

AIR EMISSIONS TEST REPORT

**VOCS FROM THE
ROTARY WOOD DRYER LINE 1 RTO,
ROTARY WOOD DRYER LINE 2 RTO,
HAMMERMILL LINES RCO,
AND PELLETIZING LINES RCO**

**CO AND NOX EMISSIONS FROM THE
ROTARY WOOD DRYER LINE 1 RTO
AND ROTARY WOOD DRYER LINE 2 RTO**

**Enviva Pellets
Waycross, Georgia**

Prepared for:
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1. INTRODUCTION

1.1 Summary of the Test Program

Air Control Techniques, PC was contracted by Enviva Pellets to conduct emission testing at their facility in Waycross, Georgia (Enviva Waycross). Air Control Techniques, P.C. conducted the emission test program at Enviva Waycross during the week of May 3rd, 2021. The purpose of this test program was to demonstrate compliance with the testing requirements of Air Permit No. 2499-299-0053-V-03-0. This report summarizes the test methods, personnel, and schedule for these emission tests.

Testing was performed at (1) the RTO exhaust of Dryer Line 1 (RTO1), (2) the RTO exhaust of Dryer Line 2 (RTO2), (3) the RCO exhaust of the Hammermill lines (RCO West or RCO1), and (4) the RCO exhaust of the Pellet Mill and Pellet Cooler lines (RCO East or RCO2).

Testing was performed for nitrogen oxides (NO_x), carbon monoxide (CO), and volatile organic compounds (VOC) emissions from the RTO1 and RTO2 stacks. Testing was performed for VOC emissions from the RCO West stack (RCO1) and RCO East stack (RCO2). CO, NO_x, and VOC emissions were determined with EPA Reference Test Method 7E, EPA Reference Test Method 10, and EPA Other Test Method 26. Total hydrocarbons (THC), methane, methanol, formaldehyde, and acetaldehyde were measured with EPA Test Methods 25A and 320 for the determination of VOC in accordance with EPA Other Test Method 26.

Table 1-1 provides a summary of the test program scope. Table 1-2 provides a summary of the test program results.

Emission Source	Control Devices	Test Location	Test Parameter
Rotary Drum Dryer 1 (DRY1) Heat Energy System 1 (HES1)	Wet ESP (WE01), Regenerative Thermal Oxidizer (RTO1)	RTO1 Exhaust Stack	NO _x , CO, VOC
Rotary Drum Dryer 2 (DRY2) Heat Energy System 2 (HES2)	Wet ESP (WE02), Regenerative Thermal Oxidizer (RTO2)	RTO2 Exhaust Stack	NO _x , CO, VOC
Hammermill Lines (HML) (10 Hammermills)	Baghouses (HBH1 to HBH10) and Regenerative Catalytic Oxidizer (RCO1)	RCO West Exhaust Stack	VOC
Pellet Mill Lines (PML) (5 lines) and Pellet Coolers (PCL) (5 lines)	Baghouses (PBH1 to PBH5) and Regenerative Catalytic Oxidizer (RCO2)	RCO East Exhaust Stack	VOC

1.2 Permit Requirements

The facility is limited to annual emission limits calculated based on emission factors stated in Permit 2499-299-0053-v-03-0, Section 2.1.1. These limits are 249 tons per year for CO and 249 tons per year for NO_x. The VOC emissions expressed as tons VOC as alpha terpene are limited to 249 tons per year.

The annual emissions are calculated based on emission factors stated in the Permit. If the most recent test data indicated higher emission factors, the facility is required to apply these most recent factors in calculating annual emissions. The permit-listed emission factors on a pounds per ODT basis are listed in Tables 1-2 and 1-3 along with the emission factors determined during this test report.

Emission Source	Control Devices	Analyte	Emission Factor, Lbs./ODT	Permit Emission Factor, Lbs./ODT
Rotary Drum Dryer 1 (DRY1)	WE01, RTO1	VOC	0.208	0.19
		CO	0.175	0.36
		NO _x	0.211	0.33
Rotary Drum Dryer 2 (DRY2)	WE02, RTO2	VOC	0.243	0.17
		CO	0.108	0.47
		NO _x	0.266	0.37
Hammermill Lines (HML) (10 Hammermills)	Baghouses (HBH1 to HBH10) and RCO West (RCO1)	VOC	0.148	0.20
Pellet Mill Lines (PML) (5 lines) and Pellet Coolers (PCL) (5 lines)	Baghouses (PBH1 to PBH5) and RCO East (RCO2)	VOC	0.110	0.19

Emission Source	Control Devices	Analyte	Emission Factor, Lbs./ODT	Permit Emission Factor, Lbs./ODT
Rotary Drum Dryer 1 (DRY1)	WE01, RTO1	Methanol	0.077	0.008
		Formaldehyde	0.0086	0.015
		Acetaldehyde	0.000	0.005
Rotary Drum Dryer 2 (DRY2)	WE02, RTO2	Methanol	0.087	0.011
		Formaldehyde	0.0076	0.012
		Acetaldehyde	0.000	0.005
Hammermill Lines (HML) (10 Hammermills)	Baghouses (HBH1 to HBH10) and RCO West (RCO1)	Methanol	0.0025	0.0002
		Formaldehyde	0.0012	0.0004
		Acetaldehyde	0.00071	0.0002
Pellet Mill Lines (PML) (5 lines) and Pellet Coolers (PCL) (5 lines)	Baghouses (PBH1 to PBH5) and RCO East (RCO2)	Methanol	0.0031	0.0001
		Formaldehyde	0.0024	0.0002
		Acetaldehyde	0.0000	0.0001

In addition to the unit-specific emission factor limits, the facility must also operate with emission factor values below the total HAPs limits listed in Table 1-4.

Unit	Stack	Total Measured HAPs Emission Factors, Lbs./ODT	Total HAPs Emission Factor Limit, Lbs./ODT
Rotary Drum Dryer 1 (DRY1)	RTO1 Outlet	0.086	0.043
Rotary Drum Dryer 2 (DRY 2)	RTO2 Outlet	0.095	0.040
Hammermills	RCO1 Outlet	0.0045	0.0008
Pellet Cooler	RCO2 Outlet	0.0055	0.0004

1.2 Test Program Participants

Stephen Stroud, Director of Environmental Affairs and Joe Harrell, Senior Environmental Compliance Manager served as testing coordinators and Enviva contacts for this project. The Air Control Techniques, P.C. contact for this test program was Mr. David Goshaw, P.E., QSTI. Mr. Goshaw served as the test program project manager and Dr. Richards served as the quality assurance reviewer. Contact information for these individuals is as follows.

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2. SUMMARY AND DISCUSSION OF RESULTS

2.1 Test Matrix

A summary of the test methods for each test location is provided in Table 2-1 through Table 2-4. A test consisted of three 60-minute runs for oxygen, carbon dioxide, nitrogen oxides, carbon monoxide, methane, formaldehyde, methanol, acetaldehyde, and total hydrocarbons. Each moisture run duration was the same as the pollutant test run.

Table 2-1. Test Program Methods Summary – RTO1 Outlet		
Parameter	Test Method	Measurement Technique
Volumetric Flow Rate and Moisture Content	EPA Methods 1, 2, 4	Chromel-Alumel TC, Gravimetric, Inclined Manometer
Oxygen	EPA Method 3A	Paramagnetic
Carbon Dioxide	EPA Method 3A	Non-dispersive IR (NDIR)
Nitrogen Oxides	EPA Method 7E	Chemiluminescence
Carbon Monoxide	EPA Method 10	Gas Filter Correlation NDIR
Total Hydrocarbons	EPA Method 25A	Flame Ionization Detection (FID)
Methane, Formaldehyde, Methanol, and Acetaldehyde	EPA Method 320	Fourier Transform Infrared Spectroscopy (FTIR)
VOCs	OTM 026	FID and FTIR

Table 2-2. Test Program Methods Summary – RTO2 Outlet		
Parameter	Test Method	Measurement Technique
Volumetric Flow Rate and Moisture Content	EPA Methods 1, 2, 4	Chromel-Alumel TC, Gravimetric, Inclined Manometer
Oxygen	EPA Method 3A	Paramagnetic
Carbon Dioxide	EPA Method 3A	Non-dispersive IR (NDIR)
Nitrogen Oxides	EPA Method 7E	Chemiluminescence
Carbon Monoxide	EPA Method 10	Gas Filter Correlation NDIR
Total Hydrocarbons	EPA Method 25A	Flame Ionization Detection (FID)
Methane, Formaldehyde, Methanol, and Acetaldehyde	EPA Method 320	Fourier Transform Infrared Spectroscopy (FTIR)
VOCs	OTM 026	FID and FTIR

Parameter	Test Method	Measurement Technique
Volumetric Flow Rate and Moisture Content	EPA Methods 1, 2, 4	Chromel-Alumel TC, Gravimetric, Inclined Manometer
Oxygen	EPA Method 3A	Paramagnetic
Carbon Dioxide	EPA Method 3A	Non-dispersive IR (NDIR)
Total Hydrocarbons	EPA Method 25A	Flame Ionization Detection (FID)
Methane, Formaldehyde, Methanol, and Acetaldehyde	EPA Method 320	Fourier Transform Infrared Spectroscopy (FTIR)
VOCs	OTM 026	FID and FTIR

Parameter	Test Method	Measurement Technique
Volumetric Flow Rate and Moisture Content	EPA Methods 1, 2, 4	Chromel-Alumel TC, Gravimetric, Inclined Manometer
Oxygen	EPA Method 3A	Paramagnetic
Carbon Dioxide	EPA Method 3A	Non-dispersive IR (NDIR)
Total Hydrocarbons	EPA Method 25A	Flame Ionization Detection (FID)
Methane, Formaldehyde, Methanol, and Acetaldehyde	EPA Method 320	Fourier Transform Infrared Spectroscopy (FTIR)
VOCs	OTM 026	FID and FTIR

2.2 Test Results

The emission testing results for the four sources tested are summarized in tables provided in this section. For all four units, the emissions measured directly using EPA Methods 7E, 10, 25A, and 320 are presented in a summary table. The analyte emission data included in these summary tables include nitrogen oxides, carbon monoxide, total hydrocarbons as propane, methanol, methane, acetaldehyde, and formaldehyde. The VOC emissions are presented in the second table in each of the four sets of data. The VOC emissions have been calculated using EPA Method 0TM 26 and the analyte specific data in the summary table for each unit tested.

The EPA Method OTM 26 calculations for the VOC emission tables (Table 2-7, Table 2-9, Table 2-11 and Table 2-13) and field spreadsheets provided in Appendix B involve the following steps.

1. The THC emissions measured using EPA Method 25A have been taken from the summary table for the emission unit.
2. The methanol emissions measured using EPA Method 320 have been taken from the summary table for the emission unit.
3. The methanol mass emissions have been converted to a propane basis by multiplying Line B by 0.458 (carbon and molecular weight conversion factor) and by 0.65 (EPA OTM 26 default response factor).
4. The THC emissions have been corrected for the methanol concentration by subtracting line C from line A.
5. The methane mass emissions measured by Method 320 expressed as methane have been taken from the summary table for the emission unit.
6. The methane emissions have been converted to a propane basis by multiplying by 0.917 (carbon and molecular weight conversion factor) and 1.0 (EPA OTM 26 default response factor).
7. The acetaldehyde mass emissions measured by Method 320 have been taken from the summary table.
8. The acetaldehyde mass emissions have been converted to a propane basis by multiplying Line X by 0.667 (carbon and molecular weight conversion factor) and 0.514 (the Method 25A analyzer response factor for acetaldehyde measured onsite).
9. The THC mass emissions not including methanol, methane, and acetaldehyde have been calculated subtracting Lines F and Z from Line D.
10. The THC mass emissions not including methanol, methane, and acetaldehyde have been converted to an alpha pinene basis by multiplying Line G by 0.927 (carbon and molecular weight conversion factor) and dividing by 0.947 (the Method 25A analyzer response factor for alpha pinene measured onsite).
11. Formaldehyde mass emissions have been taken from the summary table for the unit tested.
12. VOC emissions have been calculated as the sum of the THC mass emissions as alpha pinene calculated in step 10 plus the mass emissions of methanol, formaldehyde, and acetaldehyde.

The emission factor values provided in Tables 2-6 through 2-13 can be compared with the emission factor limits expressed in Table 2-5 and Section 6.2.2. of Georgia DEP Permit 2499-299-0053-V-03-0. Emission factors over these limits are highlighted in Tables 2-6 through 2-13.

Table 2-5. Emission Factor Limits						
Emission Point	VOC Emission Factor (Lbs./ODT)	Methanol Emission Factor, (Lbs./ODT)	Formaldehyde Emission Factor (Lbs./ODT)	Acetaldehyde Emission Factor, (Lbs./ODT)	Other HAPs Emission Factor (Lbs./ODT)	Total HAP Emission Factor
HES1 Dry1 (RTO1)	0.19	0.008	0.015	0.005	0.015	0.043
HES1 Dry2 (RTO2)	0.17	0.011	0.012	0.005	0.012	0.040
Hammermills (RCO1)	0.20	0.0002	0.0004	0.0002	NA	0.0008
Pellet Coolers (RCO2)	0.19	0.0001	0.0002	0.0001	NA	0.0004

Table 2-6. Dryer Line 1 RTO1 Emissions					
Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/7/2021	5/7/2021	5/7/2021	
Run Time		1001-1101	1120-1220	1240-1340	
Oxygen	%	14.96	15.09	15.15	15.07
Carbon Dioxide	%	5.76	5.50	5.37	5.55
Moisture	%	28.65	29.40	27.61	28.56
Volumetric Flow Rate	DSCFM	96,692	95,049	95,367	95,703
Dryer 1 Feed Rate	ODT/hr	56.56	59.02	57.02	57.53
THC Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{vw} as C ₃	9.96	9.09	9.27	9.44
Concentration (dry)	ppm _{vd} as C ₃	14.0	12.9	12.8	13.2
Emission Rate (propane)	lb/hr as C ₃ H ₈	9.27	8.41	8.4	8.69
Emission Factor (propane)	lb/ODT as C ₃ H ₈	0.164	0.142	0.147	0.151
Methane Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{vw} as CH ₄	0.50	0.69	0.72	0.6
Concentration (dry)	ppm _{vd} as CH ₄	0.70	0.98	1.00	0.89
Emission Rate	lb/hr as CH ₄	0.17	0.23	0.24	0.21
Emission Factor	lb/ODT	0.003	0.004	0.004	0.004
Non-Methane Hydrocarbon Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{vd} as C ₃	13.7	12.6	12.5	12.9
Emission Rate (propane)	lb/hr as C ₃ H ₈	9.12	8.20	8.17	8.50
Emission Factor (propane)	lb/ODT	0.161	0.139	0.143	0.148
NOx Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{vd}	17.9	17.5	17.6	17.7
Emission Rate	lb/hr	12.40	11.90	12.05	12.12
Emission Factor	lb/ton material	0.219	0.202	0.211	0.211
CO Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{vd}	23.9	23.7	24.5	24.0
Emission Rate	lb/hr	10.07	9.83	10.21	10.03
Emission Factor	lb/ton material	0.178	0.167	0.179	0.175
Formaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _v	0.89	0.77	0.71	0.79
Concentration (dry)	ppm _{vd}	1.24	1.09	0.98	1.11
Emission Rate	lb/hr	0.56	0.49	0.44	0.50
Emission Factor	lb/ODT	0.010	0.008	0.008	0.0086
Methanol Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _v	6.64	6.67	6.68	6.66
Concentration (dry)	ppm _{vd}	9.31	9.45	9.22	9.33
Emission Rate	lb/hr	4.493	4.482	4.389	4.45
Emission Factor	lb/ODT	0.079	0.076	0.077	0.077
Acetaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _v	0.00	0.00	0.00	0.00
Concentration (dry)	ppm _{vd}	0.00	0.00	0.00	0.00
Emission Rate	lb/hr	0.00	0.00	0.00	0.00
Emission Factor	lb/ODT	0.000	0.000	0.000	0.000

Table 2-7. Dryer Line 1 RTO1 VOC Emissions						
Parameter		Units	Run 1	Run 2	Run 3	Average
Date			5/7/2021	5/7/2021	5/7/2021	
Run Time			1001-1101	1120-1220	1240-1340	
Volumetric Flow Rate		DSCFM	96,692	95,049	95,367	95,703
Process Rate		tons material/hr	56.6	59.0	57.0	57.5
Line	Emission Parameter	Units	Run 1	Run 2	Run 3	Average
A	THC	lbs/hr as propane	9.27	8.41	8.39	8.69
B	Methanol	lbs/hr as methanol	4.49	4.48	4.39	4.45
C	Methanol (measured as part of THC)	lbs/hr as propane	1.34	1.33	1.31	1.33
D	THC (not including methanol fraction)	lbs/hr as propane	7.94	7.08	7.08	7.36
E	Methane	lbs/hr as methane	0.17	0.23	0.24	0.21
F	Methane	lbs/hr as propane	0.16	0.21	0.22	0.20
X	Acetaldehyde	lbs/hr as acetaldehyde	0.00	0.00	0.00	0.00
Z	Acetaldehyde	lbs/hr as propane	0.00	0.00	0.00	0.00
G	THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as propane	7.78	6.86	6.86	7.17
H	THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as a-pinene	7.61	6.71	6.72	7.01
I	Formaldehyde	lbs/hr as formaldehyde	0.56	0.49	0.44	0.50
J	VOC Mass Emission Rate	lbs/hr	12.67	11.68	11.54	11.96
VOC Mass Emission Factor		lbs/ODT	0.224	0.198	0.202	0.208

Table 2-8. Dryer Line 2 RTO2 Emissions					
Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/6/2021	5/6/2021	5/6/2021	
Run Time		1540-1640	1706-1806	1824-1924	
Oxygen	%	14.93	14.92	14.94	14.93
Carbon Dioxide	%	5.57	5.60	5.58	5.58
Moisture	%	31.30	33.29	32.72	32.44
Volumetric Flow Rate	DSCFM	89,346	88,082	87,994	88,474
Dryer 2 Feed Rate	ODT/hr	48.62	50.23	48.90	49.25
THC Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{vw} as C ₃	9.80	9.73	9.64	9.72
Concentration (dry)	ppm _{vd} as C ₃	14.3	14.6	14.3	14.4
Emission Rate (propane)	lb/hr as C ₃ H ₈	8.76	8.82	8.7	8.75
Emission Factor (propane)	lb/ODT as C ₃ H ₈	0.180	0.176	0.177	0.178
Methane Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{vw} as CH ₄	0.00	0.00	0.00	0.00
Concentration (dry)	ppm _{vd} as CH ₄	0.00	0.00	0.00	0.00
Emission Rate	lb/hr as CH ₄	0.00	0.00	0.00	0.00
Emission Factor	lb/ODT	0.00	0.00	0.00	0.00
Non-Methane Hydrocarbon Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppmv _d as C ₃	14.3	14.6	14.3	14.4
Emission Rate (propane)	lb/hr as C ₃ H ₈	8.76	8.82	8.66	8.75
Emission Factor (propane)	lb/ODT	0.180	0.176	0.177	0.178
NOx Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{vd}	20.2	20.9	20.9	20.7
Emission Rate	lb/hr	12.92	13.18	13.19	13.10
Emission Factor	lb/ton material	0.266	0.262	0.270	0.266
CO Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{vd}	13.1	14.1	14.1	13.7
Emission Rate	lb/hr	5.10	5.41	5.40	5.30
Emission Factor	lb/ton material	0.105	0.108	0.110	0.108
Formaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.57	0.61	0.65	0.61
Concentration (dry)	ppmv _d	0.8	0.9	1.0	0.90
Emission Rate	lb/hr	0.35	0.37	0.40	0.37
Emission Factor	lb/ODT	0.007	0.007	0.008	0.0076
Methanol Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	6.39	6.77	6.57	6.58
Concentration (dry)	ppmv _d	9.31	10.15	9.77	9.74
Emission Rate	lb/hr	4.148	4.460	4.290	4.30
Emission Factor	lb/ODT	0.085	0.089	0.088	0.087
Acetaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.00	0.00	0.00	0.00
Concentration (dry)	ppmv _d	0.00	0.00	0.00	0.00
Emission Rate	lb/hr	0.00	0.00	0.00	0.00
Emission Factor	lb/ODT	0.000	0.000	0.000	0.000

Table 2-9. Dryer Line 2 RTO2 VOC Emissions						
Parameter		Units	Run 1	Run 2	Run 3	Average
Date			5/6/2021	5/6/2021	5/6/2021	
Run Time			1540-1646	1706-1806	1824-1924	
Volumetric Flow Rate		DSCFM	89,346	88,082	87,994	88,474
Process Rate		tons material/hr	58.1	58.1	55.8	57.3
Line	Emission Parameter	Units	Run 1	Run 2	Run 3	Average
A	THC	lbs/hr as propane	8.76	8.82	8.66	8.75
B	Methanol	lbs/hr as methanol	4.15	4.46	4.29	4.30
C	Methanol (measured as part of THC)	lbs/hr as propane	1.23	1.33	1.28	1.28
D	THC (not including methanol fraction)	lbs/hr as propane	7.52	7.50	7.38	7.47
E	Methane	lbs/hr as methane	0.00	0.00	0.00	0.00
F	Methane	lbs/hr as propane	0.00	0.00	0.00	0.00
X	Acetaldehyde	lbs/hr as acetaldehyde	0.00	0.00	0.00	0.00
Z	Acetaldehyde	lbs/hr as propane	0.00	0.00	0.00	0.00
G	THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as propane	7.52	7.50	7.38	7.47
H	THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as a-pinene	7.36	7.33	7.22	7.31
I	Formaldehyde	lbs/hr as formaldehyde	0.35	0.37	0.40	0.37
J	VOC Mass Emission Rate	lbs/hr	11.86	12.17	11.91	11.98
VOC Mass Emission Factor		lbs/ODT	0.244	0.242	0.244	0.243

Table 2-10. Hammermills RCO1 Emissions

Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/4/2021	5/4/2021	5/4/2021	
Run Time		1001-1101	1118-1218	1230-1330	
Oxygen	%	20.50	20.66	20.69	20.62
Carbon Dioxide	%	0.39	0.22	0.22	0.28
Moisture	%	8.36	8.83	7.49	8.22
Volumetric Flow Rate	DSCFM	78,014	78,162	79,336	78,504
Feed Rate	ODT/hr	139.3	138.6	132.9	136.9
THC Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{vw} as C ₃	45.4	44.8	42.9	44.4
Concentration (dry)	ppm _{vd} as C ₃	49.5	49.2	46.4	48.4
Emission Rate (propane)	lb/hr as C ₃ H ₈	26.55	26.41	25.3	26.08
Emission Factor (propane)	lb/ODT as C ₃ H ₈	0.191	0.191	0.190	0.190
Methane Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{vw} as CH ₄	30.6	29.3	28.5	29.5
Concentration (dry)	ppm _{vd} as CH ₄	33.4	32.1	30.8	32.1
Emission Rate	lb/hr as CH ₄	6.51	6.27	6.11	6.30
Emission Factor	lb/ODT	0.047	0.045	0.046	0.046
Non-Methane Hydrocarbon Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppmv _d as C ₃	38.4	38.5	36.2	37.7
Emission Rate (propane)	lb/hr as C ₃ H ₈	20.6	20.7	19.7	20.3
Emission Factor (propane)	lb/ODT	0.148	0.149	0.148	0.148
Formaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.42	0.42	0.43	0.42
Concentration (dry)	ppmv _d	0.46	0.46	0.47	0.46
Emission Rate	lb/hr	0.17	0.17	0.17	0.17
Emission Factor	lb/ODT	0.0012	0.0012	0.0013	0.0012
Methanol Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.82	0.78	0.81	0.80
Concentration (dry)	ppmv _d	0.89	0.86	0.88	0.87
Emission Rate	lb/hr	0.347	0.334	0.347	0.34
Emission Factor	lb/ODT	0.002	0.002	0.003	0.0025
Acetaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.18	0.19	0.13	0.17
Concentration (dry)	ppmv _d	0.20	0.20	0.14	0.18
Emission Rate	lb/hr	0.11	0.11	0.08	0.10
Emission Factor	lb/ODT	0.00077	0.00079	0.00058	0.00071

Table 2-11. Hammermills RCO1 VOC Emissions						
Parameter		Units	Run 1	Run 2	Run 3	Average
Date			5/4/2021	5/4/2021	5/4/2021	
Run Time			1001-1101	1118-1218	1230-1330	
Volumetric Flow Rate		DSCFM	78,014	78,162	79,336	78,504
Process Rate		tons material/hr	139.3	138.6	132.9	136.9
Line	Emission Parameter	Units	Run 1	Run 2	Run 3	Average
A	THC	lbs/hr as propane	26.55	26.41	25.30	26.08
B	Methanol	lbs/hr as methanol	0.35	0.33	0.35	0.34
C	Methanol (measured as part of THC)	lbs/hr as propane	0.10	0.10	0.10	0.10
D	THC (not including methanol fraction)	lbs/hr as propane	26.44	26.31	25.20	25.98
E	Methane	lbs/hr as methane	6.51	6.27	6.11	6.30
F	Methane	lbs/hr as propane	5.97	5.75	5.60	5.78
X	Acetaldehyde	lbs/hr as acetaldehyde	0.11	0.11	0.08	0.10
Z	Acetaldehyde	lbs/hr as propane	0.04	0.04	0.03	0.03
G	THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as propane	20.43	20.52	19.57	20.17
H	THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as a-pinene	19.99	20.07	19.15	19.74
I	Formaldehyde	lbs/hr as formaldehyde	0.17	0.17	0.17	0.17
J	VOC Mass Emission Rate	lbs/hr	20.55	20.61	19.69	20.28
VOC Mass Emission Factor		lbs/ODT	0.148	0.149	0.148	0.148

Table 2-12. Pellet Mills RCO2 Emissions					
Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/5/2021	5/5/2021	5/5/2021	
Run Time		930-1030	1205-1305	1316-1416	
Oxygen	%	20.55	20.70	20.69	20.65
Carbon Dioxide	%	0.31	0.29	0.25	0.28
Moisture	%	8.18	8.26	7.80	8.08
Volumetric Flow Rate	DSCFM	94,867	94,505	92,529	93,967
Feed Rate	ODT/hr	127.7	118.5	130.2	125.5
THC Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w} as C ₃	24.0	20.8	21.1	22.0
Concentration (dry)	ppm _{v,d} as C ₃	26.1	22.6	22.9	23.9
Emission Rate (propane)	lb/hr as C ₃ H ₈	17.01	14.69	14.6	15.42
Emission Factor (propane)	lb/ODT as C ₃ H ₈	0.133	0.124	0.112	0.123
Methane Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w} as CH ₄	7.31	8.29	8.22	7.94
Concentration (dry)	ppm _{v,d} as CH ₄	7.96	9.03	8.92	8.64
Emission Rate	lb/hr as CH ₄	1.89	2.13	2.06	2.03
Emission Factor	lb/ODT	0.015	0.018	0.016	0.016
Non-Methane Hydrocarbon Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{v,d} as C ₃	23.5	19.6	20.0	21.0
Emission Rate (propane)	lb/hr as C ₃ H ₈	15.3	12.7	12.7	13.6
Emission Factor (propane)	lb/ODT	0.120	0.107	0.097	0.108
Formaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w}	0.69	0.63	0.59	0.64
Concentration (dry)	ppm _{v,d}	0.75	0.68	0.64	0.69
Emission Rate	lb/hr	0.33	0.30	0.28	0.30
Emission Factor	lb/ODT	0.0026	0.0025	0.0021	0.0024
Methanol Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w}	0.77	0.74	0.78	0.76
Concentration (dry)	ppm _{v,d}	0.83	0.81	0.84	0.83
Emission Rate	lb/hr	0.395	0.381	0.390	0.39
Emission Factor	lb/ODT	0.003	0.003	0.003	0.0031
Acetaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w}	0.00	0.00	0.00	0.00
Concentration (dry)	ppm _{v,d}	0.00	0.00	0.00	0.00
Emission Rate	lb/hr	0.00	0.00	0.00	0.00
Emission Factor	lb/ODT	0.0000	0.0000	0.0000	0.0000

Table 2-13. Pellet Mills RCO2 VOC Emissions

Parameter		Units	Run 1	Run 2	Run 3	Average
Date			5/5/2021	5/5/2021	5/5/2021	
Run Time			930-1030	1205-1305	1316-1416	
Volumetric Flow Rate		DSCFM	94,867	94,505	92,529	93,967
Process Rate		ODT/hr	127.7	118.5	130.2	125.5
Line	Emission Parameter	Units	Run 1	Run 2	Run 3	Average
A	THC	lbs/hr as propane	17.01	14.69	14.57	15.42
B	Methanol	lbs/hr as methanol	0.40	0.38	0.39	0.39
C	Methanol (measured as part of THC)	lbs/hr as propane	0.12	0.11	0.12	0.12
D	THC (not including methanol fraction)	lbs/hr as propane	16.89	14.57	14.46	15.31
E	Methane	lbs/hr as methane	1.89	2.13	2.06	2.03
F	Methane	lbs/hr as propane	1.73	1.96	1.89	1.86
X	Acetaldehyde	lbs/hr as acetaldehyde	0.00	0.00	0.00	0.00
Z	Acetaldehyde	lbs/hr as propane	0.00	0.00	0.00	0.00
G	THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as propane	15.16	12.62	12.57	13.45
H	THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as a-pinene	14.84	12.35	12.29	13.16
I	Formaldehyde	lbs/hr as formaldehyde	0.33	0.30	0.28	0.30
J	VOC Mass Emission Rate	lbs/hr	15.57	13.03	12.96	13.85
VOC Mass Emission Factor		lbs/ODT	0.122	0.110	0.100	0.110

3. SOURCE AND SAMPLING LOCATION DESCRIPTIONS

3.1 Process Description

Enviva operates a wood pellet facility located in Waycross, Georgia. The Waycross facility (Facility AIRS No. 299-00053) processes logs and wood residuals into fuel pellets to produce a source of alternative renewable fuel primarily for utility power boilers in Europe.

