (</i> Date/Time <i>Ply 20 1233</i> Date/Time <i>P-4-20 12:35</i> Date/Time
Accepted By:	Name Dary Call Name Oct Call Name	Company ETIA KINIX Company ETA KWX Company ETA KWX	Date/Time <i>7/3/202030</i> Date/Time <i>7/4/201233</i> Date/Time 9-4-20 233
Accepted By: Relinquished By: Accepted By: Relinquished By:	Name Down Calif Name Name Name Name	Company ETA KNAX Company ETA KWX Company ETA KWX Company	Pate/Time <i>Plaid 2013 (</i> Date/Time <i>Ply 20 1233</i> Date/Time <i>P-4-20 12:35</i> Date/Time
Accepted By: Relinquished By: Accepted By: Relinquished By:	Name Daw Call Name Day Call Name Name Name Name	Company ETIA KINIX Company ETA KWX Company EVA KWX Company Company	Date/Time Date/Time Date/Time Date/Time 9-4-20 12-35 Date/Time Date/Time Date/Time
Relinquished By:	Name Down Colling Name Name Name Name	Company ETIA KINIX Company ETA KWX Company EV-KWX Company Company	Date/Time Date/Time Date/Time Date/Time 9-4-20 12-35 Date/Time Date/Time

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

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Log In Number:

Review Items	Yes	ş	If No, what was the problem?	Comments/Actions Taken
1. Are the shipping containers intact?			Containers, Broken	
2. Were ambient air containers received intact?				
3. The coolers/containers custody seal if present, is it			□ Yes	
intact?		<	D NA	
4. Is the cooler temperature within limits? (> freezing			□ Cooler Out of Temp, Client	
temp. of water to 6°C, VOST: 10°C)	$\overline{\}$		Contacted, Proceed/Cancel	
Thermometer ID : 5(.65			Cooler Out of Temp, Same Day	
		1 1 1 11 1	Receipt	
5. Were all of the sample containers received intact?			Containers, Broken	
Were samples received in appropriate containers?	<u> </u>		Containers, Improper; Client	
7. Do sample container labels match COC?			COC & Samples Do Not Match	
(IDs, Dates, Times)	<u> </u>		COC Incorrect/Incomplete	
			COC Not Received	
Were all of the samples listed on the COC received?			Sample Received, Not on COC	
	<			
Is the date/time of sample collection noted?	<u> </u>		COC; No Date/Time; Client	
			Contacted	I abeling Verified hv. Date
10. Was the sampler identified on the COC?		/	□ Sampler Not Listed on COC	
11. Is the client and project name/# identified?			□ COC Incorrect/Incomplete	pH test strip lot number:
12. Are tests/parameters listed for each sample?	~		COC No tests on COC	
13. Is the matrix of the samples noted?	1/		COC Incorrect/Incomplete	
14. Was COC relinquished? (Signed/Dated/Timed)			COC Incorrect/Incomplete	Box 16A: pH Box 18A: Residual Preservation Chlorine
15. Were samples received within holding time?			□ Holding Time - Receipt	
16. Were samples received with correct chemical			🛛 pH Adjusted, pH Included	Lot Number:
<pre>preservative (excluding Encore)?</pre>	erver a Cal tra		(See box 16A)	Exp Date:
			Incorrect Preservative	Analyst:
17. Were VOA samples received without headspace?			🗆 Headspace (VOA only)	Date:
18. Did you check for residual chlorine, if necessary?			C Residual Chlorine	
(e.g. 1613B, 1668) Chlorine test strip lot number:		``	- - - - -	
19. For 1613B water samples is pH<9?		<u>\</u>	□ If no, notify lab to adjust	
20. For rad samples was sample activity info. Provided?			D Project missing info	
Project #: 140043.2 PM Instructions:				
Samule Receiving Associate:		Date:	Date: 9-7.5 A	017CAO 200 AD7832 doc 007110
		- AGNAL		

Ramboll - Source Emissions Testing Of The Vinyl Ethers South Carbon Bed

APPENDIX E EQUIPMENT CALIBRATION DATA

Pretest Equipment Calibration Data

METHOD 5 DRY GAS METER CALIBRATION USING CRITICAL ORIFICES

st/Dry Gas Meters/2020/MB 8/MB 8 Initial Cal 01



- 1) Select three critical orifices to calibrate the dry gas meter which bracket the expected operating range.
- 2) Record barometric pressure before and after calibration procedure.
- Run at tested vacuum (from Orifice Calibration Report), for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
- 4) Record data and information in the **GREEN** cells, YELLOW cells are calculated.