The facility includes a wood fiber receiving and storage area, two direct-fired dryers, two hammermill lines with five two-stage hammermills in each line, five pellet mill lines, five pellet coolers, and a wood pellet loadout area. The Waycross facility processes logs and wood residuals into fuel pellets. Tree length pulpwood logs are received via trucks. The logs are stored to promote air drying. A log loader transfers the logs into a debarker drum. The bark is separated and used as fuel in the heat energy systems providing heat for drying the wood chips in the dryers. The debarked logs are chipped into small chips. Oversized chips are removed using a jet screen located downstream from the chipper and are resized in one of two chip resizers. A cyclone connected to the jet screen controls PM emissions from the chip screening process. Green wood residuals from in-woods chipping and saw mill operations are delivered in trucks and introduced into the chip conveyor belt downstream of the chipper via a truck dump or a hopper/conveyor belt system. The combined stream of chips and green residuals is fed into two direct-fired rotary dryers where in the moisture level in the chips is reduced from around 50% to 12%. Heat for the chip dryers is obtained from the two 193 MMBtu/hour bark fueled heat energy systems. Dry wood residuals in the form of planer shavings are received via truck and are introduced into the process via a truck dumper or hopper / conveyor system. The dry wood residuals are combined with dry chips exiting the dryers. The combined stream passes through 10 two-stage hammermills in two hammermill lines, which further grind the wood chips into wood flakes before they are compressed into pellets on a rotating press roll (pelletizer/pellet mill). The pellets are cooled in five counter-flow pellet coolers before they are loaded into rail cars where they are transported to Savannah for storage prior to shipment via vessels to be used primarily in utility power boilers in Europe.

3.2 Process Operation

Testing was performed while the facility was operating at representative performance conditions. The process and air pollution control device parameters that were recorded during the testing are provided Table 3-1 through Table 3-4

Table 3-1. Process Parameters Recorded During Testing - Dryer Line 1 RTO1	
Emission-Related Parameter	Units
Total Process Rate, Dryer	ODT/HR
Wood Moisture, Dryer Out	percent
RTO minimum Combustion Temperature	°F
WESP Total Power	kW

Table 3-1. Process Parameters Recorded During Testing - Dryer Line 1 RTO1	
Emission-Related Parameter	Units
Total Process Rate, Dryer	ODT/HR
Wood Moisture, Dryer Out	percent
RTO Minimum Combustion Temperature	°F
WESP Total Power	kW

Table 3-3. Process Parameters Recorded During Testing - Hammermills RCO1	
Emission-Related Parameter	Units
Process Rate, Hammermill Throughput	ODT/HR
RCO Minimum Combustion Temperature (each chamber)	°F

Table 3-4. Process Parameters Recorded During Testing - Pellet Mills RCO2	
Emission-Related Parameter	Units
Process Rate, Pellet mill Throughput	ODT/HR
RCO Minimum Combustion Temperature (each chamber)	°F

3.3 Sampling Locations

The sampling locations were at the exhaust stack of the RTO1, RTO2, RCO1 (West) and RCO1 (East). The selection of traverse points for flow measurements was conducted using the procedures in EPA Reference Method 1 (40 CFR 60, Appendix A) based on the stack diameter, upstream distance, and downstream distance. A cyclonic flow check was performed at each test locations. A stratification test was performed to determine the number of sampling points used for CO and NOx sampling.

4. TEST PROCEDURES

Emission testing was conducted to quantify the emissions in units of concentration and mass emission rate (lbs./hour). The mass emission rates were also used with the production rates to determine the mass emission factors (lb/ODT). The target HAPs were measured by EPA Method 320. VOC emissions were calculated in accordance with OTM 26 using EPA Method 25A and 320 as described in Section 4.4.

4.1 EPA Methods 1 and 2 – Volumetric Flow Rate

The number and location of the sampling and traverse points used in the velocity traverses were determined according to the procedures outlined in U.S. EPA Reference Method 1. Velocity measurements were made using S-type Pitot tubes conforming to the geometric specifications outlined in Method 2 and assigned a coefficient of 0.84. Velocity pressures were measured with fluid manometers. Effluent gas temperatures were measured with chromel-alumel thermocouples equipped with digital readouts.

4.2 EPA Methods 3A, 7E, 10, and 25A – O₂/CO₂, NO_x, CO, and Total Hydrocarbons

The CEM sampling and analytical procedures for O₂/CO₂, NO_x, CO, and total hydrocarbons were conducted in accordance with EPA Methods 3A, 7E, 10, and 25A, respectively.

The measurement system consisted of a sample acquisition system, the individual gas analyzers, and a data acquisition system (DAS). The sample acquisition system included an in-stack probe, a heated filter for filterable particulate matter removal, a moisture removal system, a Teflon® sample line, a Teflon® head pump, and a gas manifold board. All components of the sample acquisition system that contacted the sampled gas were constructed of Type 316 stainless steel, glass, or Teflon®. All sampling system components upstream of the total hydrocarbon analyzer were heated to 250°F±25. The probe, heated filter, and heated sample line temperatures were monitored throughout the testing.

The sample gas was continuously extracted at a constant rate (±10%) for the duration of each test run. The filterable particulate matter and moisture were removed from the gas stream. After conditioning, the sample was transported to the CEM laboratory and routed through the distribution manifold board for delivery to each emission analyzer. The configuration of the sampling acquisition system allowed for the injection of gas standards directly to the analyzers and through the entire sampling system.

Calibration gases entered the sampling system between the probe and the out-of-stack heated filter. All pretest and posttest calibration procedures were performed as outlined in the applicable EPA methods. All of the gas standards were prepared according to the test methods using EPA Protocol procedures.

Data from the gas analyzers were recorded as 15-second averages using a computerized data acquisition system.

The CEM analyzers and spans for the test program are shown in Tables 4-1 through Table 4.4.

Table 4-1. Test Program Methods Summary – Dryer Line 1 RTO1 Outlet		
Parameter	Analyzer	Span
Oxygen	California Analytical Model 200	22.15%
Carbon Dioxide	California Analytical Model 200	18.7%
Nitrogen Oxides	API Model T200H	90.7 ppm
Carbon Monoxide	API 300E	90.4 ppm
Total Hydrocarbons	California Analytical Model 700MFID	30 ppm as propane

Table 4-2. Test Program Methods Summary – Dryer Line 2 RTO2 Outlet		
Parameter	Analyzer	Span
Oxygen	California Analytical Model 200	22.15%
Carbon Dioxide	California Analytical Model 200	18.7%
Nitrogen Oxides	API Model T200H	90.7 ppm
Carbon Monoxide	API 300E	90.4 ppm
Total Hydrocarbons	California Analytical Model 700MFID	30 ppm as propane

Table 4-3. Test Program Methods Summary – Hammermills RCO1 (West) Outlet		
Parameter	Analyzer	Expected Span
Oxygen	California Analytical Model 200	22.15%
Carbon Dioxide	California Analytical Model 200	18.7%
Total Hydrocarbons	California Analytical Model 700MFID	100 ppm as propane

Table 4-4. Test Program Methods Summary – Pellet Coolers RCO2 (East) Outlet		
Parameter	Analyzer	Expected Span
Oxygen	California Analytical Model 200	22.15%
Carbon Dioxide	California Analytical Model 200	18.7%
Total Hydrocarbons	California Analytical Model 700MFID	100 ppm as propane

4.3 EPA Method 320 – Determination of Methane, Formaldehyde, Methanol, and Acetaldehyde Concentrations

Testing for wet-basis methane, formaldehyde, methanol, and acetaldehyde concentrations was conducted by extractive Fourier transform infrared (FTIR) spectroscopy using EPA Method 320 (40 CFR, Part 63, Appendix A).

Sampled gas continuously passed through the sampling system, which included an in-stack probe, a heated out-of-stack quartz mat filter for particulate matter removal, a Teflon® heat-traced sample line, an FTIR spectrometer and sampling cell, a Teflon® head pump, and a gas manifold board as shown in Figure 4-1. All components of the sample acquisition system that contact the sampled gas were Type 316 stainless steel, glass, or Teflon®. All components of the sampling system and the FTIR cell were maintained at or above 248°F. The sampling rate was maintained at greater than 10 liters per minute.

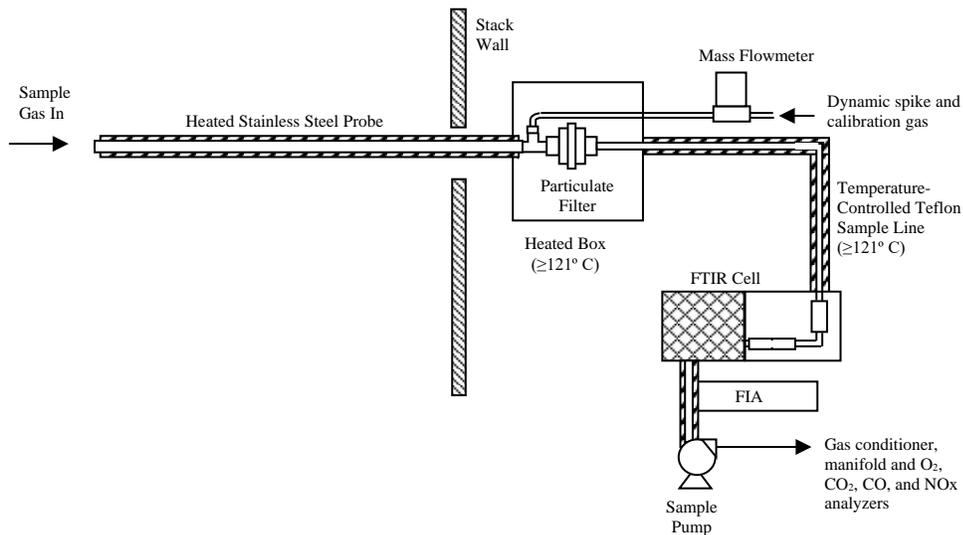


Figure 4-1. Method 320 Sampling System

The sampling system included an MKS Instruments, Inc. (MKS) MultiGas 2030 analyzer. The MKS analyzer is composed of a 2102 Process FTIR spectrometer with patented low volume (200 mL) multi-pass gas cell with a 5.11-meter effective pathlength, a silicon carbide laser, a helium neon reference laser, and a liquid nitrogen-cooled Mercury Cadmium Telluride (MCT) detector. Measurements were made using the MSK MG2000 quantitative analysis software.

Sample gas continuously passed through the sampling cell, and sample spectra (based on 50 co-added interferograms) were recorded every minute. The nominal spectral resolution was 0.5 cm^{-1} . Samples and standards were analyzed at 191°C for the MKS analyzer and near ambient pressures.

The FTIR system was operated via a portable computer. Data archive storage system (USB Mass Storage Drive) was used for data backup. All interferograms, single beams, absorbance spectra, and background single beams were stored and archived. Cell pressure, cell temperature, file names, scan rate, and corresponding backgrounds were manually recorded during sampling.

Air Control Techniques used the MSK MG2000 quantitative analysis software to collect and analyze all the infrared field data. The programs allowed the development and storage of analytical “methods” for analysis of spectral data (absorbance) files. The reference spectra used for these analyses were developed by Air Control Techniques, P.C., MKS, MIDAC Corporation, and EPA.

Air Control Techniques, P.C. performed quality assurance checks as specified in EPA Method 320. These QA checks included background scans, calibration transfer standard (CTS) spectra tests, direct calibration checks, and system spikes.

Sample spectra were divided point-by-point by a 128-scan background recorded using nitrogen. The single beam spectrum was constantly monitored, and a new background was generated prior to and following each test or when residual and absorbance spectra indicated component build-up on the optical surfaces or alignment-related baseline shifts.

A cylinder of approximately 100 ppm ethylene in nitrogen serves as the CTS. A CTS gas was introduced to the FTIR and allowed to reach steady state. The CTS was used to determine the effective cell path length based on comparisons of the “field” CTS spectra to a CTS reference spectrum.

A validation study, based on EPA Method 301 (40 CFR part 63, appendix (A)), has been performed for the target analytes of this test program at sources with similar exhaust gas characteristics (gas matrices) at another Enviva pellet mill and support the use of this method in this application in accordance with EPA Method 320. Analyte spiking was performed during this test program to demonstrate the suitability of the sampling system using a certified methanol calibration standard. Analyte concentrations in the spiked samples were compared to analyte concentrations in unspiked samples to determine if the sampling system was removing the spiked analyte(s) from the sample stream.

The gas standard was introduced into the sampling system upstream of the particulate matter filter at an average dilution ratio of less than 10% of the total sample volume. The dilution factor was calculated based on the ratio of the SF₆ tracer gas analyzed directly by the FTIR and the in-stack measured concentration.

$$\frac{SF_6 \text{ during spike}}{SF_6 \text{ direct}} = DF$$

The recovery was calculated using the mean concentration of the spiked analyte (S_m), the native concentration of the analyte in the stack (S_u), the dilution factor (DF), and the cylinder concentration (C_s).

$$\text{Recovery(\%)} = \frac{S_m - S_u(1 - DF)}{(DF)(C_s)}$$

4.4 Volatile Organic Compounds – EPA Other Test Method 26

VOC emissions were calculated according to procedures set forth in OTM 26 (Interim VOC Measurement Protocol for the Wood Products Industry – July 2007) and Air Permit No. 2499-299-0053-V-03-0.

The methane, methanol, and acetaldehyde fractions measured by the FIA were subtracted from the EPA Method 25A measurements, and the resulting VOC was converted to an alpha pinene (terpene) basis. Total VOC emissions were determined as the sum of the EPA Method 25A VOC mass emissions as alpha pinene, formaldehyde, methanol, and acetaldehyde. The calculations are provided below.

$$\begin{aligned} \text{Total VOC mass emissions (lb/hr)} = & \\ & \text{VOC as alpha pinene (lb/hr)} \\ & + [\text{lb/hr Methanol (as methanol) measured by Method 320}] \\ & + [\text{lb/hr Formaldehyde (as formaldehyde) measured by Method 320}] \\ & + [\text{lb/hr Acetaldehyde (as acetaldehyde) measured by Method 320}] \end{aligned}$$

Where

$$\text{VOC as alpha pinene (lb/hr)} = [\text{VOC as propane (lb/hr)}] \times [0.927 / \text{RF}_{\text{alpha pinene}}]$$

Where

$$\text{VOC as propane (lb/hr)} =$$

$$[\text{lbs/hr THC (as propane) measured by Method 25A}]$$

$$- [1.0 \times 0.917 \times \text{lb/hr Methane (as methane) measured by Method 320}]$$

$$- [0.65 \times 0.458 \times \text{lb/hr Methanol (as methanol) measured by Method 320}]$$

$$- [\text{RF}_{\text{acetaldehyde}} \times 0.667 \times \text{lb/hr Acetaldehyde (as acetaldehyde) measured by Method 320}]$$

As shown in the above equation, a default response factor of 1.0 and 0.65 were applied to methane and methanol as allowed in OTM 26, or the response factor was determined for the flame ionization analyzer (FAI) used for the testing. The response factors for alpha pinene and acetaldehyde were determined for the FIA used for Method 25A testing during the test program. 0.917, 0.458, and 0.667 are the carbon and molecular weight adjustment factors for methane, methanol, and acetaldehyde, respectively.

As stipulated in Section 6.0 of the “Interim VOC Measurement Protocol for the Wood Products Industry”, emissions of individual compounds may be treated as zero if all of the test runs result in a non-detect measurement, and the detection limit is less than or equal to one part per million by volume. Otherwise, non-detect sample runs were treated as one-half of the detection limit.

5. QUALITY ASSURANCE AND QUALITY CONTROL

5.1 QA/QC Summary

Testing was conducted using QA/QC procedures established by the EPA and Air Control Techniques, P.C. Complete records concerning the QA/QC procedures were prepared during the tests. Problems encountered before a test run were identified and corrected prior to sampling. Problems at the conclusion of a test run were identified and brought to the attention of the appropriate Enviva Waycross and Georgia EPD personnel, and a determination of the acceptability of the run was made.

A summary of the QA/QC targets and results for the test program are provided in Table 5-1.

Method	QA/QC Parameter	Requirement/Target
Method 1	Distances from Flow Disturbances	> 2 diameters downstream, > 0.5 diameters upstream
	Absence of Significant Cyclonic Flow	Mean angle < 20 degrees
Method 2	Manometer Leak Check	No leaks at > 3" H ₂ O
	Passing Pitot Tube Inspection	Dimensions specified in EPA Method 2
	Thermocouples	3-Point Calibrations
Method 4	Sampling System Leak Check	<4% of sampling rate (or < 0.02 cfm)
	Sample Volume	21 DSCF
	DGM Factor (Y _d), Initial	0.95 – 1.05
	DGM Factor (Y _d), Final	Initial Y _d ± 5%
Method 3A, 7E, 10	Calibration Error	≤ 2% of Span Gas
	Sampling System Bias	≤ 5% of Span Gas
	Calibration Drift	≤ 3% of Span Gas
	Stratification	≤ 5% (single point); ≤ 10% (3 point);
Method 7E	NO ₂ to NO Conversion Efficiency	> 90 %
Method 25A	Calibration Error/ System Bias	≤ 5% of Span Gas
	Calibration Drift	≤ 3% of Span Gas
Method 320	Pathlength Deviation (CTS)	± 5% of average
	Sampling System Temperature	≥ 250°F
	Sampling Rate	≥ 10 lpm
	Dynamic Analyte Spiking	± 30% target

5.2 FTIR QA

FTIR QA procedures are described in Section 4.4 and Table 5-1. Air Control Techniques also performed careful visual examinations of the sample spectra and the “residual” spectra generated by spectrally subtracting known compounds from the sample spectra. The goals of these examinations were 1) to confirm the accuracy of the reported analyte concentrations and 2) to detect any additional compounds that might have been present in the sample streams. They examined the sample spectra and the quantitative analytical results, and spot-check the analysis results by hand; these examinations include visual comparisons of the sample and reference spectra.

5.3 QA/QC Checks for Data Reduction, Validation, and Reporting

Daily quality audits were conducted using data quality indicators that require the review of the recording and transfer of raw data, calculations, and documentation of testing procedures. The calculations were verified by independent, manual checks.

This emission test report includes QA/QC summaries reporting the QC data collected and the results of any audits. All QA/QC results were reviewed internally before release.

APPENDIX A

Dryer Line 1 RTO1 Exhaust Stack Test Data

CEM and HAPs EMISSIONS SUMMARY					
Enviva Waycross - RTO1 Stack (Dryer Line 1)					
Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/7/2021	5/7/2021	5/7/2021	
Run Time		1001-1101	1120-1220	1240-1340	
Oxygen	%	14.96	15.09	15.15	15.07
Carbon Dioxide	%	5.76	5.50	5.37	5.55
Moisture	%	28.65	29.40	27.61	28.56
Volumetric Flow Rate, Std	DSCFM	96,692	95,049	95,367	95,703
Process Rate	ODT/hr	56.56	59.02	57.02	57.53
THC Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w} as C ₃	9.96	9.09	9.27	9.44
Concentration (dry)	ppm _{v,d} as C ₃	14.0	12.9	12.8	13.2
Emission Rate (propane)	lb/hr as C ₃ H ₈	9.27	8.41	8.4	8.69
Emission Factor (propane)	lb/ODT as C ₃ H ₈	0.164	0.142	0.147	0.151
Methane Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w} as CH ₄	0.50	0.69	0.72	0.6
Concentration (dry)	ppm _{v,d} as CH ₄	0.70	0.98	1.00	0.89
Emission Rate	lb/hr as CH ₄	0.17	0.23	0.24	0.21
Emission Factor	lb/ODT	0.003	0.004	0.004	0.004
Non-Methane Hydrocarbon Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{v,d} as C ₃	13.7	12.6	12.5	12.9
Emission Rate (propane)	lb/hr as C ₃ H ₈	9.12	8.20	8.17	8.50
Emission Factor (propane)	lb/ODT	0.161	0.139	0.143	0.148
NOx Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{v,d}	17.9	17.5	17.6	17.7
Emission Rate	lb/hr	12.40	11.90	12.05	12.12
Emission Factor	lb/ton material	0.219	0.202	0.211	0.211
CO Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{v,d}	23.9	23.7	24.5	24.0
Emission Rate	lb/hr	10.07	9.83	10.21	10.03
Emission Factor	lb/ton material	0.178	0.167	0.179	0.175
Formaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.89	0.77	0.71	0.79
Concentration (dry)	ppmv _d	1.24	1.09	0.98	1.11
Emission Rate	lb/hr	0.56	0.49	0.44	0.50
Emission Factor	lb/ODT	0.010	0.008	0.008	0.0086
Methanol Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	6.64	6.67	6.68	6.66
Concentration (dry)	ppmv _d	9.31	9.45	9.22	9.33
Emission Rate	lb/hr	4.493	4.482	4.389	4.45
Emission Factor	lb/ODT	0.079	0.076	0.077	0.0774
Acetaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.00	0.00	0.00	0.00
Concentration (dry)	ppmv _d	0.00	0.00	0.00	0.00
Emission Rate	lb/hr	0.00	0.00	0.00	0.00
Emission Factor	lb/ODT	0.000	0.000	0.000	0.0000
ND values					

EPA Method OTM 26 VOC Emissions					
Enviva Waycross - RTO1 Stack (Dryer Line 1)					
Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/7/2021	5/7/2021	5/7/2021	
Run Time		1001-1101	1120-1220	1240-1340	
Volumetric Flow Rate, Std	DSCFM	96,692	95,049	95,367	95,703
Process Rate	tons material/hr	56.6	59.0	57.0	57.5
Emission Parameter	Units	Run 1	Run 2	Run 3	Average
THC	lbs/hr as propane	9.27	8.41	8.39	8.69
Methanol	lbs/hr as methanol	4.49	4.48	4.39	4.45
Methanol (measured as part of THC)	lbs/hr as propane	1.34	1.33	1.31	1.33
THC (not including methanol fraction)	lbs/hr as propane	7.94	7.08	7.08	7.36
Methane	lbs/hr as methane	0.17	0.23	0.24	0.21
Methane (as propane)	lbs/hr as propane	0.16	0.21	0.22	0.20
Acetaldehyde	lbs/hr as acetaldehyde	0.00	0.00	0.00	0.00
Acetaldehyde	lbs/hr as propane	0.00	0.00	0.00	0.00
THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as propane	7.78	6.86	6.86	7.17
THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as a-pinene	7.61	6.71	6.72	7.01
Formaldehyde	lbs/hr as formaldehyde	0.56	0.49	0.44	0.50
VOC Mass Emission Rate	lbs/hr	12.67	11.68	11.54	11.96
VOC Mass Emission Factor	lbs/ODT	0.224	0.198	0.202	0.208

Note 1: The fraction of methanol that is detected by Method 25A is calculated on a propane basis using (1) a carbon and molecular weight conversion factor of 0.458 and (2) the EPA OTM 26 default response factor 0.65.

Note 2: Methane is classified as a non-VOC measured with FIA. Methane is converted to a propane basis using (1) a carbon and molecular weight conversion factor of 0.917 and (2) the EPA OTM 26 default response factor 1.

Note 3: Acetaldehyde converted to a propane basis using (1) a carbon and molecular weight conversion factor of 0.667 and (2) the instrument-specific response factor for acetaldehyde measured on-site as part of the test program.

Note 4: THC not including the methanol and methane fraction detected by Method 25A is converted from a propane to an alpha pinene (terpene) basis using (1) a carbon and molecular weight conversion factor of 0.927 and (2) the instrument-specific response factor for alpha pinene measured on-site as part of the test program.

Notes

Measured by EPA Method 25A

Measured by EPA Method 320

Line B x 0.458 x 0.65 (Note 1)

Line A minus Line C

Measured by EPA Method 320

Line E x 0.917 x 1.0 (Note 2)

Measured by EPA Method 320

RF x 0.667 x Line X (Note 3)

Lines D - F - Z

Line G x 0.927 / Response Factor (Note 4)

Measured by EPA Method 320, not detected by FIA

Lines B + H + I + Z

Method 25A FIA Response Factors	Alpha Pinene	Acetaldehyde
THC Analyzer Model	700 HFID	700 HFID
THC Analyzer S/N	S/N 1601003	S/N 1601003
Date	5/4/2021	5/4/2021
Chemical Formula	C ₁₀ H ₁₆	CH ₃ CHO
Gas Standard, ppm	23.77	27.7
Gas Standard, as ppm C ₃	79.2	18.5
FIA Response, as C ₃	75.1	9.5
Response Factor	0.947	0.514

Enviva Waycross
Waycross, GA

Run 1
RTO1 Stack (Dryer Line 1)

Date: 7-May-21
Run Time: 1001-1101

Parameter	Symbol	O ₂ %	CO ₂ %	CO ppm	NOx ppm	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards						
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	N/A	N/A	8.4
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	44.9	46.5	15.0
High-Level Gas	$C_{v, high}$	22.15	18.70	90.4	90.7	25.6
Calibration Span	CS	22.15	18.70	90	91	30
Analyzer Calibration Error - Instrument Response						
Zero Gas	$C_{Dir, zero}$	0.04	0.05	-0.1	0.0	0.0
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	N/A	N/A	8.6
Mid-Level Gas	$C_{Dir, mid}$	11.02	10.33	43.9	46.8	14.9
High-Level Gas	$C_{Dir, high}$	22.17	18.71	90.5	91.0	25.7
Analyzer Calibration Error - Results (Percent of Span)						
Zero Gas	ACE_{zero}	0.2	0.3	-0.1	0.0	0.0
Low-Level Gas	ACE_{low}	N/A	N/A	N/A	N/A	0.6
Mid-Level Gas	ACE_{mid}	0.3	1.4	-1.1	0.4	-0.3
High-Level Gas	ACE_{high}	0.1	0.1	0.1	0.3	0.3
Specification	ACE_{spec}	±2	±2	±2	±2	±5
System Calibrations - Instrument Response						
Initial Zero	$C_{s, zero (pre)}$	0.12	0.09	0.7	0.4	0.0
Final Zero	$C_{s, zero (post)}$	0.32	0.13	0.8	0.3	0.2
Upscale Gas Standard	C_{MA}	10.95	10.06	44.9	46.5	15.0
Initial Upscale	$C_{v, up (pre)}$	10.94	10.40	44.3	45.9	14.9
Final Upscale	$C_{v, up (post)}$	11.05	10.22	44.2	45.4	14.7
System Bias - Results (Percent)						
Zero (pre)	$SB_{i (zero)}$	0.4	0.2	0.8	0.4	0.0
Zero (post)	$SB_{final (zero)}$	1.3	0.4	0.9	0.4	0.7
Upscale (pre)	$SB_{i (upscale)}$	-0.4	0.4	0.4	-1.0	0.0
Upscale (post)	$SB_{final (upscale)}$	0.1	-0.6	0.3	-1.5	-0.7
Specification	SB_{spec}	±5	±5	±5	±5	NA
System Drift - Results (Percent)						
Zero	D_{zero}	0.9	0.2	0.2	0.0	0.7
Upscale	$D_{upscale}$	0.5	1.0	0.1	0.6	-0.7
Specification	D_{spec}	±3	±3	±3	±3	±3
Response Test - Results (seconds)						
Upscale Test		45	45	40	40	NA
Zero Test		40	45	40	40	NA
Response Time		45	45	40	40	35
Calibration Correction						
Raw Average	C_{ave}	14.96	5.76	23.85	17.81	9.96
Bias Average - Zero	C_0	0.22	0.11	0.7	0.4	N/A
Bias Average - Upscale	C_M	10.99	10.31	44.3	45.7	N/A
Corrected Run Average	C_{Gas}	14.96	5.76	23.9	17.90	9.96

Enviva Waycross
Waycross, GA

Run 2
RTO1 Stack (Dryer Line 1)

Date: 7-May-21
Run Time: 1120-1220

Parameter	Symbol	O ₂ %	CO ₂ %	CO ppm	NOx ppm	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards						
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	N/A	N/A	8.4
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	44.9	46.5	15.0
High-Level Gas	$C_{v, high}$	22.15	18.70	90.4	90.7	25.6
Calibration Span	CS	22.2	18.7	90.4	90.7	30
Analyzer Calibration Error - Instrument Response						
Zero Gas	$C_{Dir, zero}$	0.0	0.1	-0.1	0.0	0.0
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	N/A	N/A	8.6
Mid-Level Gas	$C_{Dir, mid}$	11.0	10.3	43.9	46.8	14.9
High-Level Gas	$C_{Dir, high}$	22.2	18.7	90.5	91.0	25.7
Analyzer Calibration Error - Results (Percent of Span)						
Zero Gas	ACE_{zero}	0.2	0.3	-0.1	0.0	0.0
Low-Level Gas	ACE_{low}	N/A	N/A	N/A	N/A	0.6
Mid-Level Gas	ACE_{mid}	0.3	1.4	-1.1	0.4	-0.3
High-Level Gas	ACE_{high}	0.1	0.1	0.1	0.3	0.3
Specification	ACE_{spec}	±2	±2	±2	±2	±5
System Calibrations - Instrument Response						
Initial Zero	$C_{s, zero (pre)}$	0.32	0.13	0.8	0.3	0.2
Final Zero	$C_{s, zero (post)}$	0.25	0.16	0.2	0.4	0.2
Upscale Gas Standard	C_{MA}	10.95	10.06	44.9	46.5	15.0
Initial Upscale	$C_{v, up (pre)}$	11.05	10.22	44.2	45.4	14.7
Final Upscale	$C_{v, up (post)}$	11.01	10.26	44.2	45.2	14.8
System Bias - Results (Percent)						
Zero (pre)	$SB_i (zero)$	1.3	0.4	0.9	0.4	0.7
Zero (post)	$SB_{final} (zero)$	1.0	0.6	0.3	0.4	0.6
Upscale (pre)	$SB_i (upscale)$	0.1	-0.6	0.3	-1.5	-0.7
Upscale (post)	$SB_{final} (upscale)$	-0.1	-0.4	0.3	-1.8	-0.3
Specification	SB_{spec}	±5	±5	±5	±5	NA
System Drift - Results (Percent)						
Zero	D_{zero}	0.3	0.2	0.6	0.1	-0.1
Upscale	$D_{upscale}$	0.2	0.2	0.0	0.2	0.3
Specification	D_{spec}	±3	±3	±3	±3	±3
Response Test - Results (seconds)						
Upscale Test		45	45	40	40	NA
Zero Test		40	45	40	40	NA
Response Time		45	45	40	40	35
Calibration Correction						
Raw Average	C_{ave}	15.09	5.66	23.58	17.26	9.09
Bias Average - Zero	C_0	0.29	0.15	0.5	0.4	N/A
Bias Average - Upscale	C_M	11.03	10.24	44.2	45.3	N/A
Corrected Run Average	C_{Gas}	15.09	5.50	23.7	17.5	9.09

Enviva Waycross
Waycross, GA

Run 3
RTO1 Stack (Dryer Line 1)

Date: 7-May-21
Run Time: 1240-1340

Parameter	Symbol	O ₂ %	CO ₂ %	CO ppm	NOx ppm	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards						
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	N/A	N/A	8.4
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	44.9	46.5	15.0
High-Level Gas	$C_{v, high}$	22.15	18.70	90.4	90.7	25.6
Calibration Span	CS	22.15	18.70	90.4	90.7	30.0
Analyzer Calibration Error - Instrument Response						
Zero Gas	$C_{Dir, zero}$	0.0	0.1	-0.1	0.0	0.00
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	N/A	N/A	8.6
Mid-Level Gas	$C_{Dir, mid}$	11.0	10.3	43.9	46.8	14.9
High-Level Gas	$C_{Dir, high}$	22.2	18.7	90.5	91.0	25.7
Analyzer Calibration Error - Results (Percent of Span)						
Zero Gas	ACE_{zero}	0.2	0.3	-0.1	0.0	0.0
Low-Level Gas	ACE_{low}	N/A	N/A	N/A	N/A	0.6
Mid-Level Gas	ACE_{mid}	0.3	1.4	-1.1	0.4	-0.3
High-Level Gas	ACE_{high}	0.1	0.1	0.1	0.3	0.3
Specification	ACE_{spec}	±2	±2	±2	±2	±5
System Calibrations - Instrument Response						
Initial Zero	$C_{s, zero (pre)}$	0.25	0.16	0.2	0.4	0.2
Final Zero	$C_{s, zero (post)}$	0.22	0.18	0.5	0.4	-0.2
Upscale Gas Standard	C_{MA}	10.95	10.06	44.9	46.5	15.0
Initial Upscale	$C_{v, up (pre)}$	11.01	10.26	44.2	45.2	14.8
Final Upscale	$C_{v, up (post)}$	11.01	10.43	44.3	45.3	14.7
System Bias - Results (Percent)						
Zero (pre)	$SB_{i (zero)}$	1.0	0.6	0.3	0.4	0.6
Zero (post)	$SB_{final (zero)}$	0.8	0.7	0.6	0.4	-0.7
Upscale (pre)	$SB_{i (upscale)}$	-0.1	-0.4	0.3	-1.8	-0.3
Upscale (post)	$SB_{final (upscale)}$	0.0	0.5	0.4	-1.6	-0.8
Specification	SB_{spec}	±5	±5	±5	±5	NA
System Drift - Results (Percent)						
Zero	D_{zero}	0.1	0.1	0.3	0.0	-1.3
Upscale	$D_{upscale}$	0.0	0.9	0.1	0.1	-0.5
Specification	D_{spec}	±3	±3	±3	±3	±3
Response Test - Results (seconds)						
Upscale Test		45	45	40	40	NA
Zero Test		40	45	40	40	NA
Response Time		45	45	40	40	35
Calibration Correction						
Raw Average	C_{ave}	15.14	5.60	24.34	17.43	9.27
Bias Average - Zero	C_0	0.24	0.17	0.4	0.4	N/A
Bias Average - Upscale	C_M	11.01	10.34	44.3	45.2	N/A
Corrected Run Average	C_{Gas}	15.15	5.37	24.53	17.6	9.27

Plant Name: Enviva Waycross Run: 1
 Location: RTO1 Stack (Dryer Line 1) Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
averages	14.96	5.76	23.85	17.81	9.96
5/7/2021 10:01:00 AM	14.66	6.04	24.04	18.31	17.85
5/7/2021 10:01:15 AM	14.77	5.92	32.70	18.33	13.82
5/7/2021 10:01:31 AM	14.94	5.77	46.43	18.38	4.93
5/7/2021 10:01:45 AM	15.04	5.67	28.22	18.46	4.21
5/7/2021 10:02:00 AM	15.14	5.58	16.40	18.63	11.54
5/7/2021 10:02:15 AM	15.21	5.52	14.89	18.70	16.78
5/7/2021 10:02:30 AM	15.22	5.52	22.30	18.73	5.04
5/7/2021 10:02:45 AM	15.17	5.55	18.90	18.70	4.21
5/7/2021 10:03:00 AM	15.18	5.54	17.33	18.70	17.15
5/7/2021 10:03:15 AM	15.16	5.58	17.84	18.70	14.15
5/7/2021 10:03:30 AM	15.10	5.64	20.94	18.65	5.97
5/7/2021 10:03:45 AM	15.12	5.60	23.00	18.36	5.42
5/7/2021 10:04:00 AM	15.13	5.60	21.32	18.29	9.99
5/7/2021 10:04:15 AM	15.07	5.67	16.38	18.19	20.62
5/7/2021 10:04:30 AM	15.06	5.67	15.27	17.99	5.82
5/7/2021 10:04:45 AM	15.05	5.67	18.37	17.87	5.26
5/7/2021 10:05:00 AM	15.03	5.71	22.35	17.77	16.75
5/7/2021 10:05:15 AM	14.98	5.76	31.07	17.75	13.57
5/7/2021 10:05:30 AM	14.93	5.80	44.42	17.72	4.60
5/7/2021 10:05:45 AM	14.83	5.90	27.08	17.70	4.00
5/7/2021 10:06:00 AM	14.67	6.06	15.90	17.90	11.85
5/7/2021 10:06:15 AM	14.62	6.10	14.69	17.99	16.93
5/7/2021 10:06:30 AM	14.70	6.03	23.94	18.12	4.94
5/7/2021 10:06:45 AM	14.73	5.98	20.46	18.19	4.20
5/7/2021 10:07:00 AM	14.84	5.87	18.49	18.36	16.70
5/7/2021 10:07:15 AM	15.00	5.72	18.75	18.55	14.32
5/7/2021 10:07:30 AM	15.18	5.55	21.67	18.63	5.88
5/7/2021 10:07:45 AM	15.31	5.42	23.78	18.68	5.31
5/7/2021 10:08:00 AM	15.43	5.30	22.02	18.73	9.51
5/7/2021 10:08:15 AM	15.48	5.26	16.86	18.75	19.38
5/7/2021 10:08:30 AM	15.47	5.29	15.19	18.63	5.64
5/7/2021 10:08:45 AM	15.40	5.34	17.71	18.43	5.13
5/7/2021 10:09:00 AM	15.36	5.39	21.34	18.33	15.43
5/7/2021 10:09:15 AM	15.30	5.46	30.16	18.16	14.26
5/7/2021 10:09:30 AM	15.16	5.59	42.63	17.94	4.47
5/7/2021 10:09:45 AM	15.01	5.72	26.03	17.70	3.81
5/7/2021 10:10:00 AM	14.96	5.78	15.65	17.58	10.30
5/7/2021 10:10:15 AM	14.89	5.84	14.81	17.55	17.02
5/7/2021 10:10:30 AM	14.98	5.75	22.25	17.48	4.82
5/7/2021 10:10:45 AM	15.02	5.70	19.22	17.41	3.99
5/7/2021 10:11:00 AM	15.08	5.65	17.81	17.41	15.98
5/7/2021 10:11:15 AM	15.16	5.57	18.37	17.46	14.23
5/7/2021 10:11:30 AM	15.23	5.52	21.32	17.43	5.75
5/7/2021 10:11:45 AM	15.12	5.63	23.08	17.41	5.26
5/7/2021 10:12:00 AM	15.07	5.66	21.16	17.50	9.74
5/7/2021 10:12:15 AM	15.01	5.73	16.30	17.55	20.10
5/7/2021 10:12:30 AM	14.98	5.76	15.42	17.48	5.68
5/7/2021 10:12:45 AM	14.87	5.86	18.69	17.38	5.18
5/7/2021 10:13:00 AM	14.77	5.96	22.88	17.46	16.82

Plant Name: Enviva Waycross Run: 1
 Location: RTO1 Stack (Dryer Line 1) Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
5/7/2021 10:13:15 AM	14.75	5.97	32.40	17.53	13.76
5/7/2021 10:13:30 AM	14.77	5.95	45.73	17.60	4.52
5/7/2021 10:13:45 AM	14.89	5.82	28.02	17.53	3.88
5/7/2021 10:14:00 AM	14.99	5.73	16.78	17.63	10.97
5/7/2021 10:14:15 AM	15.04	5.68	15.50	17.72	16.50
5/7/2021 10:14:30 AM	15.09	5.64	22.78	17.80	4.74
5/7/2021 10:14:45 AM	15.15	5.57	19.55	17.80	3.97
5/7/2021 10:15:00 AM	15.09	5.63	18.14	17.90	16.09
5/7/2021 10:15:15 AM	15.06	5.66	18.72	17.90	13.99
5/7/2021 10:15:30 AM	15.04	5.69	21.84	17.87	5.73
5/7/2021 10:15:45 AM	14.97	5.75	23.81	17.80	5.29
5/7/2021 10:16:00 AM	14.86	5.86	21.82	17.82	9.63
5/7/2021 10:16:15 AM	14.76	5.93	16.81	17.92	20.32
5/7/2021 10:16:30 AM	14.75	5.96	16.02	17.90	5.83
5/7/2021 10:16:45 AM	14.72	5.97	19.80	17.75	5.38
5/7/2021 10:17:00 AM	14.79	5.91	24.54	17.82	16.74
5/7/2021 10:17:15 AM	14.92	5.78	40.06	17.94	13.66
5/7/2021 10:17:30 AM	15.03	5.68	50.49	17.97	4.61
5/7/2021 10:17:45 AM	15.11	5.60	30.18	17.92	3.98
5/7/2021 10:18:00 AM	15.19	5.52	17.59	17.94	10.46
5/7/2021 10:18:15 AM	15.20	5.52	15.85	17.97	16.87
5/7/2021 10:18:30 AM	15.20	5.53	22.93	17.85	4.96
5/7/2021 10:18:45 AM	15.09	5.62	20.38	17.80	4.15
5/7/2021 10:19:00 AM	15.02	5.70	19.25	17.70	16.21
5/7/2021 10:19:15 AM	14.86	5.86	19.40	17.58	14.21
5/7/2021 10:19:30 AM	14.90	5.83	22.35	17.33	5.79
5/7/2021 10:19:45 AM	14.89	5.83	24.52	17.07	5.20
5/7/2021 10:20:00 AM	14.89	5.83	22.47	17.04	9.90
5/7/2021 10:20:15 AM	14.91	5.82	17.11	16.94	19.96
5/7/2021 10:20:30 AM	14.99	5.74	15.90	16.85	5.59
5/7/2021 10:20:45 AM	15.00	5.73	19.15	16.65	5.10
5/7/2021 10:21:00 AM	15.07	5.65	23.38	16.63	16.13
5/7/2021 10:21:15 AM	15.08	5.66	32.43	16.63	13.40
5/7/2021 10:21:30 AM	15.13	5.61	45.45	16.65	4.38
5/7/2021 10:21:45 AM	15.13	5.60	28.09	16.70	3.76
5/7/2021 10:22:00 AM	15.13	5.61	17.11	16.82	9.83
5/7/2021 10:22:15 AM	15.06	5.68	15.82	16.87	16.87
5/7/2021 10:22:30 AM	15.02	5.72	23.10	16.85	4.69
5/7/2021 10:22:45 AM	14.97	5.75	20.13	16.80	3.93
5/7/2021 10:23:00 AM	14.95	5.79	18.80	16.87	15.97
5/7/2021 10:23:15 AM	14.88	5.87	19.50	16.94	13.94
5/7/2021 10:23:30 AM	14.76	6.00	22.83	16.89	5.68
5/7/2021 10:23:45 AM	14.58	6.15	25.07	16.87	5.22
5/7/2021 10:24:00 AM	14.59	6.14	23.05	16.89	9.59
5/7/2021 10:24:15 AM	14.63	6.10	17.81	16.99	20.10
5/7/2021 10:24:30 AM	14.79	5.95	16.78	17.07	5.63
5/7/2021 10:24:45 AM	14.94	5.80	20.53	17.09	5.16
5/7/2021 10:25:00 AM	15.06	5.66	25.40	17.21	15.48
5/7/2021 10:25:15 AM	15.14	5.59	36.58	17.36	13.31
5/7/2021 10:25:30 AM	15.30	5.44	47.67	17.48	4.43

Plant Name: Enviva Waycross Run: 1
 Location: RTO1 Stack (Dryer Line 1) Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
5/7/2021 10:25:45 AM	15.20	5.55	29.10	17.48	3.81
5/7/2021 10:26:00 AM	15.07	5.68	17.56	17.60	10.19
5/7/2021 10:26:15 AM	14.96	5.77	16.15	17.65	16.37
5/7/2021 10:26:30 AM	14.96	5.77	23.66	17.63	4.74
5/7/2021 10:26:45 AM	14.90	5.82	20.84	17.50	3.97
5/7/2021 10:27:00 AM	14.90	5.82	19.53	17.46	15.50
5/7/2021 10:27:15 AM	14.94	5.80	20.01	17.48	13.67
5/7/2021 10:27:30 AM	14.96	5.78	23.03	17.43	5.68
5/7/2021 10:27:45 AM	14.91	5.81	24.92	17.36	5.22
5/7/2021 10:28:00 AM	14.96	5.76	22.80	17.46	9.25
5/7/2021 10:28:15 AM	14.99	5.73	17.64	17.53	20.08
5/7/2021 10:28:30 AM	15.05	5.69	16.63	17.50	5.66
5/7/2021 10:28:45 AM	15.00	5.73	20.08	17.48	5.20
5/7/2021 10:29:00 AM	14.99	5.75	24.72	17.58	15.71
5/7/2021 10:29:15 AM	15.01	5.73	37.69	17.68	13.64
5/7/2021 10:29:30 AM	14.93	5.80	48.80	17.70	4.50
5/7/2021 10:29:45 AM	14.92	5.80	30.08	17.63	3.89
5/7/2021 10:30:00 AM	14.89	5.84	17.99	17.75	10.60
5/7/2021 10:30:15 AM	14.86	5.88	16.35	17.82	16.48
5/7/2021 10:30:30 AM	14.92	5.81	24.14	17.90	4.82
5/7/2021 10:30:45 AM	14.95	5.77	21.59	17.92	4.05
5/7/2021 10:31:00 AM	14.99	5.74	20.43	18.04	15.83
5/7/2021 10:31:15 AM	14.97	5.76	20.81	18.04	14.00
5/7/2021 10:31:30 AM	15.00	5.74	23.99	18.04	5.80
5/7/2021 10:31:45 AM	15.04	5.69	26.08	18.07	5.29
5/7/2021 10:32:00 AM	15.07	5.66	23.86	18.19	9.27
5/7/2021 10:32:15 AM	15.12	5.63	18.27	18.24	19.95
5/7/2021 10:32:30 AM	15.11	5.64	16.70	18.21	5.71
5/7/2021 10:32:45 AM	15.08	5.66	19.90	18.02	5.24
5/7/2021 10:33:00 AM	15.08	5.66	24.36	18.07	15.94
5/7/2021 10:33:15 AM	15.02	5.73	37.11	18.09	13.54
5/7/2021 10:33:30 AM	14.99	5.76	48.70	18.14	9.09
5/7/2021 10:33:45 AM	14.91	5.83	29.88	18.19	8.24
5/7/2021 10:34:00 AM	14.86	5.89	17.74	18.21	13.73
5/7/2021 10:34:15 AM	14.78	5.97	15.95	18.31	16.52
5/7/2021 10:34:30 AM	14.75	5.99	24.69	18.38	5.66
5/7/2021 10:34:45 AM	14.75	5.97	22.05	18.51	4.88
5/7/2021 10:35:00 AM	14.79	5.94	20.69	18.68	17.20
5/7/2021 10:35:15 AM	14.78	5.97	20.84	18.82	14.65
5/7/2021 10:35:30 AM	14.74	6.01	24.11	18.85	6.27
5/7/2021 10:35:45 AM	14.70	6.00	26.68	18.77	5.69
5/7/2021 10:36:00 AM	14.61	6.05	24.97	18.87	9.31
5/7/2021 10:36:15 AM	14.50	6.15	19.83	18.92	21.77
5/7/2021 10:36:30 AM	14.51	6.13	19.83	18.87	6.08
5/7/2021 10:36:45 AM	14.60	6.00	25.35	18.63	5.60
5/7/2021 10:37:00 AM	14.79	5.80	32.02	18.43	15.20
5/7/2021 10:37:15 AM	15.00	5.64	49.89	18.24	14.99
5/7/2021 10:37:30 AM	15.18	5.51	58.45	18.07	4.72
5/7/2021 10:37:45 AM	15.34	5.37	34.82	17.92	4.06
5/7/2021 10:38:00 AM	15.38	5.34	19.75	17.94	9.50

Plant Name: Enviva Waycross Run: 1
 Location: RTO1 Stack (Dryer Line 1) Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
5/7/2021 10:38:15 AM	15.38	5.37	17.03	17.80	17.50
5/7/2021 10:38:30 AM	15.37	5.38	23.91	17.58	4.90
5/7/2021 10:38:45 AM	15.23	5.52	21.52	17.53	4.10
5/7/2021 10:39:00 AM	15.07	5.67	20.36	17.46	15.10
5/7/2021 10:39:15 AM	15.02	5.72	20.36	17.36	15.30
5/7/2021 10:39:30 AM	14.96	5.79	23.23	17.26	5.88
5/7/2021 10:39:45 AM	14.77	5.96	25.47	17.11	5.38
5/7/2021 10:40:00 AM	14.73	6.01	23.51	17.02	9.55
5/7/2021 10:40:15 AM	14.65	6.10	18.12	16.89	21.39
5/7/2021 10:40:30 AM	14.64	6.09	17.06	16.82	5.90
5/7/2021 10:40:45 AM	14.69	6.04	20.91	16.80	5.37
5/7/2021 10:41:00 AM	14.81	5.92	25.75	16.80	15.30
5/7/2021 10:41:15 AM	15.03	5.70	36.03	16.89	15.04
5/7/2021 10:41:30 AM	15.22	5.51	49.86	17.02	4.61
5/7/2021 10:41:45 AM	15.33	5.39	30.94	17.11	3.91
5/7/2021 10:42:00 AM	15.34	5.39	18.32	17.26	9.96
5/7/2021 10:42:15 AM	15.31	5.42	16.07	17.41	17.44
5/7/2021 10:42:30 AM	15.36	5.37	23.23	17.43	4.90
5/7/2021 10:42:45 AM	15.27	5.44	20.23	17.29	4.04
5/7/2021 10:43:00 AM	15.23	5.50	18.92	17.26	15.56
5/7/2021 10:43:15 AM	15.06	5.66	19.40	17.21	14.55
5/7/2021 10:43:30 AM	15.05	5.67	22.55	17.16	5.86
5/7/2021 10:43:45 AM	15.03	5.70	24.74	17.04	5.40
5/7/2021 10:44:00 AM	14.82	5.91	22.88	16.97	8.91
5/7/2021 10:44:15 AM	14.66	6.06	17.66	16.87	21.45
5/7/2021 10:44:30 AM	14.70	6.02	16.58	16.85	5.86
5/7/2021 10:44:45 AM	14.69	6.03	20.38	16.89	5.33
5/7/2021 10:45:00 AM	14.57	6.14	25.17	16.99	16.21
5/7/2021 10:45:15 AM	14.60	6.12	36.81	17.21	14.90
5/7/2021 10:45:30 AM	14.66	6.07	51.85	17.38	4.70
5/7/2021 10:45:45 AM	14.77	5.94	32.22	17.43	3.98
5/7/2021 10:46:00 AM	14.87	5.84	18.57	17.70	10.28
5/7/2021 10:46:15 AM	14.94	5.78	16.10	17.97	18.01
5/7/2021 10:46:30 AM	15.05	5.68	25.14	18.12	4.93
5/7/2021 10:46:45 AM	14.95	5.78	22.27	18.14	4.14
5/7/2021 10:47:00 AM	14.90	5.83	20.63	18.24	16.04
5/7/2021 10:47:15 AM	14.86	5.87	20.58	18.29	14.89
5/7/2021 10:47:29 AM	14.93	5.80	23.48	18.26	5.96
5/7/2021 10:47:45 AM	14.91	5.81	25.85	18.24	5.42
5/7/2021 10:48:00 AM	14.88	5.85	24.09	18.21	9.39
5/7/2021 10:48:15 AM	14.84	5.90	18.44	18.16	20.08
5/7/2021 10:48:30 AM	14.77	5.98	16.81	17.99	5.90
5/7/2021 10:48:45 AM	14.65	6.08	20.16	17.92	5.42
5/7/2021 10:49:00 AM	14.70	6.02	24.49	17.99	16.21
5/7/2021 10:49:15 AM	14.81	5.91	33.81	18.12	14.79
5/7/2021 10:49:30 AM	14.99	5.74	49.71	18.16	4.69
5/7/2021 10:49:45 AM	15.12	5.60	30.91	18.14	4.11
5/7/2021 10:50:00 AM	15.20	5.54	17.81	18.19	10.08
5/7/2021 10:50:15 AM	15.21	5.54	15.50	18.21	18.30
5/7/2021 10:50:30 AM	15.21	5.54	23.76	18.21	4.97

Plant Name: Enviva Waycross Run: 1
 Location: RTO1 Stack (Dryer Line 1) Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
5/7/2021 10:50:45 AM	15.24	5.50	20.79	18.16	4.13
5/7/2021 10:51:00 AM	15.22	5.54	19.10	18.14	15.23
5/7/2021 10:51:15 AM	15.15	5.61	19.48	18.04	15.23
5/7/2021 10:51:30 AM	15.15	5.61	22.50	17.87	5.97
5/7/2021 10:51:45 AM	15.00	5.75	24.64	17.58	5.44
5/7/2021 10:52:00 AM	14.87	5.88	22.75	17.46	8.96
5/7/2021 10:52:14 AM	14.82	5.92	17.51	17.41	21.44
5/7/2021 10:52:30 AM	14.79	5.96	16.43	17.33	6.12
5/7/2021 10:52:45 AM	14.78	5.96	20.13	17.31	5.88
5/7/2021 10:53:00 AM	14.83	5.90	24.59	17.41	16.02
5/7/2021 10:53:15 AM	14.98	5.75	33.86	17.48	14.86
5/7/2021 10:53:29 AM	15.18	5.56	48.32	17.55	4.71
5/7/2021 10:53:45 AM	15.29	5.45	30.06	17.63	4.02
5/7/2021 10:54:00 AM	15.32	5.41	17.59	17.80	9.83
5/7/2021 10:54:15 AM	15.35	5.40	15.77	17.87	17.77
5/7/2021 10:54:30 AM	15.25	5.48	23.08	17.92	4.96
5/7/2021 10:54:44 AM	15.11	5.64	20.36	17.90	4.11
5/7/2021 10:55:00 AM	14.87	5.87	18.87	17.87	15.81
5/7/2021 10:55:15 AM	14.67	6.08	19.32	17.82	15.53
5/7/2021 10:55:30 AM	14.50	6.25	22.80	17.75	6.09
5/7/2021 10:55:45 AM	14.33	6.41	25.60	17.58	5.59
5/7/2021 10:55:59 AM	14.21	6.53	24.11	17.65	9.96
5/7/2021 10:56:15 AM	14.19	6.53	18.67	17.77	22.41
5/7/2021 10:56:29 AM	14.33	6.40	17.71	17.85	6.13
5/7/2021 10:56:45 AM	14.44	6.28	21.97	17.99	5.52
5/7/2021 10:57:00 AM	14.64	6.08	26.91	18.21	16.48
5/7/2021 10:57:15 AM	14.93	5.79	34.74	18.51	14.17
5/7/2021 10:57:30 AM	15.19	5.55	49.71	18.53	4.66
5/7/2021 10:57:45 AM	15.31	5.42	30.59	18.65	3.97
5/7/2021 10:58:00 AM	15.31	5.44	17.64	18.82	9.83
5/7/2021 10:58:15 AM	15.25	5.50	15.37	18.90	18.04
5/7/2021 10:58:29 AM	15.21	5.54	23.28	18.82	4.94
5/7/2021 10:58:45 AM	15.06	5.67	20.26	18.65	4.14
5/7/2021 10:59:00 AM	14.93	5.80	18.47	18.48	15.59
5/7/2021 10:59:15 AM	14.92	5.82	18.95	18.41	15.48
5/7/2021 10:59:30 AM	14.85	5.90	22.22	18.24	5.93
5/7/2021 10:59:45 AM	14.76	5.99	24.72	18.19	5.40
5/7/2021 11:00:00 AM	14.74	6.00	23.10	18.19	9.23
5/7/2021 11:00:15 AM	14.77	5.96	17.81	18.16	21.91
5/7/2021 11:00:29 AM	14.77	5.98	16.45	18.16	5.83
5/7/2021 11:00:45 AM	14.76	5.97	19.98	18.19	5.26
5/7/2021 11:01:00 AM	14.84	5.90	24.36	18.33	15.61
5/7/2021 11:01:15 AM	14.90	5.84	32.80	18.51	14.71
5/7/2021 11:01:30 AM	14.95	5.78	47.62	18.53	4.57
5/7/2021 11:01:45 AM	15.01	5.72	29.50	18.41	3.89
5/7/2021 11:02:00 AM	15.03	5.72	17.13	18.51	10.77