METHOD 5 DRY GAS METER CALIBRATION USING CRITICAL ORIFICES

s/Dry Gas Meters/2020/MB 15/MB 15 Initial Cali



- 1) Select three critical orifices to calibrate the dry gas meter which bracket the expected operating range.
- 2) Record barometric pressure before and after calibration procedure.
- Run at tested vacuum (from Orifice Calibration Report), for a period of time necessary to achieve a minimum total volume of 5 cubic feet.
- 4) Record data and information in the **GREEN** cells, YELLOW cells are calculated.



Initial Impinger Outlet Thermocouple Calibration

			Ice Bath			Ambient		Н	ot Water Bath			
		Reference	Thermocouple		Reference	Thermocouple		Reference	Thermocouple			Date
ID Number		Temperature		Deviation*		Temperature	Deviation*	Temperature	Temperature	Deviation*	Technician	Performed
		(°Rk)	Temperature (°Rk)		Temperature (^o Rk)	(°Rk)		(°Rk)	(°Rk)			Ferrormeu
IO-1		491.67	493.67	0.4%	527.67	526.67	-0.2%	671.67	670.67	-0.1%	JLS	01/30/20
IO-2		491.67	493.67	0.4%	527.67	526.67	-0.2%	671.67	671.67	0.0%	JLS	01/30/20
IO-3		491.67	493.67	0.4%	527.67	526.67	-0.2%	671.67	670.67	-0.1%	JLS	01/30/20
IO-4		491.67	493.67	0.4%	527.67	526.67	-0.2%	671.67	669.67	-0.3%	JLS	01/30/20
IO-5		491.67	493.67	0.4%	527.67	526.67	-0.2%	671.67	671.67	0.0%	JLS	01/30/20
IO-6		491.67	493.67	0.4%	527.67	526.67	-0.2%	671.67	672.67	0.1%	JLS	01/30/20
IO-7		491.67	493.67	0.4%	527.67	526.67	-0.2%	671.67	670.67	-0.1%	JLS	01/30/20
IO-8		491.67	493.67	0.4%	527.67	527.67	0.0%	671.67	669.67	-0.3%	JLS	01/30/20
IO-9		491.67	493.67	0.4%	527.67	526.67	-0.2%	671.67	672.67	0.1%	JLS	01/30/20
IO-10		491.67	492.67	0.2%	527.67	526.67	-0.2%	671.67	672.67	0.1%	JLS	01/30/20
IO-11		491.67	493.67	0.4%	527.67	527.67	0.0%	671.67	672.67	0.1%	JLS	01/30/20
IO-12		491.67	492.67	0.2%	527.67	526.67	-0.2%	671.67	672.67	0.1%	JLS	01/30/20
IO-13		NA			NA			NA			JLS	01/30/20
IO-14		491.67	494.67	0.6%	527.67	526.67	-0.2%	671.67	670.67	-0.1%	JLS	01/30/20
IO-15	_	491.67	493.67	0.4%	527.67	527.67	0.0%	671.67	670.67	-0.1%	JLS	01/30/20
IO-16		491.67	493.67	0.4%	527.67	526.67	-0.2%	671.67	671.67	0.0%	JLS	01/30/20
IO-17		NA			NA			NA			JLS	01/30/20
IO-18		491.67	493.67	0.4%	527.67	527.67	0.0%	671.67	669.67	-0.3%	JLS	01/30/20
IO-19		491.67	493.67	0.4%	527.67	526.67	-0.2%	671.67	671.67	0.0%	JLS	01/30/20
	_											
	_											
								-				

Reference Thermocouple: Fluke S/N: 83450033 or S/N 90460057 traceable to the Untied States National Institute of Standards and Technology *Acceptable Deviation: 1.5%