Plant Name: Enviva Waycross
 Location: RTO1 Stack (Dryer Line 1)

Run: 2
 Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
Averages	15.09	5.66	23.58	17.26	9.09
5/7/2021 11:20:15 AM	15.36	5.42	16.65	14.84	20.37
5/7/2021 11:20:29 AM	15.29	5.50	15.77	15.09	4.83
5/7/2021 11:20:45 AM	15.27	5.50	18.82	15.36	4.28
5/7/2021 11:21:00 AM	15.30	5.48	22.95	15.60	13.06
5/7/2021 11:21:14 AM	15.28	5.51	34.85	15.89	14.21
5/7/2021 11:21:30 AM	15.26	5.52	45.75	16.19	3.61
5/7/2021 11:21:44 AM	15.24	5.54	28.34	16.24	3.02
5/7/2021 11:22:00 AM	15.18	5.60	17.54	16.38	7.39
5/7/2021 11:22:15 AM	15.12	5.65	16.23	16.53	18.13
5/7/2021 11:22:29 AM	15.18	5.60	22.95	16.60	4.00
5/7/2021 11:22:45 AM	15.09	5.68	20.53	16.75	3.19
5/7/2021 11:22:59 AM	15.01	5.75	19.32	16.82	13.43
5/7/2021 11:23:14 AM	14.98	5.79	19.83	16.87	14.93
5/7/2021 11:23:30 AM	14.98	5.79	22.88	16.94	5.11
5/7/2021 11:23:44 AM	14.93	5.84	24.89	17.02	4.57
5/7/2021 11:24:00 AM	14.94	5.82	22.85	17.24	7.96
5/7/2021 11:24:14 AM	15.01	5.76	17.84	17.41	20.37
5/7/2021 11:24:29 AM	15.07	5.72	16.83	17.43	4.98
5/7/2021 11:24:45 AM	15.05	5.72	20.26	17.36	4.43
5/7/2021 11:25:00 AM	15.06	5.71	24.74	17.41	13.72
5/7/2021 11:25:14 AM	15.09	5.69	36.81	17.53	14.26
5/7/2021 11:25:29 AM	15.11	5.66	48.65	17.55	3.74
5/7/2021 11:25:49 AM	15.10	5.67	30.01	17.50	3.09
5/7/2021 11:26:00 AM	15.16	5.61	17.84	17.58	8.42
5/7/2021 11:26:14 AM	15.18	5.60	16.38	17.68	16.98
5/7/2021 11:26:30 AM	15.19	5.59	23.43	17.68	4.16
5/7/2021 11:26:44 AM	15.16	5.61	20.61	17.70	3.31
5/7/2021 11:27:00 AM	15.12	5.66	19.32	17.82	14.39
5/7/2021 11:27:14 AM	14.96	5.81	19.58	17.90	15.01
5/7/2021 11:27:29 AM	14.94	5.83	22.50	17.90	5.13
5/7/2021 11:27:44 AM	14.91	5.84	24.64	17.77	4.57
5/7/2021 11:28:00 AM	14.96	5.80	22.75	17.85	7.84
5/7/2021 11:28:14 AM	14.94	5.82	17.49	17.92	20.30
5/7/2021 11:28:29 AM	15.01	5.76	16.10	17.92	4.96
5/7/2021 11:28:44 AM	15.06	5.70	19.45	17.80	4.44
5/7/2021 11:28:59 AM	15.12	5.64	23.94	17.80	13.96
5/7/2021 11:29:15 AM	15.15	5.62	34.47	17.85	14.11
5/7/2021 11:29:29 AM	15.16	5.60	47.22	17.82	3.85
5/7/2021 11:29:44 AM	15.11	5.62	28.92	17.80	3.17
5/7/2021 11:29:59 AM	15.12	5.61	17.23	17.90	7.76
5/7/2021 11:30:14 AM	15.08	5.65	15.42	17.99	17.99
5/7/2021 11:30:30 AM	15.12	5.60	22.60	17.94	4.11
5/7/2021 11:30:44 AM	15.17	5.55	20.16	17.90	3.26
5/7/2021 11:30:59 AM	15.20	5.53	18.80	17.92	13.96
5/7/2021 11:31:14 AM	15.20	5.55	19.22	17.94	13.18
5/7/2021 11:31:29 AM	15.27	5.49	21.95	17.82	4.98
5/7/2021 11:31:44 AM	15.24	5.51	23.63	17.63	4.52
5/7/2021 11:31:59 AM	15.19	5.57	21.57	17.60	7.32
5/7/2021 11:32:15 AM	15.13	5.63	16.65	17.55	20.47

Plant Name: Enviva Waycross
 Location: RTO1 Stack (Dryer Line 1)

Run: 2
 Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
5/7/2021 11:32:29 AM	15.14	5.63	15.57	17.46	4.91
5/7/2021 11:32:44 AM	15.06	5.70	18.87	17.38	4.44
5/7/2021 11:32:59 AM	14.96	5.80	23.28	17.33	13.92
5/7/2021 11:33:14 AM	14.96	5.79	35.80	17.33	14.82
5/7/2021 11:33:29 AM	14.99	5.77	47.69	17.36	3.76
5/7/2021 11:33:44 AM	14.99	5.77	29.33	17.41	3.14
5/7/2021 11:33:59 AM	15.03	5.71	17.28	17.53	8.59
5/7/2021 11:34:14 AM	15.13	5.63	15.57	17.72	17.16
5/7/2021 11:34:29 AM	15.20	5.57	22.90	17.77	4.11
5/7/2021 11:34:44 AM	15.12	5.63	20.36	17.72	3.32
5/7/2021 11:34:59 AM	15.10	5.67	19.15	17.72	13.84
5/7/2021 11:35:14 AM	15.08	5.67	19.50	17.82	14.16
5/7/2021 11:35:29 AM	15.14	5.63	22.42	17.85	5.07
5/7/2021 11:35:45 AM	15.13	5.63	24.41	17.82	4.59
5/7/2021 11:35:59 AM	15.14	5.63	22.32	17.80	7.67
5/7/2021 11:36:14 AM	15.16	5.62	17.11	17.77	20.50
5/7/2021 11:36:29 AM	15.19	5.58	15.75	17.72	4.94
5/7/2021 11:36:44 AM	15.22	5.52	18.92	17.70	4.46
5/7/2021 11:37:00 AM	15.28	5.47	23.13	17.77	14.36
5/7/2021 11:37:14 AM	15.34	5.38	38.70	17.87	13.31
5/7/2021 11:37:29 AM	15.34	5.33	50.52	17.82	3.86
5/7/2021 11:37:44 AM	15.34	5.32	32.20	17.58	3.32
5/7/2021 11:37:59 AM	15.35	5.31	21.01	17.50	8.26
5/7/2021 11:38:14 AM	15.39	5.26	21.11	17.38	16.81
5/7/2021 11:38:30 AM	15.43	5.21	28.19	17.14	4.11
5/7/2021 11:38:44 AM	15.40	5.23	25.45	16.82	3.33
5/7/2021 11:38:59 AM	15.42	5.29	24.24	16.55	12.39
5/7/2021 11:39:14 AM	15.46	5.28	24.04	16.31	14.44
5/7/2021 11:39:29 AM	15.46	5.31	25.95	16.11	4.88
5/7/2021 11:39:44 AM	15.27	5.49	26.53	15.99	4.35
5/7/2021 11:39:59 AM	15.16	5.61	23.20	15.97	7.18
5/7/2021 11:40:14 AM	14.92	5.87	17.49	15.92	20.47
5/7/2021 11:40:29 AM	14.66	6.12	16.28	15.84	4.77
5/7/2021 11:40:44 AM	14.45	6.30	19.73	15.80	4.31
5/7/2021 11:40:59 AM	14.53	6.22	24.36	15.89	14.76
5/7/2021 11:41:14 AM	14.69	6.07	37.39	16.02	13.45
5/7/2021 11:41:29 AM	14.89	5.87	49.81	16.06	3.64
5/7/2021 11:41:44 AM	15.08	5.67	31.14	16.04	3.02
5/7/2021 11:41:59 AM	15.26	5.51	19.02	16.04	8.12
5/7/2021 11:42:14 AM	15.37	5.41	17.51	16.02	17.05
5/7/2021 11:42:29 AM	15.48	5.29	24.49	15.92	3.96
5/7/2021 11:42:44 AM	15.48	5.29	21.87	15.84	3.23
5/7/2021 11:42:59 AM	15.42	5.36	20.79	15.80	13.27
5/7/2021 11:43:14 AM	15.33	5.46	21.14	15.70	14.60
5/7/2021 11:43:29 AM	15.18	5.61	23.94	15.58	4.98
5/7/2021 11:43:44 AM	15.04	5.73	25.65	15.33	4.50
5/7/2021 11:43:59 AM	14.93	5.83	23.31	15.31	7.23
5/7/2021 11:44:14 AM	14.88	5.88	18.09	15.31	20.83
5/7/2021 11:44:29 AM	14.92	5.85	17.06	15.31	4.90
5/7/2021 11:44:44 AM	14.91	5.85	20.69	15.21	4.42

Plant Name: Enviva Waycross
 Location: RTO1 Stack (Dryer Line 1)

Run: 2
 Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
5/7/2021 11:44:59 AM	14.92	5.83	25.30	15.28	13.71
5/7/2021 11:45:14 AM	14.97	5.79	36.05	15.38	14.44
5/7/2021 11:45:29 AM	15.02	5.76	48.88	15.48	3.67
5/7/2021 11:45:44 AM	15.03	5.73	30.66	15.60	3.08
5/7/2021 11:45:59 AM	14.97	5.79	18.82	15.84	8.37
5/7/2021 11:46:14 AM	14.89	5.88	17.61	16.04	17.40
5/7/2021 11:46:29 AM	14.82	5.95	26.10	16.11	4.11
5/7/2021 11:46:44 AM	14.84	5.90	22.73	16.16	3.32
5/7/2021 11:46:59 AM	14.90	5.85	21.06	16.36	13.82
5/7/2021 11:47:14 AM	14.93	5.83	21.24	16.50	15.10
5/7/2021 11:47:29 AM	15.02	5.73	24.31	16.58	5.11
5/7/2021 11:47:44 AM	15.09	5.66	26.68	16.50	4.59
5/7/2021 11:47:59 AM	15.16	5.60	24.72	16.60	7.70
5/7/2021 11:48:14 AM	15.16	5.61	19.07	16.67	20.74
5/7/2021 11:48:29 AM	15.21	5.56	17.21	16.65	4.96
5/7/2021 11:48:44 AM	15.21	5.55	20.16	16.65	4.50
5/7/2021 11:48:59 AM	15.13	5.64	24.31	16.65	13.33
5/7/2021 11:49:14 AM	15.09	5.67	34.49	16.63	14.05
5/7/2021 11:49:29 AM	15.02	5.75	47.22	16.60	3.74
5/7/2021 11:49:44 AM	15.04	5.71	29.28	16.60	3.16
5/7/2021 11:49:59 AM	15.14	5.61	17.69	16.75	7.87
5/7/2021 11:50:14 AM	15.21	5.55	16.20	16.80	17.53
5/7/2021 11:50:29 AM	15.34	5.43	23.31	16.77	4.14
5/7/2021 11:50:44 AM	15.35	5.41	20.58	16.63	3.36
5/7/2021 11:50:59 AM	15.27	5.50	19.22	16.58	13.31
5/7/2021 11:51:14 AM	15.14	5.63	19.65	16.60	15.43
5/7/2021 11:51:29 AM	15.10	5.67	22.68	16.58	5.21
5/7/2021 11:51:44 AM	14.97	5.80	24.74	16.53	4.72
5/7/2021 11:51:59 AM	14.80	5.97	22.70	16.55	7.57
5/7/2021 11:52:14 AM	14.76	5.99	17.54	16.58	21.58
5/7/2021 11:52:29 AM	14.87	5.90	16.45	16.58	5.13
5/7/2021 11:52:44 AM	14.91	5.84	20.11	16.60	4.60
5/7/2021 11:52:59 AM	15.06	5.69	24.59	16.77	13.44
5/7/2021 11:53:14 AM	15.19	5.57	34.24	17.04	14.90
5/7/2021 11:53:29 AM	15.28	5.48	47.59	17.16	3.80
5/7/2021 11:53:44 AM	15.32	5.43	29.60	17.19	3.20
5/7/2021 11:53:59 AM	15.35	5.41	17.54	17.36	7.79
5/7/2021 11:54:14 AM	15.42	5.34	15.85	17.46	17.69
5/7/2021 11:54:29 AM	15.41	5.38	22.42	17.46	4.17
5/7/2021 11:54:44 AM	15.29	5.48	19.55	17.38	3.37
5/7/2021 11:54:59 AM	15.24	5.53	18.27	17.33	13.12
5/7/2021 11:55:14 AM	15.16	5.61	18.82	17.26	14.87
5/7/2021 11:55:29 AM	15.09	5.71	21.79	17.14	5.15
5/7/2021 11:55:44 AM	14.88	5.89	23.73	17.09	4.68
5/7/2021 11:55:59 AM	14.86	5.91	21.82	17.07	7.46
5/7/2021 11:56:14 AM	14.85	5.93	16.91	17.04	21.12
5/7/2021 11:56:29 AM	14.87	5.91	15.90	16.97	5.10
5/7/2021 11:56:44 AM	14.89	5.86	19.27	16.97	4.63
5/7/2021 11:56:59 AM	14.98	5.79	23.63	17.07	14.09
5/7/2021 11:57:14 AM	14.93	5.86	34.49	17.21	14.92

Plant Name: Enviva Waycross
 Location: RTO1 Stack (Dryer Line 1)

Run: 2
 Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
5/7/2021 11:57:29 AM	14.89	5.87	47.59	17.24	3.91
5/7/2021 11:57:44 AM	14.88	5.88	29.76	17.24	3.31
5/7/2021 11:57:59 AM	14.84	5.93	17.71	17.33	8.37
5/7/2021 11:58:14 AM	14.86	5.90	16.15	17.43	20.20
5/7/2021 11:58:29 AM	14.89	5.87	24.41	17.48	9.17
5/7/2021 11:58:44 AM	14.92	5.82	21.52	17.55	4.90
5/7/2021 11:58:59 AM	14.97	5.77	19.93	17.65	14.47
5/7/2021 11:59:14 AM	15.07	5.67	20.16	17.77	15.99
5/7/2021 11:59:29 AM	15.19	5.57	22.98	17.80	5.76
5/7/2021 11:59:44 AM	15.11	5.65	24.99	17.82	5.64
5/7/2021 11:59:59 AM	15.06	5.71	22.98	17.92	7.96
5/7/2021 12:00:14 PM	14.98	5.79	17.76	18.04	21.90
5/7/2021 12:00:29 PM	14.89	5.88	16.35	18.07	5.42
5/7/2021 12:00:44 PM	14.82	5.94	19.60	18.04	4.88
5/7/2021 12:00:59 PM	14.80	5.95	23.94	18.12	14.16
5/7/2021 12:01:14 PM	14.81	5.94	33.91	18.24	15.60
5/7/2021 12:01:29 PM	14.83	5.93	48.07	18.31	4.08
5/7/2021 12:01:44 PM	14.84	5.91	29.96	18.31	3.41
5/7/2021 12:01:59 PM	14.90	5.84	17.64	18.43	8.51
5/7/2021 12:02:14 PM	14.96	5.79	15.67	18.48	17.71
5/7/2021 12:02:29 PM	15.15	5.61	23.10	18.55	4.27
5/7/2021 12:02:44 PM	15.18	5.57	20.43	18.58	3.48
5/7/2021 12:02:59 PM	15.18	5.58	19.00	18.60	13.38
5/7/2021 12:03:14 PM	15.13	5.63	19.58	18.58	15.65
5/7/2021 12:03:29 PM	15.17	5.58	22.65	18.51	5.27
5/7/2021 12:03:44 PM	15.20	5.56	24.62	18.33	4.80
5/7/2021 12:03:59 PM	15.19	5.56	22.58	18.36	7.28
5/7/2021 12:04:14 PM	15.15	5.60	17.36	18.29	21.00
5/7/2021 12:04:29 PM	15.15	5.62	15.82	18.19	5.08
5/7/2021 12:04:44 PM	15.02	5.73	18.75	18.02	4.60
5/7/2021 12:04:59 PM	14.99	5.76	22.78	17.94	13.49
5/7/2021 12:05:14 PM	14.98	5.78	32.33	17.94	15.11
5/7/2021 12:05:29 PM	14.97	5.79	46.08	17.94	3.91
5/7/2021 12:05:44 PM	14.93	5.81	28.47	17.92	3.31
5/7/2021 12:05:59 PM	15.03	5.70	16.81	18.12	8.22
5/7/2021 12:06:14 PM	15.12	5.61	15.27	18.19	18.09
5/7/2021 12:06:29 PM	15.27	5.47	22.40	18.21	4.25
5/7/2021 12:06:44 PM	15.34	5.39	19.68	18.14	3.44
5/7/2021 12:06:59 PM	15.34	5.41	18.32	18.16	13.16
5/7/2021 12:07:14 PM	15.35	5.39	18.82	18.21	15.53
5/7/2021 12:07:29 PM	15.47	5.29	21.62	18.09	5.14
5/7/2021 12:07:44 PM	15.41	5.35	23.33	18.04	4.64
5/7/2021 12:07:59 PM	15.21	5.55	21.32	17.97	7.93
5/7/2021 12:08:14 PM	15.13	5.64	16.38	17.87	20.87
5/7/2021 12:08:29 PM	15.08	5.68	15.12	17.70	5.09
5/7/2021 12:08:44 PM	15.04	5.70	18.14	17.58	4.58
5/7/2021 12:08:59 PM	15.01	5.73	22.25	17.58	13.02
5/7/2021 12:09:14 PM	15.00	5.73	31.17	17.60	15.63
5/7/2021 12:09:29 PM	15.12	5.62	44.95	17.63	3.89
5/7/2021 12:09:44 PM	15.20	5.53	27.92	17.55	3.30

Plant Name: Enviva Waycross
 Location: RTO1 Stack (Dryer Line 1)

Run: 2
 Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
5/7/2021 12:09:59 PM	15.23	5.51	16.81	17.65	6.99
5/7/2021 12:10:14 PM	15.29	5.46	15.14	17.65	18.35
5/7/2021 12:10:29 PM	15.33	5.42	21.49	17.75	4.17
5/7/2021 12:10:44 PM	15.26	5.48	18.92	17.60	3.34
5/7/2021 12:10:59 PM	15.22	5.52	17.74	17.60	12.48
5/7/2021 12:11:14 PM	15.22	5.52	18.54	17.63	15.65
5/7/2021 12:11:29 PM	15.27	5.50	21.69	17.58	5.15
5/7/2021 12:11:44 PM	15.11	5.65	23.63	17.48	4.63
5/7/2021 12:11:59 PM	15.01	5.74	21.64	17.50	6.77
5/7/2021 12:12:14 PM	15.00	5.76	16.70	17.48	21.50
5/7/2021 12:12:29 PM	15.06	5.70	15.55	17.46	5.05
5/7/2021 12:12:44 PM	15.11	5.63	18.82	17.38	4.53
5/7/2021 12:12:59 PM	15.16	5.58	23.13	17.43	13.06
5/7/2021 12:13:14 PM	15.24	5.50	32.35	17.53	14.89
5/7/2021 12:13:29 PM	15.33	5.42	45.12	17.53	3.80
5/7/2021 12:13:44 PM	15.32	5.42	27.84	17.41	3.17
5/7/2021 12:13:59 PM	15.29	5.46	16.96	17.43	7.80
5/7/2021 12:14:14 PM	15.27	5.49	15.42	17.50	17.90
5/7/2021 12:14:29 PM	15.29	5.46	22.07	17.50	4.17
5/7/2021 12:14:44 PM	15.31	5.43	19.63	17.50	3.37
5/7/2021 12:14:59 PM	15.30	5.46	18.34	17.55	12.84
5/7/2021 12:15:14 PM	15.24	5.52	19.07	17.58	15.26
5/7/2021 12:15:29 PM	15.22	5.55	22.12	17.53	5.15
5/7/2021 12:15:44 PM	15.17	5.59	24.09	17.53	4.68
5/7/2021 12:15:59 PM	15.11	5.64	22.07	17.63	6.76
5/7/2021 12:16:14 PM	15.13	5.61	17.06	17.72	20.98
5/7/2021 12:16:29 PM	15.19	5.59	15.72	17.65	5.00
5/7/2021 12:16:44 PM	14.94	5.82	18.72	17.53	4.53
5/7/2021 12:16:59 PM	14.76	5.99	22.90	17.48	13.93
5/7/2021 12:17:14 PM	14.66	6.09	34.34	17.48	15.41
5/7/2021 12:17:29 PM	14.67	6.06	47.06	17.48	4.08
5/7/2021 12:17:44 PM	14.70	6.03	29.08	17.46	3.37
5/7/2021 12:17:59 PM	14.67	6.06	17.23	17.55	8.14
5/7/2021 12:18:14 PM	14.72	6.01	16.00	17.70	18.73
5/7/2021 12:18:29 PM	14.94	5.80	24.54	17.82	4.44
5/7/2021 12:18:44 PM	15.12	5.62	21.77	17.92	3.56
5/7/2021 12:18:59 PM	15.29	5.44	20.28	18.07	13.51
5/7/2021 12:19:14 PM	15.43	5.32	20.66	18.24	15.42
5/7/2021 12:19:29 PM	15.45	5.32	23.41	18.24	5.25
5/7/2021 12:19:44 PM	15.32	5.43	24.97	18.16	4.74
5/7/2021 12:19:59 PM	15.29	5.46	22.35	18.19	6.85
5/7/2021 12:20:14 PM	15.20	5.55	16.70	18.19	21.69
5/7/2021 12:20:29 PM	15.12	5.65	15.04	18.02	5.20
5/7/2021 12:20:44 PM	14.83	5.92	17.99	17.77	4.63
5/7/2021 12:20:59 PM	14.68	6.07	22.12	17.70	13.61
5/7/2021 12:21:14 PM	14.61	6.15	32.28	17.65	15.64
5/7/2021 12:21:29 PM	14.66	6.08	47.44	17.60	3.97
5/7/2021 12:21:44 PM	14.73	6.01	29.45	17.60	3.39
5/7/2021 12:21:59 PM	14.89	5.85	17.31	17.72	7.71

Plant Name: Enviva Waycross Run: 3
 Location: RTO1 Stack (Dryer Line 1) Date: 5/7/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
Averages	15.14	5.60	24.34	17.43	9.27
5/7/2021 12:40:14 PM	14.84	5.74	20.81	18.07	21.31
5/7/2021 12:40:29 PM	14.88	5.74	20.46	17.90	5.24
5/7/2021 12:40:44 PM	14.84	5.84	24.46	17.70	4.64
5/7/2021 12:40:59 PM	14.90	5.82	28.90	17.53	13.13
5/7/2021 12:41:14 PM	14.90	5.82	40.24	17.50	15.76
5/7/2021 12:41:29 PM	15.05	5.69	52.91	17.41	3.96
5/7/2021 12:41:44 PM	15.11	5.63	32.88	17.36	3.30
5/7/2021 12:41:59 PM	15.12	5.63	19.83	17.38	7.64
5/7/2021 12:42:14 PM	15.17	5.58	17.84	17.43	18.58
5/7/2021 12:42:29 PM	15.25	5.51	24.84	17.41	4.31
5/7/2021 12:42:44 PM	15.27	5.47	22.10	17.31	3.48
5/7/2021 12:42:59 PM	15.30	5.46	20.86	17.33	12.60
5/7/2021 12:43:14 PM	15.31	5.44	21.39	17.38	15.48
5/7/2021 12:43:29 PM	15.38	5.38	24.34	17.29	5.13
5/7/2021 12:43:44 PM	15.45	5.30	26.13	17.11	4.61
5/7/2021 12:43:59 PM	15.51	5.25	23.78	16.99	6.71
5/7/2021 12:44:14 PM	15.41	5.34	18.57	16.87	21.26
5/7/2021 12:44:29 PM	15.41	5.35	17.18	16.72	5.03
5/7/2021 12:44:44 PM	15.39	5.36	20.31	16.58	4.49
5/7/2021 12:44:59 PM	15.47	5.30	24.74	16.58	12.52
5/7/2021 12:45:14 PM	15.45	5.33	37.34	16.67	14.94
5/7/2021 12:45:29 PM	15.43	5.33	47.09	16.63	3.92
5/7/2021 12:45:44 PM	15.45	5.29	29.71	16.48	3.30
5/7/2021 12:45:59 PM	15.52	5.22	18.57	16.48	6.73
5/7/2021 12:46:14 PM	15.55	5.19	17.18	16.50	17.94
5/7/2021 12:46:29 PM	15.62	5.13	22.55	16.50	4.26
5/7/2021 12:46:44 PM	15.66	5.06	20.51	16.43	3.42
5/7/2021 12:46:59 PM	15.70	5.04	19.75	16.38	11.61
5/7/2021 12:47:14 PM	15.63	5.13	20.71	16.31	15.45
5/7/2021 12:47:29 PM	15.63	5.12	23.83	16.19	5.11
5/7/2021 12:47:44 PM	15.59	5.16	25.42	16.14	4.61
5/7/2021 12:47:59 PM	15.54	5.21	22.95	16.16	6.40
5/7/2021 12:48:14 PM	15.47	5.29	18.22	16.11	19.96
5/7/2021 12:48:29 PM	15.41	5.34	17.31	15.99	5.00
5/7/2021 12:48:44 PM	15.39	5.36	20.36	15.89	4.53
5/7/2021 12:48:59 PM	15.31	5.44	24.74	15.87	11.51
5/7/2021 12:49:14 PM	15.23	5.52	39.63	15.94	15.06
5/7/2021 12:49:29 PM	15.16	5.61	48.30	15.99	3.82
5/7/2021 12:49:44 PM	15.08	5.65	30.51	16.02	3.25
5/7/2021 12:49:59 PM	14.98	5.76	19.55	16.02	6.95
5/7/2021 12:50:14 PM	14.95	5.79	18.42	16.16	18.31
5/7/2021 12:50:29 PM	15.00	5.74	24.99	16.28	4.25
5/7/2021 12:50:44 PM	15.06	5.66	23.05	16.38	3.49
5/7/2021 12:50:59 PM	15.06	5.67	22.17	16.50	12.08
5/7/2021 12:51:14 PM	15.11	5.63	22.80	16.65	15.56
5/7/2021 12:51:29 PM	15.21	5.53	25.77	16.72	5.25
5/7/2021 12:51:44 PM	15.26	5.47	27.44	16.75	4.77
5/7/2021 12:51:59 PM	15.29	5.46	24.84	16.82	6.45
5/7/2021 12:52:14 PM	15.24	5.50	19.58	16.92	20.53

Plant Name: Enviva Waycross Run: 3
 Location: RTO1 Stack (Dryer Line 1) Date: 5/7/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/7/2021 12:52:29 PM	15.26	5.51	18.32	16.85	5.16
5/7/2021 12:52:44 PM	15.20	5.54	21.52	16.72	4.70
5/7/2021 12:52:59 PM	15.26	5.49	26.25	16.72	11.66
5/7/2021 12:53:14 PM	15.31	5.45	42.98	16.77	15.00
5/7/2021 12:53:29 PM	15.41	5.36	50.72	16.75	3.93
5/7/2021 12:53:44 PM	15.38	5.36	32.02	16.75	3.39
5/7/2021 12:53:59 PM	15.42	5.32	20.36	16.82	6.38
5/7/2021 12:54:14 PM	15.52	5.23	18.82	16.82	18.04
5/7/2021 12:54:29 PM	15.57	5.19	24.31	16.82	4.25
5/7/2021 12:54:44 PM	15.60	5.15	22.40	16.82	3.45
5/7/2021 12:54:59 PM	15.65	5.10	21.67	16.89	10.71
5/7/2021 12:55:14 PM	15.71	5.05	22.27	16.89	15.37
5/7/2021 12:55:29 PM	15.77	5.00	25.02	16.80	5.14
5/7/2021 12:55:44 PM	15.74	5.01	26.35	16.55	4.64
5/7/2021 12:55:59 PM	15.69	5.06	23.61	16.48	6.15
5/7/2021 12:56:14 PM	15.65	5.11	18.64	16.46	19.85
5/7/2021 12:56:29 PM	15.59	5.16	17.54	16.36	5.05
5/7/2021 12:56:44 PM	15.50	5.22	20.43	16.28	4.61
5/7/2021 12:56:59 PM	15.37	5.37	24.79	16.21	11.82
5/7/2021 12:57:14 PM	15.03	5.71	41.42	16.24	15.33
5/7/2021 12:57:29 PM	14.81	5.93	49.16	16.24	4.03
5/7/2021 12:57:44 PM	14.58	6.15	30.99	16.31	3.41
5/7/2021 12:57:59 PM	14.51	6.21	19.55	16.55	6.84
5/7/2021 12:58:14 PM	14.42	6.31	18.24	16.72	19.21
5/7/2021 12:58:29 PM	14.49	6.24	26.05	16.89	4.53
5/7/2021 12:58:44 PM	14.49	6.23	24.19	16.99	3.66
5/7/2021 12:58:59 PM	14.58	6.13	23.00	17.24	12.87
5/7/2021 12:59:14 PM	14.65	6.07	23.05	17.41	16.30
5/7/2021 12:59:29 PM	14.71	6.02	26.10	17.53	5.52
5/7/2021 12:59:44 PM	14.77	5.95	28.29	17.63	5.03
5/7/2021 12:59:59 PM	14.67	6.05	25.90	17.85	7.14
5/7/2021 1:00:14 PM	14.72	6.00	20.06	17.94	21.45
5/7/2021 1:00:29 PM	14.90	5.83	18.47	18.07	5.41
5/7/2021 1:00:44 PM	14.92	5.80	21.97	18.14	4.85
5/7/2021 1:00:59 PM	15.00	5.72	26.56	18.29	12.24
5/7/2021 1:01:14 PM	15.12	5.60	37.21	18.41	15.47
5/7/2021 1:01:29 PM	15.32	5.41	49.43	18.41	4.13
5/7/2021 1:01:44 PM	15.40	5.32	30.84	18.43	3.54
5/7/2021 1:01:59 PM	15.50	5.22	18.57	18.48	6.76
5/7/2021 1:02:14 PM	15.60	5.14	16.58	18.51	17.69
5/7/2021 1:02:29 PM	15.73	5.02	22.20	18.38	4.36
5/7/2021 1:02:44 PM	15.75	4.97	20.69	18.14	3.60
5/7/2021 1:02:59 PM	15.69	5.04	20.31	17.80	10.96
5/7/2021 1:03:14 PM	15.66	5.08	21.69	17.41	15.39
5/7/2021 1:03:29 PM	15.65	5.10	24.99	17.11	5.16
5/7/2021 1:03:44 PM	15.54	5.19	26.30	16.77	4.72
5/7/2021 1:03:59 PM	15.23	5.52	23.26	16.58	6.43
5/7/2021 1:04:14 PM	15.05	5.69	17.96	16.36	20.85
5/7/2021 1:04:29 PM	14.97	5.77	16.86	16.14	5.27
5/7/2021 1:04:44 PM	14.85	5.88	20.16	15.99	4.77

Plant Name: Enviva Waycross Run: 3
 Location: RTO1 Stack (Dryer Line 1) Date: 5/7/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/7/2021 1:04:59 PM	14.74	5.98	24.64	15.99	12.16
5/7/2021 1:05:14 PM	14.74	5.99	36.96	16.16	15.84
5/7/2021 1:05:29 PM	14.76	5.96	49.16	16.31	4.08
5/7/2021 1:05:44 PM	14.75	5.96	30.94	16.41	3.47
5/7/2021 1:05:59 PM	14.77	5.95	18.90	16.65	6.20
5/7/2021 1:06:14 PM	14.80	5.93	17.08	16.87	19.20
5/7/2021 1:06:29 PM	14.88	5.85	24.89	16.92	4.57
5/7/2021 1:06:44 PM	14.87	5.85	22.45	17.09	3.71
5/7/2021 1:06:59 PM	14.99	5.73	21.14	17.16	10.24
5/7/2021 1:07:14 PM	15.10	5.63	21.49	17.26	17.37
5/7/2021 1:07:29 PM	15.26	5.48	24.49	17.21	5.53
5/7/2021 1:07:44 PM	15.20	5.54	26.63	17.21	4.98
5/7/2021 1:07:59 PM	15.12	5.62	24.46	17.26	6.04
5/7/2021 1:08:14 PM	15.12	5.62	19.00	17.36	21.56
5/7/2021 1:08:29 PM	15.09	5.66	17.26	17.26	5.48
5/7/2021 1:08:44 PM	14.91	5.82	20.41	17.24	4.98
5/7/2021 1:08:59 PM	14.75	5.98	24.82	17.29	10.97
5/7/2021 1:09:14 PM	14.58	6.17	37.11	17.36	17.36
5/7/2021 1:09:29 PM	14.44	6.30	51.65	17.48	4.27
5/7/2021 1:09:44 PM	14.38	6.34	32.68	17.50	3.61
5/7/2021 1:09:59 PM	14.47	6.23	19.17	17.68	7.08
5/7/2021 1:10:14 PM	14.64	6.08	16.75	17.92	19.32
5/7/2021 1:10:29 PM	14.77	5.96	26.20	18.12	4.68
5/7/2021 1:10:44 PM	14.91	5.81	23.58	18.21	3.78
5/7/2021 1:10:59 PM	15.02	5.70	21.92	18.33	12.52
5/7/2021 1:11:14 PM	15.13	5.61	21.74	18.41	14.92
5/7/2021 1:11:29 PM	15.19	5.56	24.24	18.48	5.63
5/7/2021 1:11:44 PM	15.10	5.63	26.05	18.38	5.10
5/7/2021 1:11:59 PM	15.09	5.65	23.78	18.38	6.51
5/7/2021 1:12:14 PM	15.04	5.71	18.22	18.38	21.86
5/7/2021 1:12:29 PM	15.01	5.73	16.55	18.24	5.58
5/7/2021 1:12:44 PM	15.08	5.65	19.78	18.04	5.08
5/7/2021 1:12:59 PM	15.09	5.65	24.01	17.97	12.27
5/7/2021 1:13:14 PM	15.04	5.70	33.64	17.97	16.13
5/7/2021 1:13:29 PM	15.09	5.65	47.62	17.94	4.25
5/7/2021 1:13:44 PM	15.12	5.61	29.76	17.92	3.60
5/7/2021 1:13:59 PM	15.16	5.58	17.59	18.02	6.88
5/7/2021 1:14:14 PM	15.27	5.47	15.27	18.09	18.62
5/7/2021 1:14:29 PM	15.41	5.33	22.32	18.07	4.59
5/7/2021 1:14:44 PM	15.50	5.24	19.93	17.99	3.72
5/7/2021 1:14:59 PM	15.53	5.21	18.67	17.97	11.34
5/7/2021 1:15:14 PM	15.57	5.18	19.35	17.97	15.58
5/7/2021 1:15:29 PM	15.66	5.11	22.17	17.80	5.53
5/7/2021 1:15:44 PM	15.61	5.14	23.73	17.75	5.05
5/7/2021 1:15:59 PM	15.56	5.20	21.49	17.65	6.43
5/7/2021 1:16:14 PM	15.58	5.17	16.65	17.43	20.57
5/7/2021 1:16:29 PM	15.59	5.18	15.34	17.21	5.47
5/7/2021 1:16:44 PM	15.52	5.22	18.01	16.97	4.99
5/7/2021 1:16:59 PM	15.45	5.31	21.89	16.87	11.73
5/7/2021 1:17:14 PM	15.39	5.36	31.80	16.77	16.22

Plant Name: Enviva Waycross Run: 3
 Location: RTO1 Stack (Dryer Line 1) Date: 5/7/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/7/2021 1:17:29 PM	15.34	5.43	43.94	16.72	4.21
5/7/2021 1:17:44 PM	15.06	5.70	27.39	16.60	3.59
5/7/2021 1:17:59 PM	14.87	5.89	16.70	16.63	6.84
5/7/2021 1:18:14 PM	14.71	6.04	15.24	16.65	19.53
5/7/2021 1:18:29 PM	14.66	6.09	22.70	16.72	4.68
5/7/2021 1:18:44 PM	14.68	6.05	20.51	16.72	3.86
5/7/2021 1:18:59 PM	14.72	6.00	19.22	16.85	12.32
5/7/2021 1:19:14 PM	14.79	5.94	19.93	17.02	17.02
5/7/2021 1:19:29 PM	14.90	5.84	23.38	17.11	5.80
5/7/2021 1:19:44 PM	14.98	5.75	25.67	17.19	5.32
5/7/2021 1:19:59 PM	14.94	5.81	23.58	17.38	6.79
5/7/2021 1:20:14 PM	14.84	5.90	18.14	17.50	22.71
5/7/2021 1:20:29 PM	14.95	5.81	16.73	17.55	5.74
5/7/2021 1:20:44 PM	15.00	5.74	20.18	17.65	5.18
5/7/2021 1:20:59 PM	15.11	5.63	24.72	17.75	11.93
5/7/2021 1:21:14 PM	15.19	5.56	36.16	17.94	16.64
5/7/2021 1:21:29 PM	15.26	5.52	47.77	18.02	4.32
5/7/2021 1:21:44 PM	15.00	5.76	29.65	17.92	3.77
5/7/2021 1:21:59 PM	14.89	5.86	17.54	18.07	14.94
5/7/2021 1:22:14 PM	14.79	5.96	15.60	18.14	21.41
5/7/2021 1:22:29 PM	14.82	5.94	23.28	18.24	5.62
5/7/2021 1:22:44 PM	14.79	5.95	21.14	18.29	4.60
5/7/2021 1:22:59 PM	14.83	5.91	19.88	18.29	13.24
5/7/2021 1:23:14 PM	14.90	5.85	20.21	18.33	18.40
5/7/2021 1:23:29 PM	14.99	5.76	23.20	18.26	6.30
5/7/2021 1:23:44 PM	15.07	5.68	25.42	18.26	5.63
5/7/2021 1:23:59 PM	15.12	5.64	23.43	18.38	7.13
5/7/2021 1:24:14 PM	15.16	5.61	17.96	18.41	22.61
5/7/2021 1:24:29 PM	15.23	5.54	16.13	18.31	5.93
5/7/2021 1:24:44 PM	15.19	5.58	18.92	18.09	5.40
5/7/2021 1:24:59 PM	15.19	5.58	23.00	18.07	12.40
5/7/2021 1:25:14 PM	15.26	5.51	34.32	18.04	16.98
5/7/2021 1:25:29 PM	15.27	5.51	46.08	17.97	4.43
5/7/2021 1:25:44 PM	15.23	5.53	28.55	17.85	3.75
5/7/2021 1:25:59 PM	15.20	5.57	16.98	17.85	6.84
5/7/2021 1:26:14 PM	15.25	5.52	15.04	17.85	19.80
5/7/2021 1:26:29 PM	15.29	5.49	21.32	17.85	4.80
5/7/2021 1:26:44 PM	15.21	5.56	19.27	17.87	3.88
5/7/2021 1:26:59 PM	15.12	5.64	18.29	17.94	12.07
5/7/2021 1:27:14 PM	15.00	5.77	19.07	17.97	17.71
5/7/2021 1:27:29 PM	14.92	5.86	22.55	17.94	5.90
5/7/2021 1:27:44 PM	14.85	5.91	25.02	17.90	5.37
5/7/2021 1:27:59 PM	14.89	5.88	23.10	17.97	6.40
5/7/2021 1:28:14 PM	14.92	5.83	17.86	18.09	23.66
5/7/2021 1:28:29 PM	14.94	5.83	16.40	18.07	5.87
5/7/2021 1:28:44 PM	14.86	5.90	19.63	17.92	5.27
5/7/2021 1:28:59 PM	14.92	5.83	24.04	17.94	12.66
5/7/2021 1:29:14 PM	15.01	5.75	35.70	18.07	17.04
5/7/2021 1:29:29 PM	15.15	5.61	48.15	18.14	4.39
5/7/2021 1:29:44 PM	15.20	5.56	29.98	18.19	3.74

Plant Name: Enviva Waycross Run: 3
 Location: RTO1 Stack (Dryer Line 1) Date: 5/7/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/7/2021 1:29:59 PM	15.27	5.49	17.81	18.26	6.26
5/7/2021 1:30:14 PM	15.27	5.50	15.57	18.31	20.17
5/7/2021 1:30:29 PM	15.30	5.47	21.95	18.26	4.68
5/7/2021 1:30:44 PM	15.31	5.45	19.75	18.24	3.83
5/7/2021 1:30:59 PM	15.27	5.50	18.75	18.29	11.44
5/7/2021 1:31:14 PM	15.22	5.55	19.43	18.26	17.44
5/7/2021 1:31:29 PM	15.20	5.57	22.45	18.14	5.69
5/7/2021 1:31:44 PM	15.15	5.63	24.34	17.92	5.16
5/7/2021 1:31:59 PM	15.00	5.76	22.17	17.72	6.70
5/7/2021 1:32:14 PM	15.00	5.76	17.11	17.70	22.75
5/7/2021 1:32:29 PM	15.00	5.78	15.82	17.63	5.65
5/7/2021 1:32:44 PM	15.03	5.73	19.07	17.53	5.11
5/7/2021 1:32:59 PM	15.09	5.68	23.66	17.48	12.71
5/7/2021 1:33:14 PM	15.13	5.65	36.99	17.55	16.33
5/7/2021 1:33:29 PM	15.16	5.61	47.59	17.55	4.30
5/7/2021 1:33:44 PM	15.11	5.64	29.35	17.63	3.64
5/7/2021 1:33:59 PM	15.11	5.64	17.49	17.77	6.90
5/7/2021 1:34:14 PM	15.10	5.66	15.75	17.94	19.48
5/7/2021 1:34:29 PM	15.13	5.63	22.52	17.97	4.68
5/7/2021 1:34:44 PM	15.07	5.67	20.46	17.97	3.85
5/7/2021 1:34:59 PM	14.98	5.77	19.45	18.04	12.43
5/7/2021 1:35:14 PM	14.94	5.82	19.90	18.09	17.11
5/7/2021 1:35:29 PM	14.95	5.82	22.93	18.07	5.73
5/7/2021 1:35:44 PM	14.99	5.76	25.07	18.04	5.19
5/7/2021 1:35:59 PM	15.01	5.75	23.13	18.07	6.87
5/7/2021 1:36:14 PM	15.10	5.65	17.99	18.07	21.33
5/7/2021 1:36:29 PM	15.15	5.62	16.45	17.99	5.55
5/7/2021 1:36:44 PM	15.12	5.64	19.38	17.97	5.03
5/7/2021 1:36:59 PM	15.02	5.73	23.61	18.04	11.57
5/7/2021 1:37:14 PM	14.97	5.78	35.42	18.09	17.27
5/7/2021 1:37:29 PM	15.02	5.73	47.80	18.16	4.28
5/7/2021 1:37:44 PM	15.08	5.66	29.93	18.09	3.60
5/7/2021 1:37:59 PM	15.09	5.65	17.94	18.21	6.42
5/7/2021 1:38:14 PM	15.16	5.60	15.82	18.31	19.29
5/7/2021 1:38:29 PM	15.20	5.57	22.35	18.38	4.58
5/7/2021 1:38:44 PM	15.14	5.62	20.23	18.33	3.76
5/7/2021 1:38:59 PM	15.10	5.66	19.07	18.38	11.39
5/7/2021 1:39:14 PM	15.07	5.71	19.63	18.41	17.09
5/7/2021 1:39:29 PM	15.12	5.65	22.73	18.36	5.63
5/7/2021 1:39:44 PM	15.11	5.65	24.87	18.31	5.09
5/7/2021 1:39:59 PM	15.21	5.55	22.85	18.26	6.31
5/7/2021 1:40:14 PM	15.27	5.50	17.69	18.24	21.94
5/7/2021 1:40:29 PM	15.32	5.43	15.95	18.04	5.64
5/7/2021 1:40:44 PM	15.31	5.37	19.10	17.90	5.19
5/7/2021 1:40:59 PM	15.31	5.37	24.52	17.85	11.95

Spectrum	Date	Time	Methane (ppmv)	Methanol (ppmv)	Formaldehyde (ppmv)	Acetaldehyde (ppmv)	Temp (C)	Press (Atm)
RT01 Run 1	Averages	1001-1101	0.50	6.64	0.89	0.00	191.53	0.952
SPC__006331.LAB	5/7/2021	10:02:00 AM	0.00	5.80	0.85	0.00	191.56	0.952
SPC__006332.LAB	5/7/2021	10:03:00 AM	0.13	6.05	0.87	0.00	191.56	0.952
SPC__006333.LAB	5/7/2021	10:04:00 AM	0.45	6.46	0.82	0.00	191.51	0.952
SPC__006334.LAB	5/7/2021	10:05:00 AM	0.53	6.70	0.79	0.00	191.55	0.952
SPC__006335.LAB	5/7/2021	10:06:00 AM	0.13	7.02	0.83	0.00	191.54	0.952
SPC__006336.LAB	5/7/2021	10:07:00 AM	0.31	6.79	0.83	0.00	191.55	0.952
SPC__006337.LAB	5/7/2021	10:08:00 AM	0.74	6.48	0.84	0.00	191.57	0.953
SPC__006338.LAB	5/7/2021	10:09:00 AM	0.83	6.00	0.96	0.00	191.55	0.953
SPC__006339.LAB	5/7/2021	10:10:00 AM	0.53	6.21	1.06	0.00	191.54	0.952
SPC__006340.LAB	5/7/2021	10:11:00 AM	0.38	6.15	1.02	0.00	191.52	0.952
SPC__006341.LAB	5/7/2021	10:11:59 AM	0.51	6.69	1.04	0.00	191.53	0.952
SPC__006342.LAB	5/7/2021	10:12:59 AM	0.64	7.04	0.94	0.00	191.52	0.952
SPC__006343.LAB	5/7/2021	10:13:59 AM	0.25	6.32	0.84	0.00	191.55	0.952
SPC__006344.LAB	5/7/2021	10:15:00 AM	0.42	6.27	0.87	0.00	191.54	0.952
SPC__006345.LAB	5/7/2021	10:15:59 AM	0.55	6.93	1.20	0.00	191.53	0.951
SPC__006346.LAB	5/7/2021	10:16:59 AM	0.41	6.58	0.86	0.00	191.53	0.952
SPC__006347.LAB	5/7/2021	10:17:59 AM	0.00	6.53	0.86	0.00	191.55	0.952
SPC__006348.LAB	5/7/2021	10:18:59 AM	0.20	6.79	0.71	0.00	191.52	0.952
SPC__006349.LAB	5/7/2021	10:19:59 AM	0.52	6.98	0.72	0.00	191.53	0.952
SPC__006350.LAB	5/7/2021	10:20:59 AM	0.67	6.29	0.93	0.00	191.51	0.952
SPC__006351.LAB	5/7/2021	10:21:59 AM	0.22	6.30	0.81	0.00	191.55	0.952
SPC__006352.LAB	5/7/2021	10:22:59 AM	0.53	6.50	0.94	0.00	191.53	0.952
SPC__006353.LAB	5/7/2021	10:23:59 AM	0.77	6.66	0.89	0.00	191.53	0.952
SPC__006354.LAB	5/7/2021	10:24:59 AM	0.96	6.46	0.80	0.00	191.52	0.952
SPC__006355.LAB	5/7/2021	10:25:58 AM	0.36	6.61	0.89	0.00	191.48	0.952
SPC__006356.LAB	5/7/2021	10:26:58 AM	0.46	6.69	0.85	0.00	191.49	0.952
SPC__006357.LAB	5/7/2021	10:27:58 AM	0.65	6.39	0.87	0.00	191.48	0.952
SPC__006358.LAB	5/7/2021	10:28:58 AM	0.71	7.04	0.91	0.00	191.50	0.952
SPC__006359.LAB	5/7/2021	10:29:58 AM	0.23	7.24	0.81	0.00	191.49	0.952
SPC__006360.LAB	5/7/2021	10:30:58 AM	0.60	6.68	0.89	0.00	191.51	0.952
SPC__006361.LAB	5/7/2021	10:31:58 AM	0.89	6.64	0.89	0.00	191.49	0.952
SPC__006362.LAB	5/7/2021	10:32:58 AM	0.86	6.63	0.79	0.00	191.46	0.953
SPC__006363.LAB	5/7/2021	10:33:58 AM	0.29	6.65	0.82	0.00	191.47	0.952
SPC__006364.LAB	5/7/2021	10:34:58 AM	0.50	6.71	0.88	0.00	191.46	0.952
SPC__006365.LAB	5/7/2021	10:35:58 AM	0.81	6.72	0.71	0.00	191.47	0.953
SPC__006366.LAB	5/7/2021	10:36:58 AM	0.83	6.77	0.78	0.00	191.52	0.953
SPC__006367.LAB	5/7/2021	10:37:58 AM	0.29	6.17	0.78	0.00	191.54	0.953
SPC__006368.LAB	5/7/2021	10:38:58 AM	0.39	6.65	0.73	0.00	191.55	0.953
SPC__006369.LAB	5/7/2021	10:39:57 AM	0.66	7.00	0.78	0.00	191.53	0.952
SPC__006370.LAB	5/7/2021	10:40:57 AM	0.67	6.88	0.89	0.00	191.51	0.953
SPC__006371.LAB	5/7/2021	10:41:57 AM	0.05	6.43	0.86	0.00	191.53	0.952
SPC__006372.LAB	5/7/2021	10:42:57 AM	0.30	6.74	0.88	0.00	191.50	0.952
SPC__006373.LAB	5/7/2021	10:43:57 AM	0.62	7.25	0.84	0.00	191.47	0.952
SPC__006374.LAB	5/7/2021	10:44:57 AM	0.81	6.91	0.81	0.00	191.47	0.952
SPC__006375.LAB	5/7/2021	10:45:57 AM	0.22	6.65	0.89	0.00	191.51	0.952
SPC__006376.LAB	5/7/2021	10:46:57 AM	0.47	6.65	0.82	0.00	191.55	0.952
SPC__006377.LAB	5/7/2021	10:47:57 AM	0.69	6.82	1.02	0.00	191.55	0.952
SPC__006378.LAB	5/7/2021	10:48:57 AM	0.65	6.62	1.04	0.00	191.55	0.952
SPC__006379.LAB	5/7/2021	10:49:57 AM	0.12	7.00	1.06	0.00	191.55	0.953
SPC__006380.LAB	5/7/2021	10:50:57 AM	0.42	6.41	1.02	0.00	191.51	0.952
SPC__006381.LAB	5/7/2021	10:51:56 AM	0.78	6.80	0.99	0.00	191.54	0.952
SPC__006382.LAB	5/7/2021	10:52:56 AM	0.84	6.70	1.02	0.00	191.55	0.952
SPC__006383.LAB	5/7/2021	10:53:56 AM	0.22	6.40	0.90	0.00	191.55	0.952
SPC__006384.LAB	5/7/2021	10:54:56 AM	0.49	6.76	0.82	0.00	191.60	0.952
SPC__006385.LAB	5/7/2021	10:55:56 AM	0.76	7.11	0.89	0.00	191.56	0.952
SPC__006386.LAB	5/7/2021	10:56:56 AM	0.68	7.02	0.86	0.00	191.55	0.952
SPC__006387.LAB	5/7/2021	10:57:56 AM	0.10	6.79	0.87	0.00	191.55	0.952
SPC__006388.LAB	5/7/2021	10:58:56 AM	0.42	7.12	0.90	0.00	191.55	0.952
SPC__006389.LAB	5/7/2021	10:59:56 AM	0.85	6.69	0.95	0.00	191.58	0.952
SPC__006390.LAB	5/7/2021	11:00:56 AM	0.88	6.62	0.99	0.00	191.57	0.952
SPC__006391.LAB	5/7/2021	11:01:56 AM	0.32	6.39	1.10	0.00	191.55	0.953