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		Ice Bath			Ambient		Н	ot Water Bath			
ID Number	Reference Temperature (°R)	Thermocouple Temperature (°R)	Deviation*	Reference Temperature (°R)	Thermocouple Temperature (°R)	Deviation*	Reference Temperature (°R)	Thermocouple Temperature (°R)	Deviation*	Technician	Date Performed
OB-1	491.67	492.67	0.2%	524.67	523.67	-0.2%	671.67	673.67	0.3%	JLS	01/17/20
OB-2	491.67	492.67	0.2%	524.67	524.67	0.0%	671.67	669.67	-0.3%	JLS	01/17/20
OB-3	491.67	492.67	0.2%	524.67	524.67	0.0%	671.67	669.67	-0.3%	JLS	01/17/20
OB-4	491.67	493.67	0.4%	524.67	524.67	0.0%	671.67	670.67	-0.1%	JLS	01/17/20
OB-A	491.67	492.67	0.2%	524.67	526.67	0.4%	671.67	673.67	0.3%	JLS	01/17/20
ОВ-В	491.67	492.67	0.2%	524.67	526.67	0.4%	671.67	672.67	0.1%	JLS	01/17/20
OB-5	491.67	494.67	0.6%	524.67	523.67	-0.2%	671.67	669.67	-0.3%	JLS	01/17/20
OB-C	491.67	492.67	0.2%	524.67	525	0.0%	671.67	673.67	0.3%	JLS	01/17/20
OB-6	491.67	493.67	0.4%	524.67	525	0.0%	671.67	669.67	-0.3%	JLS	01/17/20
OB-7	491.67	494.67	0.6%	524.67	525	0.0%	671.67	671.67	0.0%	JLS	01/17/20
OB-E	491.67	494	0.4%	524.67	528	0.6%	671.67	668.67	-0.4%	JLS	01/17/20
OB-10	491.67	493.67	0.4%	524.67	525.67	0.2%	671.67	671.67	0.0%	JLS	01/17/20
OB-11	491.67	493.67	0.4%	524.67	525.67	0.2%	671.67	671.67	0.0%	JLS	01/17/20

Initial Oven Box Thermocouple Calibration

Reference Thermocouple: Fluke S/N: 83450033 or S/N 90460057 traceable to the Untied States National Institute of Standards and Technology *Acceptable Deviation: 1.5%

Initial Sample Probe Calibration Form



Temperature values must be within 1.5% of reference temperature

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I certify that the probe IE <u>P4-2/TC-5D</u> meets or exceeds all specifications, criteria and/or applicable design features and is herby assigned a pitot tube calibration factor C_P of 0.84.

Certified By:

P. Grady

Date: 06/16/20



Initial Sample Probe Calibration Form



Temperature values must be within 1.5% of reference temperature

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I certify that the probe IE <u>P4-3/TC-7D</u> meets or exceeds all specifications, criteria and/or applicable design features and is herby assigned a pitot tube calibration factor C_P of 0.84.

Certified By:

P. Grady

Date: 06/16/20



Post Test Equipment Calibration Data

POST TEST DRY GAS METER CALIBRATION





POST TEST DRY GAS METER CALIBRATION





Post-Test Sample Probe Calibration Form

Probe ID P4-2		
Visual Inspection		
Do pitot tips appear to be damaged?	NO	
Do thermocouple wires appear broken or shorted?	NO	
Do all components appear to be in good condition?	YES	
Post-Test Thermocouple Calibration		
Reference Temperature ^O F	Thermocouple Temperature ^O F	Difference ^O F
65	65	0
Reference Thermocouple: Fluke S/N: 83450033 traceable to the Untied States	National Institute of Standards and Technology	
Accepatable Deviation +/- 2 $^{\rm O}$ F		
	X Acceptable	
	Unacceptable	
Date 09/11/20	Techniciai	n AA



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Post-Test Sample Probe Calibration Form

Probe ID P4-3		
Visual Inspection		
Do pitot tips appear to be damaged?	NO	
Do thermocouple wires appear broken or shorted?	NO	
Do all components appear to be in good condition?	YES	
Post-Test Thermocouple Calibration		
Reference Temperature ⁰ F	Thermocouple Temperature ^O F	Difference ⁰ F
65	65.8	0.8
Reference Thermocouple: Fluke S/N: 83450033 traceable to the Untied States	National Institute of Standards and Technology	
Accepatable Deviation +/- 2 $^{\rm O}$ F		
	X Acceptable	
	Unacceptable	
Date09/11/20	Technicia	nAA



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