Spectrum	Date	Time	Methane (ppmv)	Methanol (ppmv)	Formaldehyde (ppmv)	Acetaldehyde (ppmv)	Temp (C)	Press (Atm)
RTO1 Run 2	Averages	1120-1220	0.691	6.671	0.773	0.000	191.477	0.953
SPC_006411.LAB	5/7/2021	11:21:54 AM	1.57	8.34	0.36	0.00	191.55	0.953
SPC_006412.LAB	5/7/2021	11:22:54 AM	1.40	8.41	0.23	0.00	191.55	0.953
SPC_006413.LAB	5/7/2021	11:23:54 AM	1.68	8.20	0.40	0.00	191.56	0.952
SPC_006414.LAB	5/7/2021	11:24:54 AM	1.85	8.09	0.48	0.00	191.55	0.953
SPC_006415.LAB	5/7/2021	11:25:54 AM	0.97	7.82	0.41	0.00	191.53	0.952
SPC_006416.LAB	5/7/2021	11:26:54 AM	0.95	7.58	0.42	0.00	191.51	0.952
SPC_006417.LAB	5/7/2021	11:27:54 AM	1.21	7.47	0.39	0.00	191.49	0.952
SPC_006418.LAB	5/7/2021	11:28:54 AM	1.29	7.35	0.46	0.00	191.48	0.952
SPC_006419.LAB	5/7/2021	11:29:54 AM	0.69	7.40	0.54	0.00	191.50	0.953
SPC_006420.LAB	5/7/2021	11:30:54 AM	0.85	7.14	0.43	0.00	191.47	0.952
SPC_006421.LAB	5/7/2021	11:31:54 AM	1.01	7.26	0.63	0.00	191.53	0.952
SPC_006422.LAB	5/7/2021	11:32:54 AM	1.13	7.40	0.69	0.00	191.56	0.953
SPC_006423.LAB	5/7/2021	11:33:53 AM	0.46	7.34	0.55	0.00	191.57	0.952
SPC_006424.LAB	5/7/2021	11:34:53 AM	0.59	6.45	0.71	0.00	191.56	0.952
SPC_006425.LAB	5/7/2021	11:35:54 AM	0.98	6.50	0.68	0.00	191.55	0.952
SPC_006426.LAB	5/7/2021	11:36:53 AM	1.15	6.91	0.65	0.00	191.57	0.952
SPC_006427.LAB	5/7/2021	11:37:53 AM	0.46	6.62	0.49	0.00	191.47	0.953
SPC_006428.LAB	5/7/2021	11:38:53 AM	0.53	6.01	0.74	0.00	191.45	0.953
SPC_006429.LAB	5/7/2021	11:39:53 AM	0.76	6.84	0.68	0.00	191.46	0.953
SPC_006430.LAB	5/7/2021	11:40:53 AM	0.90	6.48	0.79	0.00	191.49	0.952
SPC_006431.LAB	5/7/2021	11:41:53 AM	0.28	6.12	0.84	0.00	191.53	0.953
SPC_006432.LAB	5/7/2021	11:42:53 AM	0.47	6.07	0.93	0.00	191.53	0.953
SPC_006433.LAB	5/7/2021	11:43:53 AM	0.83	6.54	0.94	0.00	191.51	0.953
SPC_006434.LAB	5/7/2021	11:44:53 AM	0.81	6.46	0.96	0.00	191.51	0.953
SPC_006435.LAB	5/7/2021	11:45:53 AM	0.11	6.95	0.90	0.00	191.47	0.952
SPC_006436.LAB	5/7/2021	11:46:52 AM	0.40	7.01	0.84	0.00	191.46	0.952
SPC_006437.LAB	5/7/2021	11:47:53 AM	0.72	6.26	0.74	0.00	191.49	0.953
SPC_006438.LAB	5/7/2021	11:48:52 AM	0.83	6.99	0.82	0.00	191.50	0.953
SPC_006439.LAB	5/7/2021	11:49:52 AM	0.30	6.29	0.79	0.00	191.53	0.953
SPC_006440.LAB	5/7/2021	11:50:52 AM	0.47	6.36	0.81	0.00	191.47	0.953
SPC_006441.LAB	5/7/2021	11:51:52 AM	0.78	6.58	0.81	0.00	191.44	0.953
SPC_006442.LAB	5/7/2021	11:52:52 AM	0.91	6.37	0.96	0.00	191.45	0.953
SPC_006443.LAB	5/7/2021	11:53:52 AM	0.29	6.12	0.88	0.00	191.43	0.953
SPC_006444.LAB	5/7/2021	11:54:52 AM	0.41	6.27	0.59	0.00	191.39	0.953
SPC_006445.LAB	5/7/2021	11:55:52 AM	0.77	6.40	0.69	0.00	191.47	0.953
SPC_006446.LAB	5/7/2021	11:56:52 AM	0.89	6.55	0.78	0.00	191.50	0.953
SPC_006447.LAB	5/7/2021	11:57:52 AM	0.25	6.55	0.83	0.00	191.51	0.953
SPC_006448.LAB	5/7/2021	11:58:52 AM	0.01	6.03	1.36	0.00	191.51	0.953
SPC_006449.LAB	5/7/2021	11:59:51 AM	0.14	5.34	1.15	0.00	191.44	0.952
SPC_006450.LAB	5/7/2021	12:00:52 PM	0.35	5.74	1.11	0.00	191.41	0.953
SPC_006451.LAB	5/7/2021	12:01:51 PM	0.00	6.07	1.04	0.00	191.41	0.953
SPC_006452.LAB	5/7/2021	12:02:51 PM	0.20	6.20	1.03	0.00	191.46	0.952
SPC_006453.LAB	5/7/2021	12:03:51 PM	0.51	6.38	0.92	0.00	191.46	0.953
SPC_006454.LAB	5/7/2021	12:04:51 PM	0.80	6.81	0.86	0.00	191.49	0.953
SPC_006455.LAB	5/7/2021	12:05:51 PM	0.29	6.91	0.87	0.00	191.49	0.953
SPC_006456.LAB	5/7/2021	12:06:51 PM	0.44	5.93	0.95	0.00	191.44	0.953
SPC_006457.LAB	5/7/2021	12:07:51 PM	0.77	6.13	0.97	0.00	191.37	0.953
SPC_006458.LAB	5/7/2021	12:08:51 PM	0.80	6.82	0.79	0.00	191.34	0.953
SPC_006459.LAB	5/7/2021	12:09:51 PM	0.25	6.58	0.86	0.00	191.35	0.953
SPC_006460.LAB	5/7/2021	12:10:51 PM	0.42	6.55	0.76	0.00	191.38	0.953
SPC_006461.LAB	5/7/2021	12:11:51 PM	0.88	6.26	0.75	0.00	191.44	0.953
SPC_006462.LAB	5/7/2021	12:12:51 PM	0.98	6.22	0.72	0.00	191.47	0.953
SPC_006463.LAB	5/7/2021	12:13:50 PM	0.40	6.12	0.92	0.00	191.53	0.953
SPC_006464.LAB	5/7/2021	12:14:50 PM	0.48	6.14	0.97	0.00	191.47	0.953
SPC_006465.LAB	5/7/2021	12:15:50 PM	0.86	6.32	0.98	0.00	191.41	0.953
SPC_006466.LAB	5/7/2021	12:16:50 PM	0.94	6.62	0.99	0.00	191.39	0.953
SPC_006467.LAB	5/7/2021	12:17:50 PM	0.34	6.53	0.92	0.00	191.44	0.952
SPC_006468.LAB	5/7/2021	12:18:50 PM	0.45	6.16	0.88	0.00	191.46	0.953
SPC_006469.LAB	5/7/2021	12:19:50 PM	0.83	6.31	0.76	0.00	191.47	0.953
SPC_006470.LAB	5/7/2021	12:20:50 PM	0.79	6.81	0.83	0.00	191.46	0.952
SPC_006471.LAB	5/7/2021	12:21:50 PM	0.25	6.46	0.88	0.00	191.38	0.953

Spectrum	Date	Time	Methane (ppmvw)	Methanol (ppmvw)	Formaldehyde (ppmvw)	Acetaldehyde (ppmvw)	Temp (C)	Press (Atm)
RTO1 Run 3	Averages	1240-1340	0.723	6.677	0.712	0.000	191.4	0.9521
SPC_006490.LAB	5/7/2021	12:40:48 PM	1.55	8.29	0.32	0.00	191.45	0.952
SPC_006491.LAB	5/7/2021	12:41:48 PM	0.83	8.11	0.19	0.00	191.46	0.952
SPC_006492.LAB	5/7/2021	12:42:48 PM	0.98	7.79	0.24	0.00	191.48	0.952
SPC_006493.LAB	5/7/2021	12:43:48 PM	1.32	7.54	0.27	0.00	191.49	0.952
SPC_006494.LAB	5/7/2021	12:44:48 PM	1.27	7.20	0.25	0.00	191.47	0.952
SPC_006495.LAB	5/7/2021	12:45:48 PM	0.40	6.90	0.49	0.00	191.45	0.952
SPC_006496.LAB	5/7/2021	12:46:48 PM	0.61	6.64	0.53	0.00	191.45	0.952
SPC_006497.LAB	5/7/2021	12:47:48 PM	1.05	6.79	0.42	0.00	191.43	0.952
SPC_006498.LAB	5/7/2021	12:48:48 PM	1.19	6.97	0.45	0.00	191.46	0.952
SPC_006499.LAB	5/7/2021	12:49:48 PM	0.48	7.24	0.45	0.00	191.47	0.952
SPC_006500.LAB	5/7/2021	12:50:48 PM	0.66	7.27	0.60	0.00	191.47	0.952
SPC_006501.LAB	5/7/2021	12:51:48 PM	1.07	6.97	0.72	0.00	191.47	0.952
SPC_006502.LAB	5/7/2021	12:52:47 PM	1.31	6.25	0.77	0.00	191.44	0.952
SPC_006503.LAB	5/7/2021	12:53:47 PM	0.59	6.98	0.69	0.00	191.40	0.952
SPC_006504.LAB	5/7/2021	12:54:48 PM	0.73	6.68	0.54	0.00	191.39	0.953
SPC_006505.LAB	5/7/2021	12:55:47 PM	1.14	6.63	0.38	0.00	191.44	0.952
SPC_006506.LAB	5/7/2021	12:56:47 PM	1.39	6.93	0.40	0.00	191.44	0.952
SPC_006507.LAB	5/7/2021	12:57:47 PM	0.51	6.80	0.58	0.00	191.45	0.952
SPC_006508.LAB	5/7/2021	12:58:47 PM	0.63	6.81	0.61	0.00	191.49	0.952
SPC_006509.LAB	5/7/2021	12:59:47 PM	1.08	6.74	0.64	0.00	191.48	0.952
SPC_006510.LAB	5/7/2021	1:00:47 PM	1.21	6.39	0.57	0.00	191.44	0.952
SPC_006511.LAB	5/7/2021	1:01:47 PM	0.47	5.97	0.59	0.00	191.40	0.953
SPC_006512.LAB	5/7/2021	1:02:47 PM	0.56	5.75	0.64	0.00	191.41	0.952
SPC_006513.LAB	5/7/2021	1:03:47 PM	1.04	6.13	0.77	0.00	191.44	0.952
SPC_006514.LAB	5/7/2021	1:04:47 PM	1.34	7.49	0.78	0.00	191.42	0.952
SPC_006515.LAB	5/7/2021	1:05:47 PM	0.67	6.87	0.85	0.00	191.45	0.953
SPC_006516.LAB	5/7/2021	1:06:46 PM	0.56	7.67	0.73	0.00	191.45	0.954
SPC_006517.LAB	5/7/2021	1:07:46 PM	0.62	7.49	0.79	0.00	191.44	0.954
SPC_006518.LAB	5/7/2021	1:08:47 PM	0.80	6.60	0.89	0.00	191.47	0.953
SPC_006519.LAB	5/7/2021	1:09:46 PM	0.42	7.01	0.78	0.00	191.46	0.952
SPC_006520.LAB	5/7/2021	1:10:46 PM	0.38	6.54	0.76	0.00	191.46	0.952
SPC_006521.LAB	5/7/2021	1:11:46 PM	0.79	6.53	0.75	0.00	191.41	0.952
SPC_006522.LAB	5/7/2021	1:12:46 PM	0.85	6.55	0.83	0.00	191.36	0.952
SPC_006523.LAB	5/7/2021	1:13:46 PM	0.19	6.42	0.87	0.00	191.36	0.952
SPC_006524.LAB	5/7/2021	1:14:46 PM	0.35	6.36	0.92	0.00	191.43	0.952
SPC_006525.LAB	5/7/2021	1:15:46 PM	0.91	5.86	0.92	0.00	191.44	0.952
SPC_006526.LAB	5/7/2021	1:16:46 PM	1.09	6.14	0.96	0.00	191.44	0.952
SPC_006527.LAB	5/7/2021	1:17:46 PM	0.46	6.60	0.80	0.00	191.46	0.952
SPC_006528.LAB	5/7/2021	1:18:46 PM	0.58	6.72	0.93	0.00	191.47	0.952
SPC_006529.LAB	5/7/2021	1:19:45 PM	0.92	6.75	0.89	0.00	191.46	0.952
SPC_006530.LAB	5/7/2021	1:20:45 PM	0.94	6.41	0.87	0.00	191.50	0.952
SPC_006531.LAB	5/7/2021	1:21:45 PM	0.00	6.42	1.27	0.00	191.54	0.952
SPC_006532.LAB	5/7/2021	1:22:45 PM	0.00	5.61	0.97	0.00	191.55	0.951
SPC_006533.LAB	5/7/2021	1:23:45 PM	0.48	5.76	0.71	0.00	191.54	0.951
SPC_006534.LAB	5/7/2021	1:24:45 PM	0.65	6.14	0.75	0.00	191.49	0.952
SPC_006535.LAB	5/7/2021	1:25:45 PM	0.01	6.29	0.79	0.00	191.46	0.952
SPC_006536.LAB	5/7/2021	1:26:45 PM	0.19	6.47	0.80	0.00	191.44	0.952
SPC_006537.LAB	5/7/2021	1:27:45 PM	0.54	6.87	0.80	0.00	191.44	0.953
SPC_006538.LAB	5/7/2021	1:28:45 PM	0.81	6.89	0.88	0.00	191.43	0.952
SPC_006539.LAB	5/7/2021	1:29:45 PM	0.21	6.70	0.87	0.00	191.41	0.952
SPC_006540.LAB	5/7/2021	1:30:45 PM	0.38	6.73	0.97	0.00	191.39	0.952
SPC_006541.LAB	5/7/2021	1:31:45 PM	0.77	6.32	1.05	0.00	191.48	0.952
SPC_006542.LAB	5/7/2021	1:32:45 PM	0.88	6.86	1.01	0.00	191.54	0.951
SPC_006543.LAB	5/7/2021	1:33:44 PM	0.36	6.34	0.88	0.00	191.50	0.952
SPC_006544.LAB	5/7/2021	1:34:45 PM	0.42	6.40	0.89	0.00	191.41	0.952
SPC_006545.LAB	5/7/2021	1:35:44 PM	0.81	6.33	0.74	0.00	191.36	0.952
SPC_006546.LAB	5/7/2021	1:36:44 PM	0.93	6.42	0.77	0.00	191.34	0.952
SPC_006547.LAB	5/7/2021	1:37:44 PM	0.26	6.19	0.74	0.00	191.35	0.952
SPC_006548.LAB	5/7/2021	1:38:44 PM	0.43	6.27	0.75	0.00	191.39	0.952
SPC_006549.LAB	5/7/2021	1:39:44 PM	0.85	6.32	0.64	0.00	191.40	0.952
SPC_006550.LAB	5/7/2021	1:40:44 PM	1.17	6.22	0.71	0.00	191.40	0.952

Facility: Enviva WAY
Location: Waycross, GA.

Source: RTO1 Stack (Dryer 1)

FLOW AND MOISTURE CALCULATIONS					
PARAMETER	NOMENCLATURE	RUN #1	RUN #2	RUN #3	Avg.
Date		5/7/2021	5/7/2021	5/7/2021	
Run Time		1000-1100	1120-1220	1240-1340	
Moisture Run Time	θ - min	60	60	60	
Stack Diameter	Ds - Inches	82	82	82	
Meter Calibration Factor	Y	0.976	0.976	0.976	
Barometric Pressure, inches Hg	Bp - in Hg	29.80	29.80	29.80	
Static Pressure	Pg - in. H ₂ O	-0.80	-0.79	-0.72	
Volume of Gas Sampled	Vm - cu. ft.	39.536	39.544	39.320	
Liquid Collected	ml	325.2	334.7	303.5	
Stack Area	As - sq. ft.	36.67	36.67	36.67	
Pitot Tube Coefficient	Cp	0.84	0.84	0.84	
Stack Pressure	Ps - in Hg	29.74	29.74	29.75	
Meter Box Pressure Differential	ΔH - in. H ₂ O	1.50	1.50	1.50	
Avg Square Root Velocity Head	ave sq rt Δp - in. H ₂ O	1.219	1.210	1.190	
Dry Gas Meter Temperature	Tm - °F	73.33	77.67	80.00	
Stack Temperature	Ts - °F	253.6	255.6	257.6	255.6
Oxygen	% O ₂	14.96	15.09	15.15	15.07
Carbon Dioxide	% CO ₂	5.76	5.50	5.37	5.55
Carbon Monoxide	% CO				
Nitrogen	% N ₂	79.27	79.41	79.48	
Volume of Gas Sampled, Dry	Vmstd - cu. ft.	38.189	37.889	37.511	
Volume of Water Vapor	Vwstd - cu. ft.	15.333	15.781	14.310	
Measured Moisture Content	% H ₂ O	28.65	29.40	27.61	28.56
Saturation Moisture	% H ₂ O	100.00	100.00	100.00	
Actual Stack Gas Moisture	% H ₂ O	28.65	29.40	27.61	
Dry Mole Fraction	Mfd	0.714	0.706	0.724	
Fuel Factor	Fo	1.030	1.056	1.070	
Gas Molecular Weight, Dry	Md	29.52	29.48	29.47	
Gas Molecular Weight, Wet	Ms	26.22	26.11	26.30	
Gas Velocity	vs - ft./sec.	83.73	83.43	81.84	83.00
Volumetric Air Flow, Actual	Qaw - ACFM	184,242	183,574	180,089	182,635
Volumetric Air Flow, Standard	Qsd - DSCFM	96,692	95,049	95,367	95,703

RTO1 Stack (Dryer 1)

of points in flow traverse = |

Cyclonic Angle		Run 1			Run 2			Run 3		
		Δp - in. H ₂ O	sq. root Δp	Stack Temp	Δp - in. H ₂ O	sq. root Δp	Stack Temp	Δp - in. H ₂ O	sq. root Δp	Stack Temp
0	1	1.35	1.16	246	1.35	1.16	241	1.05	1.02	243
0	2	1.05	1.02	247	1.35	1.16	248	1.25	1.12	247
1	3	0.97	0.98	249	1.35	1.16	249	1.2	1.10	251
2	4	1	1.00	249	1.25	1.12	250	1.3	1.14	251
0	5	1.55	1.24	251	1.7	1.30	251	1.65	1.28	257
0	6	1.75	1.32	253	1.7	1.30	258	1.75	1.32	259
0	7	2.05	1.43	256	1.9	1.38	263	2	1.41	259
1	8	2	1.41	254	1.9	1.38	267	1	1.00	257
4	9	1.05	1.02	251	1.2	1.10	257	1.05	1.02	257
2	10	1.15	1.07	252	0.91	0.95	256	0.97	0.98	258
0	11	1.35	1.16	252	0.9	0.95	255	0.95	0.97	259
0	12	1.4	1.18	252	0.96	0.98	254	1.55	1.24	261
0	13	1.85	1.36	254	1.6	1.26	260	1.9	1.38	265
0	14	1.85	1.36	265	1.8	1.34	260	2.15	1.47	263
1	15	2.05	1.43	264	2.1	1.45	260	1.5	1.22	267
1	16	1.75	1.32	262	1.85	1.36	261	1.8	1.34	267
	17		0.00			0.00			0.00	
	18		0.00			0.00			0.00	
	19		0.00			0.00			0.00	
	20		0.00			0.00			0.00	
	21		0.00			0.00			0.00	
	22		0.00			0.00			0.00	
	23		0.00			0.00			0.00	
	24		0.00			0.00			0.00	

Averages		1.219	253.6		1.210	255.6		1.190	257.6
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Air Control Techniques, P.C.
Moisture Sampling Train Field Data Sheet

Date 5/7/2021

SOURCE IDENTIFICATION				EQUIPMENT IDENTIFICATION			
Facility	Enviva WAY			Umbilical ID	U 90		
City, State	Waycross, GA.			Meterbox ID	1959		
Test Location	RTO1 Stack (Dryer 1)			$\Delta H@$	1.953		
Personnel	DLS, WS			Gamma (γ)	0.976		

Run Identification 1				Pre Leak Check			Post Leak Check		
				Actual	Req'd	Vac			
				0	< 0.02 or 4%	12			
				0	< 0.02 or 4%	8			
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)	
1000	0	381.809	69	1.5	NA	NA	65.0	3.0	
	10	388.34	71	1.5	NA	NA	64.0	3.0	
	20	395.1	73	1.5	NA	NA	64.0	3.0	
	30	401.88	74	1.5	NA	NA	63.0	3.0	
	40	408.29	76	1.5	NA	NA	63.0	3.0	
	50	415.04	77	1.5	NA	NA	63.0	3.0	
1100	60	421.345							

Run Identification 2				Pre Leak Check			Post Leak Check		
				Actual	Req'd	Vac			
				0	< 0.02 or 4%	12			
				0	< 0.02 or 4%	9			
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)	
1120	0	421.525	75	1.5	NA	NA	64.0	3.0	
	10	428.21	77	1.5	NA	NA	64.0	3.0	
	20	435	78	1.5	NA	NA	63.0	3.0	
	30	441.34	79	1.5	NA	NA	63.0	3.0	
	40	447.98	78	1.5	NA	NA	63.0	3.0	
	50	454.61	79	1.5	NA	NA	63.0	3.0	
1220	60	461.069							

Run Identification 3				Pre Leak Check			Post Leak Check		
				Actual	Req'd	Vac			
				0	< 0.02 or 4%	11			
				0	< 0.02 or 4%	11			
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)	
1240	0	461.172	77	1.5	NA	NA	65.0	4.0	
	10	466.88	78	1.5	NA	NA	65.0	4.0	
	20	473.94	80	1.5	NA	NA	64.0	4.0	
	30	480.69	81	1.5	NA	NA	64.0	4.0	
	40	487.43	82	1.5	NA	NA	63.0	4.0	
	50	493.88	82	1.5	NA	NA	63.0	4.0	
1340	60	500.49							

Air Control Techniques, P.C.
Moisture Recovery Sheet

Date **5/7/2021**

Source Information				
Client	Enviva			Job # Process Personnel
Plant Name	Enviva WAY			
City, State	Waycross, GA.			
Sampling Location	RTO1 Stack (Dryer 1)			
		Job #	2513	
		Process	Normal	
		Personnel	DLS	

Sampling Information				
Run Number	Run 1	Run 2	Run 3	
Sampling Date	5/7/2021	5/7/2021	5/7/2021	

Moisture Data				
<u>Impinger 1</u>				
Final Weight, grams	947.2	916.7	915.4	
Initial Weight, grams	708.5	666.4	692.2	
Condensed Water, grams	238.7	250.3	223.2	0.0
<u>Impinger 2</u>				
Final Weight, grams	746.2	748.8	738.2	
Initial Weight, grams	680.7	680.9	678.8	
Condensed Water, grams	65.5	67.9	59.4	0.0
<u>Impinger 3</u>				
Final Weight, grams				
Initial Weight, grams				
Condensed Water, grams	0.0	0.0	0.0	0.0
<u>Impinger 4</u>				
Final Weight, grams				
Initial Weight, grams				
Condensed Water, grams	0.0	0.0	0.0	0.0
<u>Silica Gel</u>				
Final Weight, grams	945.0	1028.6	965.9	
Initial Weight, grams	924.0	1012.1	945.0	
Adsorbed Water, grams	21.0	16.5	20.9	0.0
Total Water, grams	325.2	334.7	303.5	

APPENDIX B

Dryer Line 2 RTO2 Exhaust Stack Test Data

CEM and HAPs EMISSIONS SUMMARY					
Enviva Waycross - RTO2 Stack (Dryer Line 2)					
Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/6/2021	5/6/2021	5/6/2021	
Run Time		1540-1646	1706-1806	1824-1924	
Oxygen	%	14.93	14.92	14.94	14.93
Carbon Dioxide	%	5.57	5.60	5.58	5.58
Moisture	%	31.30	33.29	32.72	32.44
Volumetric Flow Rate, Std	DSCFM	89,341	88,082	87,994	88,473
Process Rate	ODT/hr	48.62	50.23	48.90	49.25
THC Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w} as C ₃	9.80	9.73	9.64	9.72
Concentration (dry)	ppm _{v,d} as C ₃	14.3	14.6	14.3	14.4
Emission Rate (propane)	lb/hr as C ₃ H ₈	8.76	8.82	8.7	8.75
Emission Factor (propane)	lb/ODT as C ₃ H ₈	0.180	0.176	0.177	0.178
Methane Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w} as CH ₄	0.00	0.00	0.00	0.00
Concentration (dry)	ppm _{v,d} as CH ₄	0.00	0.00	0.00	0.00
Emission Rate	lb/hr as CH ₄	0.00	0.00	0.00	0.00
Emission Factor	lb/ODT	0.000	0.000	0.000	0.000
Non-Methane Hydrocarbon Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppmv _d as C ₃	14.3	14.6	14.3	14.4
Emission Rate (propane)	lb/hr as C ₃ H ₈	8.76	8.82	8.66	8.75
Emission Factor (propane)	lb/ODT	0.180	0.176	0.177	0.178
NOx Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{v,d}	20.2	20.9	20.9	20.7
Emission Rate	lb/hr	12.92	13.18	13.19	13.10
Emission Factor	lb/ton material	0.266	0.262	0.270	0.266
CO Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{v,d}	13.1	14.1	14.1	13.7
Emission Rate	lb/hr	5.10	5.41	5.40	5.30
Emission Factor	lb/ton material	0.105	0.108	0.110	0.108
Formaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.57	0.61	0.65	0.61
Concentration (dry)	ppmv _d	0.8	0.9	1.0	0.90
Emission Rate	lb/hr	0.35	0.37	0.40	0.37
Emission Factor	lb/ODT	0.007	0.007	0.008	0.0076
Methanol Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	6.39	6.77	6.57	6.58
Concentration (dry)	ppmv _d	9.31	10.15	9.77	9.74
Emission Rate	lb/hr	4.148	4.460	4.290	4.30
Emission Factor	lb/ODT	0.085	0.089	0.088	0.087
Acetaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.00	0.00	0.00	0.00
Concentration (dry)	ppmv _d	0.00	0.00	0.00	0.00
Emission Rate	lb/hr	0.00	0.00	0.00	0.00
Emission Factor	lb/ODT	0.000	0.000	0.000	0.0000
ND values					

EPA Method OTM 26 VOC Emissions					
Enviva Waycross - RTO2 Stack (Dryer Line 2)					
Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/6/2021	5/6/2021	5/6/2021	
Run Time		1540-1646	1706-1806	1824-1924	
Volumetric Flow Rate, Std	DSCFM	89,341	88,082	87,994	88,473
Process Rate	tons material/hr	48.6	50.2	48.9	49.3
Emission Parameter	Units	Run 1	Run 2	Run 3	Average
THC	lbs/hr as propane	8.76	8.82	8.66	8.75
Methanol	lbs/hr as methanol	4.15	4.46	4.29	4.30
Methanol (measured as part of THC)	lbs/hr as propane	1.23	1.33	1.28	1.28
THC (not including methanol fraction)	lbs/hr as propane	7.52	7.50	7.38	7.47
Methane	lbs/hr as methane	0.00	0.00	0.00	0.00
Methane (as propane)	lbs/hr as propane	0.00	0.00	0.00	0.00
Acetaldehyde	lbs/hr as acetaldehyde	0.00	0.00	0.00	0.00
Acetaldehyde	lbs/hr as propane	0.00	0.00	0.00	0.00
THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as propane	7.52	7.50	7.38	7.47
THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as α -pinene	7.36	7.33	7.22	7.31
Formaldehyde	lbs/hr as formaldehyde	0.35	0.37	0.40	0.37
VOC Mass Emission Rate	lbs/hr	11.86	12.17	11.91	11.98
VOC Mass Emission Factor	lbs/ODT	0.244	0.242	0.244	0.243

Note 1: The fraction of methanol that is detected by Method 25A is calculated on a propane basis using (1) a carbon and molecular weight conversion factor of 0.458 and (2) the EPA OTM 26 default response factor 0.65.

Note 2: Methane is classified as a non-VOC measured with FIA. Methane is converted to a propane basis using (1) a carbon and molecular weight conversion factor of 0.917 and (2) the EPA OTM 26 default response factor 1.

Note 3: Acetaldehyde converted to a propane basis using (1) a carbon and molecular weight conversion factor of 0.667 and (2) the instrument-specific response factor for acetaldehyde measured on-site as part of the test program.

Note 4: THC not including the methanol and methane fraction detected by Method 25A is converted from a propane to an α pinene (terpene) basis using (1) a carbon and molecular weight conversion factor of 0.927 and (2) the instrument-specific response factor for α pinene measured on-site as part of the test program.

Notes

Measured by EPA Method 25A

Measured by EPA Method 320

Line B x 0.458 x 0.65 (Note 1)

Line A minus Line C

Measured by EPA Method 320

Line E x 0.917 x 1.0 (Note 2)

Measured by EPA Method 320

RF x 0.667 x Line X (Note 3)

Lines D - F - Z

Line G x 0.927 / Response Factor (Note 4)

Measured by EPA Method 320, not detected by FIA

Lines B + H + I + Z

Method 25A FIA Response Factors	Alpha Pinene	Acetaldehyde
THC Analyzer Model	700 HFID	700 HFID
THC Analyzer S/N	S/N 1601003	S/N 1601003
Date	5/4/2021	5/4/2021
Chemical Formula	C ₁₀ H ₁₆	CH ₃ CHO
Gas Standard, ppm	23.77	27.7
Gas Standard, as ppm C ₃	79.2	18.5
FIA Response, as C ₃	75.1	9.50
Response Factor	0.947	0.514

Enviva Waycross
Waycross, GA

Run 1
RTO2 Stack (Dryer Line 2)

Date: 6-May-21
Run Time: 1540-1640

Parameter	Symbol	O ₂ %	CO ₂ %	CO ppm	NOx ppm	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards						
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	N/A	N/A	8.4
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	44.9	46.5	15.0
High-Level Gas	$C_{v, high}$	22.15	18.70	90.4	90.7	25.6
Calibration Span	CS	22.15	18.70	90	90.7	30
Analyzer Calibration Error - Instrument Response						
Zero Gas	$C_{Dir, zero}$	0.00	0.01	0.1	0.0	0.0
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	N/A	N/A	8.6
Mid-Level Gas	$C_{Dir, mid}$	11.02	10.24	44.0	46.1	14.9
High-Level Gas	$C_{Dir, high}$	22.16	18.72	90.4	90.5	25.6
Analyzer Calibration Error - Results (Percent of Span)						
Zero Gas	ACE_{zero}	0.0	0.0	0.1	0.0	0.0
Low-Level Gas	ACE_{low}	N/A	N/A	N/A	N/A	0.6
Mid-Level Gas	ACE_{mid}	0.3	1.0	-1.0	-0.4	-0.3
High-Level Gas	ACE_{high}	0.0	0.1	0.0	-0.2	0.0
Specification	ACE_{spec}	±2	±2	±2	±2	±5
System Calibrations - Instrument Response						
Initial Zero	$C_{s, zero (pre)}$	0.09	0.25	0.2	0.1	0.0
Final Zero	$C_{s, zero (post)}$	0.12	0.06	-0.2	0.2	0.2
Upscale Gas Standard	C_{MA}	10.95	10.06	44.9	46.5	15.0
Initial Upscale	$C_{v, up (pre)}$	10.92	10.20	44.2	45.8	14.9
Final Upscale	$C_{v, up (post)}$	10.95	10.10	43.9	45.6	15.1
System Bias - Results (Percent)						
Zero (pre)	$SB_{i (zero)}$	0.4	1.3	0.2	0.1	0.0
Zero (post)	$SB_{final (zero)}$	0.5	0.3	-0.3	0.1	0.7
Upscale (pre)	$SB_{i (upscale)}$	-0.4	-0.2	0.2	-0.3	0.0
Upscale (post)	$SB_{final (upscale)}$	-0.3	-0.8	-0.2	-0.6	0.7
Specification	SB_{spec}	±5	±5	±5	±5	NA
System Drift - Results (Percent)						
Zero	D_{zero}	0.1	1.0	0.5	0.1	0.7
Upscale	$D_{upscale}$	0.1	0.5	0.3	0.3	0.7
Specification	D_{spec}	±3	±3	±3	±3	±3
Response Test - Results (seconds)						
Upscale Test		45	45	40	40	NA
Zero Test		40	45	40	40	NA
Response Time		45	45	40	40	35
Calibration Correction						
Raw Average	C_{ave}	14.97	5.54	12.78	19.91	9.5
Bias Average - Zero	C_0	0.10	0.16	0.0	0.1	N/A
Bias Average - Upscale	C_M	10.93	10.15	44.1	45.7	N/A
Corrected Run Average	C_{Gas}	14.97	5.54	13.0	20.17	9.5

Enviva Waycross
Waycross, GA

Run 2
RTO2 Stack (Dryer Line 2)

Date: 6-May-21
Run Time: 1706-1806

Parameter	Symbol	O ₂ %	CO ₂ %	CO ppm	NOx ppm	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards						
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	N/A	N/A	8.4
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	44.9	46.5	15.0
High-Level Gas	$C_{v, high}$	22.15	18.70	90.4	90.7	25.6
Calibration Span	CS	22.2	18.7	90.4	90.7	30
Analyzer Calibration Error - Instrument Response						
Zero Gas	$C_{Dir, zero}$	0.0	0.0	0.1	0.0	0.0
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	N/A	N/A	8.6
Mid-Level Gas	$C_{Dir, mid}$	11.0	10.2	44.0	46.1	14.9
High-Level Gas	$C_{Dir, high}$	22.2	18.7	90.4	90.5	25.6
Analyzer Calibration Error - Results (Percent of Span)						
Zero Gas	ACE_{zero}	0.0	0.0	0.1	0.0	0.0
Low-Level Gas	ACE_{low}	N/A	N/A	N/A	N/A	0.6
Mid-Level Gas	ACE_{mid}	0.3	1.0	-1.0	-0.4	-0.3
High-Level Gas	ACE_{high}	0.0	0.1	0.0	-0.2	0.0
Specification	ACE_{spec}	±2	±2	±2	±2	±5
System Calibrations - Instrument Response						
Initial Zero	$C_{s, zero (pre)}$	0.12	0.06	-0.2	0.2	0.2
Final Zero	$C_{s, zero (post)}$	0.11	0.08	0.3	0.1	0.3
Upscale Gas Standard	C_{MA}	10.95	10.06	44.9	46.5	15.0
Initial Upscale	$C_{v, up (pre)}$	10.95	10.10	43.9	45.6	15.1
Final Upscale	$C_{v, up (post)}$	10.91	10.07	44.1	45.6	14.9
System Bias - Results (Percent)						
Zero (pre)	$SB_i (zero)$	0.5	0.3	-0.3	0.1	0.7
Zero (post)	$SB_{final} (zero)$	0.5	0.4	0.3	0.1	0.9
Upscale (pre)	$SB_i (upscale)$	-0.3	-0.8	-0.2	-0.6	0.7
Upscale (post)	$SB_{final} (upscale)$	-0.5	-0.9	0.1	-0.6	0.0
Specification	SB_{spec}	±5	±5	±5	±5	NA
System Drift - Results (Percent)						
Zero	D_{zero}	0.0	0.1	0.6	0.1	0.2
Upscale	$D_{upscale}$	0.2	0.2	0.3	0.0	-0.7
Specification	D_{spec}	±3	±3	±3	±3	±3
Response Test - Results (seconds)						
Upscale Test		45	45	40	40	NA
Zero Test		40	45	40	40	NA
Response Time		45	45	40	40	35
Calibration Correction						
Raw Average	C_{ave}	14.85	5.65	13.85	20.57	9.73
Bias Average - Zero	C_0	0.11	0.07	0.1	0.1	N/A
Bias Average - Upscale	C_M	10.93	10.08	44.0	45.6	N/A
Corrected Run Average	C_{Gas}	14.92	5.60	14.1	20.9	9.7

Enviva Waycross
Waycross, GA

Run 3
RTO2 Stack (Dryer Line 2)

Date: 6-May-21
Run Time: 1824-1924

Parameter	Symbol	O ₂ %	CO ₂ %	CO ppm	NOx ppm	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards						
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	N/A	N/A	8.4
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	44.9	46.5	15.0
High-Level Gas	$C_{v, high}$	22.15	18.70	90.4	90.7	25.6
Calibration Span	CS	22.15	18.70	90.4	90.7	30.0
Analyzer Calibration Error - Instrument Response						
Zero Gas	$C_{Dir, zero}$	0.0	0.0	0.1	0.0	-0.01
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	N/A	N/A	8.6
Mid-Level Gas	$C_{Dir, mid}$	11.0	10.2	44.0	46.1	14.9
High-Level Gas	$C_{Dir, high}$	22.2	18.7	90.4	90.5	25.6
Analyzer Calibration Error - Results (Percent of Span)						
Zero Gas	ACE_{zero}	0.0	0.0	0.1	0.0	0.0
Low-Level Gas	ACE_{low}	N/A	N/A	N/A	N/A	0.6
Mid-Level Gas	ACE_{mid}	0.3	1.0	-1.0	-0.4	-0.3
High-Level Gas	ACE_{high}	0.0	0.1	0.0	-0.2	0.0
Specification	ACE_{spec}	±2	±2	±2	±2	±5
System Calibrations - Instrument Response						
Initial Zero	$C_{s, zero (pre)}$	0.11	0.08	0.3	0.1	0.3
Final Zero	$C_{s, zero (post)}$	0.18	0.08		0.1	0.2
Upscale Gas Standard	C_{MA}	10.95	10.06	44.9	46.5	15.0
Initial Upscale	$C_{v, up (pre)}$	10.91	10.07	44.1	45.6	14.9
Final Upscale	$C_{v, up (post)}$	11.00	10.08	44.0	45.3	14.9
System Bias - Results (Percent)						
Zero (pre)	$SB_{i (zero)}$	0.5	0.4	0.3	0.1	0.9
Zero (post)	$SB_{final (zero)}$	0.8	0.4	-0.1	0.1	0.6
Upscale (pre)	$SB_{i (upscale)}$	-0.5	-0.9	0.1	-0.6	0.0
Upscale (post)	$SB_{final (upscale)}$	-0.1	-0.9	0.0	-0.9	0.0
Specification	SB_{spec}	±5	±5	±5	±5	NA
System Drift - Results (Percent)						
Zero	D_{zero}	0.3	0.0	0.4	0.0	-0.2
Upscale	$D_{upscale}$	0.4	0.1	0.1	0.3	0.0
Specification	D_{spec}	±3	±3	±3	±3	±3
Response Test - Results (seconds)						
Upscale Test		45	45	40	40	NA
Zero Test		40	45	40	40	NA
Response Time		45	45	40	40	35
Calibration Correction						
Raw Average	C_{ave}	14.90	5.62	14.02	20.54	9.64
Bias Average - Zero	C_0	0.15	0.08	0.3	0.1	N/A
Bias Average - Upscale	C_M	10.95	10.07	44.1	45.5	N/A
Corrected Run Average	C_{Gas}	14.94	5.58	14.05	20.9	9.64

Plant Name: Enviva Waycross Run: 1
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
Averages	14.97	5.54	12.78	19.91	9.54
5/6/2021 3:40:17 PM	15.31	5.17	17.78	16.11	5.16
5/6/2021 3:40:30 PM	15.33	5.16	16.02	16.16	21.51
5/6/2021 3:40:45 PM	15.29	5.21	13.05	16.19	7.95
5/6/2021 3:41:00 PM	15.19	5.29	13.42	16.24	4.96
5/6/2021 3:41:15 PM	15.21	5.27	14.09	16.26	4.42
5/6/2021 3:41:30 PM	15.22	5.26	13.27	16.46	21.37
5/6/2021 3:41:45 PM	15.27	5.22	11.43	16.48	6.14
5/6/2021 3:42:00 PM	15.16	5.32	12.20	16.46	4.28
5/6/2021 3:42:15 PM	15.22	5.27	12.72	16.50	3.88
5/6/2021 3:42:30 PM	15.10	5.37	11.71	16.65	20.37
5/6/2021 3:42:45 PM	15.11	5.38	9.90	16.75	8.23
5/6/2021 3:43:00 PM	15.13	5.35	11.14	16.82	4.88
5/6/2021 3:43:15 PM	15.18	5.30	12.72	16.80	4.46
5/6/2021 3:43:30 PM	15.19	5.30	13.20	16.92	22.05
5/6/2021 3:43:45 PM	15.21	5.27	13.10	17.02	7.42
5/6/2021 3:44:00 PM	15.21	5.27	15.38	17.04	5.49
5/6/2021 3:44:15 PM	15.19	5.29	16.45	17.07	5.18
5/6/2021 3:44:30 PM	15.10	5.40	14.78	17.14	21.80
5/6/2021 3:44:45 PM	15.01	5.48	11.96	17.19	8.01
5/6/2021 3:45:00 PM	15.03	5.44	12.43	17.19	5.02
5/6/2021 3:45:15 PM	15.13	5.36	13.27	17.16	4.42
5/6/2021 3:45:30 PM	15.17	5.32	12.60	17.31	22.29
5/6/2021 3:45:45 PM	15.13	5.37	10.81	17.36	6.30
5/6/2021 3:46:00 PM	15.16	5.33	11.66	17.33	4.36
5/6/2021 3:46:15 PM	15.13	5.37	12.33	17.24	3.91
5/6/2021 3:46:30 PM	15.06	5.43	11.41	17.31	21.20
5/6/2021 3:46:45 PM	15.05	5.45	9.53	17.38	8.46
5/6/2021 3:47:00 PM	15.05	5.43	10.79	17.36	4.99
5/6/2021 3:47:15 PM	15.14	5.36	12.55	17.36	4.50
5/6/2021 3:47:30 PM	15.15	5.35	13.12	17.41	20.21
5/6/2021 3:47:45 PM	15.19	5.33	12.72	17.46	7.13
5/6/2021 3:48:00 PM	15.09	5.41	14.93	17.43	5.13
5/6/2021 3:48:15 PM	15.05	5.46	16.05	17.43	4.66
5/6/2021 3:48:30 PM	15.01	5.49	14.41	17.53	15.55
5/6/2021 3:48:45 PM	15.22	5.28	10.86	17.55	6.79
5/6/2021 3:49:00 PM	15.39	5.13	11.01	17.63	4.36
5/6/2021 3:49:15 PM	15.48	5.05	11.88	17.60	3.86
5/6/2021 3:49:30 PM	15.39	5.16	11.24	17.72	14.23
5/6/2021 3:49:45 PM	15.26	5.28	8.90	17.80	5.04
5/6/2021 3:50:00 PM	15.15	5.38	9.50	17.77	3.64
5/6/2021 3:50:15 PM	15.05	5.48	10.57	17.70	3.34
5/6/2021 3:50:30 PM	14.99	5.53	10.24	17.75	10.44
5/6/2021 3:50:45 PM	15.24	5.27	8.21	17.87	5.52
5/6/2021 3:51:00 PM	15.51	5.01	8.86	17.97	3.82
5/6/2021 3:51:15 PM	15.65	4.89	10.64	18.07	3.61
5/6/2021 3:51:30 PM	15.54	5.01	11.93	18.33	12.07
5/6/2021 3:51:45 PM	15.46	5.07	12.45	18.51	5.36
5/6/2021 3:52:00 PM	15.57	4.94	14.59	18.63	4.22
5/6/2021 3:52:15 PM	15.63	4.90	15.90	18.70	4.02

Plant Name: Enviva Waycross
 Location: RTO2 Stack (Dryer Line 2)
 Run: 1
 Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 3:52:30 PM	15.50	5.03	15.30	18.92	12.68
5/6/2021 3:52:45 PM	15.49	5.03	13.62	19.24	5.81
5/6/2021 3:53:00 PM	15.52	4.99	14.04	19.58	4.10
5/6/2021 3:53:15 PM	15.48	5.04	14.49	19.53	3.75
5/6/2021 3:53:30 PM	15.36	5.17	13.74	19.46	16.87
5/6/2021 3:53:45 PM	15.32	5.21	12.38	19.26	5.42
5/6/2021 3:54:00 PM	15.24	5.27	13.32	19.12	3.87
5/6/2021 3:54:15 PM	15.12	5.39	13.89	18.99	3.54
5/6/2021 3:54:30 PM	15.02	5.48	12.95	19.02	18.26
5/6/2021 3:54:45 PM	15.00	5.51	11.11	18.99	7.75
5/6/2021 3:55:00 PM	14.96	5.54	12.72	18.90	4.66
5/6/2021 3:55:15 PM	15.00	5.49	14.86	18.77	4.31
5/6/2021 3:55:30 PM	14.98	5.51	15.65	18.75	21.08
5/6/2021 3:55:45 PM	14.91	5.60	15.38	18.80	7.36
5/6/2021 3:56:00 PM	14.73	5.75	17.78	18.92	5.43
5/6/2021 3:56:15 PM	14.64	5.84	19.15	19.02	5.11
5/6/2021 3:56:30 PM	14.50	5.97	17.69	19.36	21.51
5/6/2021 3:56:45 PM	14.48	6.00	14.56	19.70	8.36
5/6/2021 3:57:00 PM	14.53	5.93	15.55	20.00	5.00
5/6/2021 3:57:15 PM	14.66	5.81	16.94	20.19	4.41
5/6/2021 3:57:30 PM	14.80	5.67	16.22	20.53	21.28
5/6/2021 3:57:45 PM	15.03	5.45	13.52	20.78	6.35
5/6/2021 3:58:00 PM	15.19	5.31	13.84	20.85	4.39
5/6/2021 3:58:15 PM	15.23	5.26	14.34	20.90	3.98
5/6/2021 3:58:30 PM	15.12	5.38	13.30	21.14	20.21
5/6/2021 3:58:45 PM	15.14	5.36	11.04	21.17	8.28
5/6/2021 3:59:00 PM	15.05	5.45	12.15	21.02	4.99
5/6/2021 3:59:15 PM	15.01	5.49	13.79	20.80	4.57
5/6/2021 3:59:30 PM	14.80	5.69	14.21	20.75	21.19
5/6/2021 3:59:45 PM	14.81	5.67	13.77	20.70	7.46
5/6/2021 4:00:00 PM	14.87	5.60	15.95	20.63	5.59
5/6/2021 4:00:15 PM	14.96	5.51	17.19	20.70	5.24
5/6/2021 4:00:30 PM	14.97	5.52	15.78	20.73	21.24
5/6/2021 4:00:45 PM	14.85	5.64	12.95	20.83	8.24
5/6/2021 4:01:00 PM	14.80	5.68	13.62	20.95	5.18
5/6/2021 4:01:15 PM	14.76	5.72	14.66	21.07	4.63
5/6/2021 4:01:30 PM	14.76	5.72	13.94	21.36	21.68
5/6/2021 4:01:45 PM	14.77	5.71	11.83	21.63	6.45
5/6/2021 4:02:00 PM	14.90	5.57	12.63	21.78	4.46
5/6/2021 4:02:15 PM	14.98	5.51	13.39	21.80	3.99
5/6/2021 4:02:30 PM	14.94	5.56	12.55	21.92	20.50
5/6/2021 4:02:45 PM	14.87	5.63	10.44	21.95	8.35
5/6/2021 4:03:00 PM	14.81	5.68	11.78	21.92	5.08
5/6/2021 4:03:15 PM	14.76	5.74	13.54	21.83	4.63
5/6/2021 4:03:30 PM	14.67	5.81	13.82	21.88	22.14
5/6/2021 4:03:45 PM	14.67	5.82	12.77	21.90	7.63
5/6/2021 4:04:00 PM	14.73	5.73	14.61	21.90	5.65
5/6/2021 4:04:15 PM	14.84	5.63	15.88	21.85	5.26
5/6/2021 4:04:30 PM	14.91	5.57	14.73	22.09	21.35
5/6/2021 4:04:45 PM	14.93	5.56	11.86	22.09	8.11

Plant Name: Enviva Waycross
 Location: RTO2 Stack (Dryer Line 2)
 Run: 1
 Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 4:05:00 PM	14.91	5.58	12.53	22.07	5.13
5/6/2021 4:05:15 PM	14.79	5.71	13.64	22.09	4.54
5/6/2021 4:05:30 PM	14.70	5.79	13.10	22.19	21.97
5/6/2021 4:05:45 PM	14.80	5.68	10.94	22.34	6.36
5/6/2021 4:06:00 PM	14.85	5.63	11.81	22.31	4.50
5/6/2021 4:06:15 PM	14.84	5.65	12.75	22.22	4.06
5/6/2021 4:06:30 PM	14.60	5.89	12.06	22.19	20.78
5/6/2021 4:06:45 PM	14.46	6.03	9.92	22.12	9.01
5/6/2021 4:07:00 PM	14.44	6.04	11.51	22.02	14.61
5/6/2021 4:07:15 PM	14.45	6.02	13.67	21.95	7.20
5/6/2021 4:07:30 PM	14.66	5.82	14.24	21.95	22.91
5/6/2021 4:07:45 PM	14.91	5.59	13.15	21.90	9.68
5/6/2021 4:08:00 PM	15.04	5.46	15.08	21.83	6.52
5/6/2021 4:08:15 PM	15.02	5.49	16.45	21.70	5.81
5/6/2021 4:08:30 PM	14.88	5.63	15.25	21.66	21.74
5/6/2021 4:08:45 PM	14.78	5.73	12.15	21.56	8.65
5/6/2021 4:09:00 PM	14.76	5.73	12.80	21.44	5.47
5/6/2021 4:09:15 PM	14.79	5.70	13.97	21.19	4.81
5/6/2021 4:09:30 PM	14.91	5.58	13.30	21.14	22.27
5/6/2021 4:09:45 PM	15.14	5.37	10.72	21.09	6.65
5/6/2021 4:10:00 PM	15.21	5.30	11.21	21.02	4.64
5/6/2021 4:10:15 PM	15.14	5.39	12.01	20.85	4.17
5/6/2021 4:10:30 PM	14.99	5.53	11.41	20.80	20.62
5/6/2021 4:10:45 PM	14.95	5.58	9.35	20.75	8.78
5/6/2021 4:11:00 PM	14.89	5.61	10.62	20.70	5.25
5/6/2021 4:11:15 PM	14.94	5.58	12.45	20.65	4.77
5/6/2021 4:11:30 PM	14.89	5.62	12.95	20.75	22.42
5/6/2021 4:11:45 PM	14.80	5.72	12.13	20.75	8.01
5/6/2021 4:12:00 PM	14.66	5.83	14.16	20.73	5.91
5/6/2021 4:12:15 PM	14.71	5.78	15.63	20.75	5.51
5/6/2021 4:12:30 PM	14.70	5.80	14.56	20.87	21.92
5/6/2021 4:12:45 PM	14.71	5.79	11.68	20.95	8.50
5/6/2021 4:13:00 PM	14.64	5.85	12.63	21.02	5.36
5/6/2021 4:13:20 PM	14.68	5.81	14.01	21.07	4.77
5/6/2021 4:13:30 PM	14.74	5.74	13.44	21.19	21.74
5/6/2021 4:13:45 PM	14.86	5.64	10.86	21.29	6.64
5/6/2021 4:14:00 PM	14.94	5.55	11.43	21.34	4.63
5/6/2021 4:14:15 PM	14.95	5.55	12.35	21.39	4.15
5/6/2021 4:14:30 PM	14.87	5.64	11.73	21.39	20.43
5/6/2021 4:14:45 PM	14.82	5.69	9.57	21.34	8.63
5/6/2021 4:15:00 PM	14.78	5.72	10.86	21.24	5.20
5/6/2021 4:15:15 PM	14.79	5.71	12.85	21.07	4.74
5/6/2021 4:15:30 PM	14.81	5.70	13.37	21.04	22.23
5/6/2021 4:15:45 PM	14.76	5.76	12.30	20.97	7.87
5/6/2021 4:16:00 PM	14.70	5.79	14.01	20.85	5.83
5/6/2021 4:16:15 PM	14.72	5.78	15.25	20.75	5.49
5/6/2021 4:16:30 PM	14.59	5.92	14.14	20.78	22.25
5/6/2021 4:16:45 PM	14.60	5.90	11.34	20.80	8.47
5/6/2021 4:17:00 PM	14.68	5.80	12.38	20.80	5.31
5/6/2021 4:17:15 PM	14.83	5.67	13.89	20.85	4.71

Plant Name: Enviva Waycross Run: 1
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 4:17:30 PM	14.83	5.70	13.42	20.97	21.18
5/6/2021 4:17:45 PM	14.83	5.68	10.84	20.97	6.57
5/6/2021 4:18:00 PM	14.89	5.61	11.41	20.90	4.61
5/6/2021 4:18:15 PM	14.98	5.53	12.35	20.83	4.14
5/6/2021 4:18:30 PM	14.99	5.53	11.71	20.85	20.06
5/6/2021 4:18:45 PM	15.00	5.53	9.48	20.80	8.78
5/6/2021 4:19:00 PM	14.98	5.54	10.57	20.73	5.19
5/6/2021 4:19:15 PM	14.90	5.62	12.33	20.70	4.72
5/6/2021 4:19:30 PM	14.86	5.66	12.72	20.65	22.08
5/6/2021 4:19:45 PM	14.83	5.69	11.76	20.61	7.80
5/6/2021 4:20:00 PM	14.81	5.70	13.57	20.61	5.80
5/6/2021 4:20:15 PM	14.81	5.70	14.88	20.58	5.41
5/6/2021 4:20:30 PM	14.85	5.63	13.82	20.75	21.14
5/6/2021 4:20:45 PM	15.03	5.47	11.04	20.78	8.40
5/6/2021 4:21:00 PM	15.10	5.41	11.73	20.75	5.25
5/6/2021 4:21:15 PM	15.16	5.37	12.87	20.75	4.66
5/6/2021 4:21:30 PM	15.05	5.47	12.30	20.73	21.20
5/6/2021 4:21:45 PM	15.04	5.47	10.07	20.78	6.58
5/6/2021 4:22:00 PM	15.07	5.44	10.64	20.65	4.59
5/6/2021 4:22:15 PM	15.13	5.38	11.48	20.51	4.14
5/6/2021 4:22:30 PM	15.25	5.30	10.89	20.48	19.96
5/6/2021 4:22:45 PM	15.29	5.24	8.88	20.46	8.52
5/6/2021 4:23:00 PM	15.29	5.26	9.82	20.31	5.14
5/6/2021 4:23:15 PM	15.13	5.42	11.36	20.19	4.70
5/6/2021 4:23:30 PM	14.84	5.70	11.76	20.19	22.36
5/6/2021 4:23:45 PM	14.70	5.83	11.06	20.14	7.93
5/6/2021 4:24:00 PM	14.62	5.88	13.20	20.14	5.87
5/6/2021 4:24:15 PM	14.63	5.88	14.68	20.19	5.44
5/6/2021 4:24:30 PM	14.60	5.92	13.69	20.41	21.74
5/6/2021 4:24:45 PM	14.62	5.89	10.86	20.56	8.52
5/6/2021 4:25:00 PM	14.70	5.81	11.81	20.65	5.32
5/6/2021 4:25:15 PM	14.86	5.64	13.20	20.70	4.72
5/6/2021 4:25:30 PM	15.00	5.52	12.85	20.87	21.66
5/6/2021 4:25:45 PM	15.09	5.45	10.44	21.07	6.68
5/6/2021 4:26:00 PM	15.04	5.50	10.89	21.22	4.72
5/6/2021 4:26:15 PM	14.95	5.57	11.68	21.24	4.37
5/6/2021 4:26:30 PM	14.87	5.65	11.01	21.31	20.64
5/6/2021 4:26:45 PM	14.84	5.68	9.00	21.31	8.83
5/6/2021 4:27:00 PM	14.83	5.69	10.22	21.26	5.26
5/6/2021 4:27:15 PM	14.89	5.63	12.08	21.19	4.80
5/6/2021 4:27:30 PM	14.98	5.54	12.53	21.24	22.18
5/6/2021 4:27:45 PM	14.98	5.55	11.41	21.22	7.93
5/6/2021 4:28:00 PM	14.98	5.53	12.95	21.04	5.83
5/6/2021 4:28:15 PM	14.97	5.57	14.16	20.85	5.43
5/6/2021 4:28:30 PM	14.87	5.67	13.15	20.83	21.42
5/6/2021 4:28:45 PM	14.77	5.77	10.39	20.78	8.42
5/6/2021 4:29:00 PM	14.73	5.78	11.06	20.73	5.30
5/6/2021 4:29:15 PM	14.84	5.68	12.30	20.65	4.79
5/6/2021 4:29:30 PM	14.86	5.66	11.91	20.65	21.69
5/6/2021 4:29:45 PM	14.98	5.54	9.75	20.70	6.76

Plant Name: Enviva Waycross Run: 1
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 4:30:00 PM	15.11	5.42	10.39	20.70	4.79
5/6/2021 4:30:15 PM	15.13	5.42	11.31	20.68	4.33
5/6/2021 4:30:30 PM	14.97	5.59	10.74	20.87	20.29
5/6/2021 4:30:45 PM	14.89	5.65	8.76	20.87	8.92
5/6/2021 4:31:00 PM	14.98	5.54	9.90	20.83	5.33
5/6/2021 4:31:15 PM	15.08	5.45	11.76	20.80	4.88
5/6/2021 4:31:30 PM	15.06	5.48	12.35	20.80	21.77
5/6/2021 4:31:45 PM	15.02	5.52	11.58	20.75	7.91
5/6/2021 4:32:00 PM	15.02	5.50	13.30	20.68	5.82
5/6/2021 4:32:15 PM	15.05	5.49	14.46	20.56	5.43
5/6/2021 4:32:30 PM	14.98	5.56	13.30	20.51	21.69
5/6/2021 4:32:45 PM	15.00	5.54	10.47	20.48	8.46
5/6/2021 4:33:00 PM	15.05	5.49	11.06	20.46	5.37
5/6/2021 4:33:15 PM	14.97	5.57	12.23	20.48	4.75
5/6/2021 4:33:30 PM	14.92	5.60	11.83	20.43	21.56
5/6/2021 4:33:45 PM	14.95	5.57	9.80	20.43	6.80
5/6/2021 4:34:00 PM	14.95	5.57	10.59	20.43	4.75
5/6/2021 4:34:15 PM	14.96	5.57	11.56	20.39	4.26
5/6/2021 4:34:30 PM	14.82	5.72	10.91	20.48	20.84
5/6/2021 4:34:45 PM	14.68	5.85	8.93	20.51	8.91
5/6/2021 4:35:00 PM	14.69	5.82	10.42	20.53	5.42
5/6/2021 4:35:15 PM	14.77	5.71	12.68	20.53	5.07
5/6/2021 4:35:30 PM	14.76	5.68	13.69	20.61	22.29
5/6/2021 4:35:45 PM	14.87	5.57	13.59	20.56	8.00
5/6/2021 4:36:00 PM	14.96	5.48	16.50	20.43	5.96
5/6/2021 4:36:15 PM	15.05	5.40	18.55	20.17	5.53
5/6/2021 4:36:30 PM	14.99	5.45	17.69	19.90	20.97
5/6/2021 4:36:45 PM	14.93	5.50	15.23	19.60	8.39
5/6/2021 4:37:00 PM	14.91	5.52	16.52	19.14	5.40
5/6/2021 4:37:15 PM	15.01	5.47	17.81	18.68	4.80
5/6/2021 4:37:30 PM	15.07	5.45	16.59	18.33	21.44
5/6/2021 4:37:45 PM	15.09	5.43	13.42	18.02	6.77
5/6/2021 4:38:00 PM	15.11	5.42	13.44	17.90	4.76
5/6/2021 4:38:15 PM	15.00	5.53	13.79	17.63	4.26
5/6/2021 4:38:30 PM	14.88	5.65	12.63	17.55	20.52
5/6/2021 4:38:45 PM	14.84	5.70	10.32	17.60	8.85
5/6/2021 4:39:00 PM	14.83	5.70	11.76	17.65	5.27
5/6/2021 4:39:15 PM	14.79	5.73	13.92	17.77	4.83
5/6/2021 4:39:30 PM	14.85	5.67	14.41	18.02	21.58
5/6/2021 4:39:45 PM	14.91	5.61	13.22	18.19	7.85
5/6/2021 4:40:00 PM	15.06	5.45	14.83	18.24	5.77
5/6/2021 4:40:15 PM	15.11	5.42	16.02	18.26	5.37
5/6/2021 4:40:30 PM	15.05	5.49	14.88	18.46	20.78
5/6/2021 4:40:45 PM	15.00	5.55	12.03	18.51	8.37

Plant Name: Enviva Waycross Run: 2
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
Averages	14.846	5.648	13.854	20.570	9.730
5/6/2021 5:06:06 PM	15.134	5.369	13.295	20.581	4.236
5/6/2021 5:06:15 PM	15.073	5.427	14.089	20.557	3.784
5/6/2021 5:06:30 PM	15.000	5.503	13.419	20.728	19.495
5/6/2021 5:06:45 PM	14.954	5.544	11.261	20.654	8.521
5/6/2021 5:07:00 PM	14.951	5.540	12.551	20.581	4.895
5/6/2021 5:07:15 PM	15.018	5.464	14.511	20.459	4.456
5/6/2021 5:07:30 PM	15.094	5.396	14.883	20.459	20.898
5/6/2021 5:07:45 PM	15.180	5.327	13.643	20.435	7.483
5/6/2021 5:08:00 PM	15.152	5.332	15.180	20.410	5.383
5/6/2021 5:08:15 PM	15.274	5.234	16.446	20.410	4.993
5/6/2021 5:08:30 PM	15.192	5.317	15.528	20.435	20.508
5/6/2021 5:08:45 PM	15.115	5.400	13.047	20.435	8.118
5/6/2021 5:09:00 PM	14.997	5.500	13.965	20.410	4.919
5/6/2021 5:09:15 PM	14.984	5.515	15.230	20.410	4.309
5/6/2021 5:09:30 PM	14.966	5.535	14.585	20.508	21.033
5/6/2021 5:09:45 PM	14.987	5.515	12.229	20.508	6.519
5/6/2021 5:10:00 PM	15.039	5.449	12.948	20.459	4.370
5/6/2021 5:10:15 PM	15.103	5.381	14.015	20.313	3.882
5/6/2021 5:10:30 PM	15.119	5.386	13.469	20.313	19.495
5/6/2021 5:10:45 PM	15.024	5.488	11.336	20.337	8.496
5/6/2021 5:11:00 PM	14.963	5.540	12.576	20.288	4.944
5/6/2021 5:11:15 PM	14.917	5.583	14.412	20.093	4.468
5/6/2021 5:11:30 PM	14.872	5.627	14.734	20.117	21.497
5/6/2021 5:11:45 PM	14.847	5.657	13.568	20.068	7.666
5/6/2021 5:12:00 PM	14.960	5.520	15.453	20.020	5.493
5/6/2021 5:12:15 PM	15.103	5.391	16.991	20.020	5.054
5/6/2021 5:12:30 PM	15.082	5.427	16.123	20.166	20.398
5/6/2021 5:12:45 PM	14.972	5.542	13.444	20.215	8.179
5/6/2021 5:13:00 PM	14.878	5.608	14.312	20.239	4.968
5/6/2021 5:13:15 PM	14.933	5.549	15.577	20.264	4.333
5/6/2021 5:13:30 PM	14.994	5.496	14.858	20.435	20.605
5/6/2021 5:13:45 PM	15.085	5.410	12.278	20.483	6.360
5/6/2021 5:14:00 PM	15.143	5.356	12.750	20.435	4.321
5/6/2021 5:14:15 PM	15.140	5.376	13.643	20.313	3.870
5/6/2021 5:14:30 PM	14.933	5.586	13.072	20.337	20.264
5/6/2021 5:14:45 PM	14.826	5.684	11.038	20.264	8.557
5/6/2021 5:15:00 PM	14.817	5.688	12.601	20.190	4.980
5/6/2021 5:15:15 PM	14.905	5.591	14.734	20.142	4.504
5/6/2021 5:15:30 PM	15.048	5.422	15.131	20.093	21.045
5/6/2021 5:15:45 PM	15.112	5.408	13.767	20.044	7.544
5/6/2021 5:16:00 PM	15.158	5.349	15.205	19.971	5.420
5/6/2021 5:16:15 PM	15.158	5.352	16.520	19.946	5.042
5/6/2021 5:16:30 PM	15.134	5.381	15.627	20.044	20.166
5/6/2021 5:16:45 PM	15.030	5.488	13.097	20.044	8.105
5/6/2021 5:17:00 PM	15.024	5.479	13.990	19.995	4.980
5/6/2021 5:17:15 PM	15.067	5.439	15.156	19.800	4.346
5/6/2021 5:17:30 PM	15.119	5.386	14.461	19.751	20.374
5/6/2021 5:17:45 PM	15.219	5.300	11.956	19.751	6.396
5/6/2021 5:18:00 PM	15.271	5.247	12.452	19.678	4.333

Plant Name: Enviva Waycross Run: 2
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 5:18:15 PM	15.228	5.298	13.295	19.531	3.857
5/6/2021 5:18:30 PM	15.106	5.413	12.700	19.458	19.067
5/6/2021 5:18:45 PM	15.085	5.432	10.691	19.385	8.411
5/6/2021 5:19:00 PM	15.106	5.396	12.005	19.336	4.871
5/6/2021 5:19:15 PM	15.225	5.283	13.816	19.312	4.443
5/6/2021 5:19:30 PM	15.201	5.330	14.188	19.409	20.776
5/6/2021 5:19:45 PM	15.115	5.410	13.146	19.409	7.544
5/6/2021 5:20:00 PM	15.039	5.466	14.883	19.360	5.444
5/6/2021 5:20:15 PM	15.039	5.461	16.222	19.360	5.054
5/6/2021 5:20:30 PM	14.951	5.564	15.354	19.409	20.325
5/6/2021 5:20:45 PM	14.963	5.535	12.824	19.482	8.301
5/6/2021 5:21:00 PM	15.015	5.476	13.742	19.556	5.029
5/6/2021 5:21:15 PM	15.070	5.420	14.982	19.580	4.419
5/6/2021 5:21:30 PM	15.061	5.444	14.337	19.629	20.691
5/6/2021 5:21:45 PM	15.073	5.415	11.881	19.678	6.482
5/6/2021 5:22:00 PM	15.112	5.378	12.402	19.727	4.370
5/6/2021 5:22:15 PM	15.125	5.371	13.246	19.824	3.906
5/6/2021 5:22:30 PM	15.079	5.427	12.626	19.849	19.177
5/6/2021 5:22:45 PM	14.963	5.544	10.666	19.824	8.459
5/6/2021 5:23:00 PM	14.899	5.593	12.005	19.849	4.944
5/6/2021 5:23:15 PM	14.893	5.603	13.915	19.849	4.492
5/6/2021 5:23:30 PM	14.801	5.698	14.288	19.922	21.045
5/6/2021 5:23:45 PM	14.722	5.774	13.221	19.995	7.666
5/6/2021 5:24:00 PM	14.676	5.793	15.081	20.093	5.542
5/6/2021 5:24:15 PM	14.695	5.786	16.619	20.190	5.139
5/6/2021 5:24:30 PM	14.643	5.840	15.751	20.361	20.874
5/6/2021 5:24:45 PM	14.640	5.842	13.022	20.459	8.264
5/6/2021 5:25:00 PM	14.710	5.762	14.163	20.557	5.042
5/6/2021 5:25:15 PM	14.777	5.701	15.726	20.728	4.468
5/6/2021 5:25:30 PM	14.820	5.657	15.230	20.898	20.837
5/6/2021 5:25:45 PM	14.896	5.596	12.477	21.021	6.531
5/6/2021 5:26:00 PM	14.896	5.586	13.022	21.094	4.492
5/6/2021 5:26:15 PM	14.896	5.596	14.089	21.069	4.041
5/6/2021 5:26:30 PM	14.747	5.745	13.543	21.118	19.531
5/6/2021 5:26:45 PM	14.737	5.747	11.113	21.167	8.679
5/6/2021 5:27:00 PM	14.747	5.740	12.378	21.143	5.078
5/6/2021 5:27:15 PM	14.734	5.757	14.436	21.143	4.614
5/6/2021 5:27:30 PM	14.667	5.815	14.957	21.143	21.252
5/6/2021 5:27:45 PM	14.725	5.754	13.593	21.167	7.727
5/6/2021 5:28:00 PM	14.795	5.669	15.354	21.191	5.627
5/6/2021 5:28:15 PM	14.972	5.505	16.942	21.216	5.200
5/6/2021 5:28:30 PM	15.051	5.437	16.024	21.362	20.264
5/6/2021 5:28:45 PM	15.100	5.396	12.923	21.387	8.325
5/6/2021 5:29:00 PM	15.140	5.352	13.419	21.411	5.151
5/6/2021 5:29:15 PM	15.122	5.374	14.585	21.436	4.517
5/6/2021 5:29:30 PM	15.051	5.439	14.039	21.436	20.715
5/6/2021 5:29:45 PM	14.972	5.527	11.609	21.411	6.616
5/6/2021 5:30:00 PM	14.881	5.613	12.229	21.289	4.590
5/6/2021 5:30:15 PM	14.869	5.618	13.221	21.069	4.114
5/6/2021 5:30:30 PM	14.862	5.623	12.675	21.045	19.666

Plant Name: Enviva Waycross Run: 2
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 5:30:45 PM	14.920	5.566	10.443	20.996	8.789
5/6/2021 5:31:00 PM	14.945	5.547	11.708	20.923	5.151
5/6/2021 5:31:15 PM	14.933	5.562	13.742	20.850	4.736
5/6/2021 5:31:30 PM	14.832	5.659	14.288	20.850	21.509
5/6/2021 5:31:45 PM	14.713	5.769	13.047	20.874	7.874
5/6/2021 5:32:00 PM	14.704	5.764	14.784	20.923	5.688
5/6/2021 5:32:15 PM	14.792	5.684	16.247	21.021	5.286
5/6/2021 5:32:30 PM	14.856	5.630	15.354	21.289	20.618
5/6/2021 5:32:45 PM	14.856	5.637	12.452	21.436	8.386
5/6/2021 5:33:00 PM	14.908	5.571	13.171	21.460	5.164
5/6/2021 5:33:15 PM	14.914	5.581	14.536	21.460	4.590
5/6/2021 5:33:30 PM	14.783	5.710	14.089	21.631	20.459
5/6/2021 5:33:45 PM	14.658	5.823	11.658	21.729	6.519
5/6/2021 5:34:00 PM	14.695	5.774	12.254	21.802	4.565
5/6/2021 5:34:15 PM	14.777	5.701	13.171	21.851	4.102
5/6/2021 5:34:30 PM	14.756	5.723	12.526	21.924	20.496
5/6/2021 5:34:45 PM	14.744	5.740	10.195	21.973	9.106
5/6/2021 5:35:00 PM	14.737	5.745	11.534	21.997	5.249
5/6/2021 5:35:15 PM	14.774	5.703	13.667	22.070	4.810
5/6/2021 5:35:30 PM	14.750	5.742	14.238	22.241	22.192
5/6/2021 5:35:45 PM	14.744	5.745	13.022	22.339	8.057
5/6/2021 5:36:00 PM	14.783	5.693	14.908	22.314	5.811
5/6/2021 5:36:15 PM	14.911	5.564	16.520	22.241	5.359
5/6/2021 5:36:30 PM	14.957	5.535	15.503	22.266	20.972
5/6/2021 5:36:45 PM	14.881	5.615	12.278	22.241	8.679
5/6/2021 5:37:00 PM	14.805	5.671	12.675	22.217	5.383
5/6/2021 5:37:15 PM	14.713	5.718	13.990	22.046	4.797
5/6/2021 5:37:30 PM	14.683	5.740	13.990	21.899	21.790
5/6/2021 5:37:45 PM	14.698	5.732	12.452	21.631	6.714
5/6/2021 5:38:00 PM	14.777	5.647	14.089	21.289	4.736
5/6/2021 5:38:15 PM	14.753	5.667	15.677	20.923	4.260
5/6/2021 5:38:30 PM	14.680	5.715	15.354	20.752	19.922
5/6/2021 5:38:45 PM	14.704	5.706	13.345	20.361	8.679
5/6/2021 5:39:00 PM	14.728	5.708	15.180	20.093	5.176
5/6/2021 5:39:15 PM	14.814	5.654	17.289	19.800	4.700
5/6/2021 5:39:30 PM	14.805	5.671	17.239	19.629	21.240
5/6/2021 5:39:45 PM	14.817	5.671	15.255	19.507	7.800
5/6/2021 5:40:00 PM	14.728	5.757	16.470	19.458	5.640
5/6/2021 5:40:15 PM	14.689	5.796	17.537	19.360	5.249
5/6/2021 5:40:30 PM	14.655	5.833	16.173	19.507	20.728
5/6/2021 5:40:45 PM	14.670	5.825	12.874	19.702	8.521
5/6/2021 5:41:00 PM	14.692	5.784	13.543	19.922	5.188
5/6/2021 5:41:15 PM	14.808	5.679	15.007	19.971	4.639
5/6/2021 5:41:30 PM	14.930	5.566	14.635	20.190	20.581
5/6/2021 5:41:45 PM	14.969	5.540	12.105	20.239	6.580
5/6/2021 5:42:00 PM	14.917	5.591	12.626	20.190	4.517
5/6/2021 5:42:15 PM	14.856	5.662	13.519	20.142	4.077
5/6/2021 5:42:30 PM	14.710	5.798	12.874	20.166	19.861
5/6/2021 5:42:45 PM	14.622	5.884	10.616	20.142	8.862
5/6/2021 5:43:00 PM	14.622	5.872	12.030	19.971	5.151

Plant Name: Enviva Waycross Run: 2
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 5:43:15 PM	14.765	5.737	14.288	19.775	4.688
5/6/2021 5:43:30 PM	14.762	5.730	14.957	19.751	21.655
5/6/2021 5:43:45 PM	14.783	5.715	13.915	19.751	7.837
5/6/2021 5:44:00 PM	14.801	5.686	15.726	19.702	5.725
5/6/2021 5:44:15 PM	14.811	5.688	17.165	19.629	5.408
5/6/2021 5:44:30 PM	14.750	5.757	16.024	19.653	21.082
5/6/2021 5:44:45 PM	14.646	5.857	12.849	19.727	8.606
5/6/2021 5:45:00 PM	14.609	5.874	13.593	19.751	5.249
5/6/2021 5:45:15 PM	14.616	5.881	15.131	19.800	4.651
5/6/2021 5:45:30 PM	14.567	5.923	14.784	19.995	21.301
5/6/2021 5:45:45 PM	14.625	5.869	12.502	20.068	6.714
5/6/2021 5:46:00 PM	14.661	5.820	13.444	20.020	4.749
5/6/2021 5:46:15 PM	14.774	5.720	14.610	19.971	4.309
5/6/2021 5:46:30 PM	14.673	5.825	13.841	20.020	19.885
5/6/2021 5:46:45 PM	14.707	5.791	11.113	20.068	8.960
5/6/2021 5:47:00 PM	14.747	5.745	12.229	20.093	5.298
5/6/2021 5:47:15 PM	14.814	5.684	14.312	19.995	4.822
5/6/2021 5:47:30 PM	14.829	5.681	14.957	20.020	21.643
5/6/2021 5:47:45 PM	14.844	5.657	13.866	20.020	7.935
5/6/2021 5:48:00 PM	14.878	5.620	15.701	19.971	5.786
5/6/2021 5:48:15 PM	14.893	5.603	17.140	19.922	5.383
5/6/2021 5:48:30 PM	14.945	5.557	15.974	20.020	20.837
5/6/2021 5:48:45 PM	14.942	5.576	12.725	19.971	8.545
5/6/2021 5:49:00 PM	14.987	5.508	13.047	19.849	5.322
5/6/2021 5:49:15 PM	15.146	5.366	14.163	19.727	4.626
5/6/2021 5:49:30 PM	15.170	5.356	13.717	19.702	21.350
5/6/2021 5:49:45 PM	15.140	5.386	11.584	19.629	6.714
5/6/2021 5:50:00 PM	15.021	5.500	12.278	19.458	4.602
5/6/2021 5:50:15 PM	14.975	5.532	13.171	19.312	4.150
5/6/2021 5:50:29 PM	14.896	5.627	12.477	19.263	19.824
5/6/2021 5:50:45 PM	14.881	5.632	10.244	19.238	8.972
5/6/2021 5:51:00 PM	14.954	5.562	11.559	19.189	5.176
5/6/2021 5:51:15 PM	15.082	5.430	13.643	19.141	4.700
5/6/2021 5:51:30 PM	15.085	5.442	14.337	19.238	21.362
5/6/2021 5:51:44 PM	15.030	5.498	13.320	19.287	7.922
5/6/2021 5:52:00 PM	14.960	5.549	14.908	19.312	5.737
5/6/2021 5:52:15 PM	14.866	5.645	16.073	19.312	5.359
5/6/2021 5:52:30 PM	14.762	5.752	15.007	19.409	21.265
5/6/2021 5:52:45 PM	14.680	5.830	12.303	19.482	8.679
5/6/2021 5:52:59 PM	14.658	5.840	13.246	19.458	5.310
5/6/2021 5:53:15 PM	14.619	5.886	14.784	19.434	4.712
5/6/2021 5:53:30 PM	14.497	6.001	14.461	19.580	22.412
5/6/2021 5:53:45 PM	14.542	5.957	12.278	19.678	6.848
5/6/2021 5:54:00 PM	14.631	5.859	13.444	19.775	4.736
5/6/2021 5:54:15 PM	14.777	5.732	14.784	19.897	4.187
5/6/2021 5:54:30 PM	14.762	5.737	14.089	20.142	20.227
5/6/2021 5:54:45 PM	14.771	5.732	11.261	20.288	9.119
5/6/2021 5:54:59 PM	14.765	5.740	12.179	20.337	5.298
5/6/2021 5:55:15 PM	14.741	5.757	14.089	20.361	4.797
5/6/2021 5:55:29 PM	14.664	5.840	14.560	20.557	22.266

Plant Name: Enviva Waycross
 Location: RTO2 Stack (Dryer Line 2)
 Run: 2
 Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 5:55:45 PM	14.588	5.903	13.419	20.605	8.118
5/6/2021 5:56:00 PM	14.585	5.901	15.503	20.581	5.896
5/6/2021 5:56:14 PM	14.588	5.903	17.239	20.483	5.493
5/6/2021 5:56:30 PM	14.600	5.889	16.247	20.508	29.248
5/6/2021 5:56:45 PM	14.612	5.884	12.973	20.532	11.328
5/6/2021 5:57:00 PM	14.661	5.828	13.494	20.581	6.482
5/6/2021 5:57:15 PM	14.670	5.835	14.858	20.605	5.396
5/6/2021 5:57:29 PM	14.655	5.837	14.486	20.728	22.278
5/6/2021 5:57:45 PM	14.673	5.828	12.080	20.752	7.385
5/6/2021 5:58:00 PM	14.750	5.745	12.923	20.801	5.334
5/6/2021 5:58:15 PM	14.817	5.686	14.139	20.874	4.980
5/6/2021 5:58:30 PM	14.713	5.806	13.519	21.045	20.618
5/6/2021 5:58:44 PM	14.698	5.813	10.815	21.094	9.460
5/6/2021 5:59:00 PM	14.658	5.845	12.005	21.118	5.566
5/6/2021 5:59:15 PM	14.637	5.862	14.263	21.021	5.066
5/6/2021 5:59:29 PM	14.646	5.857	14.883	21.118	22.974
5/6/2021 5:59:45 PM	14.640	5.867	13.568	21.240	8.435
5/6/2021 6:00:00 PM	14.606	5.886	15.528	21.240	6.091
5/6/2021 6:00:15 PM	14.606	5.879	17.289	21.216	5.615
5/6/2021 6:00:30 PM	14.625	5.869	16.346	21.338	21.448
5/6/2021 6:00:45 PM	14.652	5.847	12.923	21.460	9.082
5/6/2021 6:01:00 PM	14.731	5.754	13.519	21.533	5.518
5/6/2021 6:01:14 PM	14.753	5.759	15.081	21.631	4.883
5/6/2021 6:01:30 PM	14.722	5.767	14.784	21.826	21.069
5/6/2021 6:01:44 PM	14.716	5.786	12.105	21.851	7.092
5/6/2021 6:02:00 PM	14.683	5.811	12.675	21.826	4.834
5/6/2021 6:02:14 PM	14.655	5.842	13.767	21.729	4.346
5/6/2021 6:02:30 PM	14.570	5.928	13.097	21.826	20.471
5/6/2021 6:02:45 PM	14.603	5.894	10.344	21.875	9.607
5/6/2021 6:02:59 PM	14.585	5.918	11.733	21.899	5.505
5/6/2021 6:03:15 PM	14.536	5.959	14.163	21.802	5.017
5/6/2021 6:03:30 PM	14.466	6.028	14.982	21.924	23.047
5/6/2021 6:03:45 PM	14.491	6.003	13.469	22.046	8.606
5/6/2021 6:04:00 PM	14.509	5.972	15.503	22.168	6.189
5/6/2021 6:04:14 PM	14.579	5.898	17.512	22.290	5.798
5/6/2021 6:04:30 PM	14.625	5.869	16.718	22.485	22.021
5/6/2021 6:04:44 PM	14.634	5.859	12.998	22.583	9.119
5/6/2021 6:05:00 PM	14.664	5.830	13.419	22.583	5.603
5/6/2021 6:05:15 PM	14.649	5.847	14.957	22.583	4.944
5/6/2021 6:05:29 PM	14.646	5.859	14.684	22.705	22.217
5/6/2021 6:05:45 PM	14.673	5.835	11.981	22.754	7.288
5/6/2021 6:05:59 PM	14.676	5.823	12.774	22.607	4.919
5/6/2021 6:06:15 PM	14.722	5.769	14.064	22.437	4.407
5/6/2021 6:06:30 PM	14.731	5.771	13.494	22.339	20.251
5/6/2021 6:06:44 PM	14.814	5.698	10.542	22.266	9.595

Plant Name: Enviva Waycross Run: 3
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2 %	CO2 %	CO ppm	NO ppm	THC ppm
Averages	14.895	5.620	14.024	20.542	9.639
5/6/2021 6:24:15 PM	14.765	5.735	17.512	21.216	4.932
5/6/2021 6:24:29 PM	14.698	5.811	16.446	21.289	21.423
5/6/2021 6:24:44 PM	14.573	5.935	12.874	21.191	8.691
5/6/2021 6:24:59 PM	14.548	5.942	13.593	21.069	4.834
5/6/2021 6:25:14 PM	14.634	5.869	15.404	20.776	4.114
5/6/2021 6:25:30 PM	14.643	5.854	15.230	20.728	22.705
5/6/2021 6:25:44 PM	14.689	5.815	12.402	20.728	6.641
5/6/2021 6:25:59 PM	14.695	5.801	13.146	20.679	4.150
5/6/2021 6:26:15 PM	14.783	5.713	14.511	20.532	3.650
5/6/2021 6:26:29 PM	14.728	5.789	14.015	20.532	19.910
5/6/2021 6:26:45 PM	14.753	5.750	11.013	20.508	9.045
5/6/2021 6:26:59 PM	14.856	5.645	11.931	20.508	4.749
5/6/2021 6:27:14 PM	14.957	5.537	14.015	20.483	4.187
5/6/2021 6:27:29 PM	14.984	5.530	14.585	20.605	20.483
5/6/2021 6:27:44 PM	14.923	5.591	12.898	20.630	7.581
5/6/2021 6:28:00 PM	14.942	5.562	14.139	20.581	5.225
5/6/2021 6:28:14 PM	14.923	5.588	15.478	20.581	4.797
5/6/2021 6:28:29 PM	14.878	5.630	14.635	20.630	20.923
5/6/2021 6:28:44 PM	14.920	5.593	11.733	20.630	8.545
5/6/2021 6:28:59 PM	14.948	5.564	12.477	20.557	4.773
5/6/2021 6:29:15 PM	14.969	5.554	13.965	20.435	4.077
5/6/2021 6:29:29 PM	14.872	5.649	13.717	20.435	22.229
5/6/2021 6:29:44 PM	14.878	5.645	11.212	20.459	6.580
5/6/2021 6:30:00 PM	14.911	5.603	12.030	20.483	4.077
5/6/2021 6:30:14 PM	14.969	5.549	13.271	20.532	3.552
5/6/2021 6:30:29 PM	14.948	5.581	12.874	20.532	19.153
5/6/2021 6:30:45 PM	15.021	5.505	10.393	20.557	9.131
5/6/2021 6:30:59 PM	15.027	5.493	11.460	20.557	4.688
5/6/2021 6:31:15 PM	15.027	5.491	13.419	20.605	4.150
5/6/2021 6:31:29 PM	14.991	5.535	13.841	20.801	22.156
5/6/2021 6:31:44 PM	14.890	5.627	12.353	20.898	7.898
5/6/2021 6:32:00 PM	14.923	5.576	13.915	20.972	5.359
5/6/2021 6:32:14 PM	14.969	5.532	15.478	20.923	4.919
5/6/2021 6:32:29 PM	15.000	5.518	14.833	21.045	21.082
5/6/2021 6:32:44 PM	14.905	5.620	11.881	21.094	8.704
5/6/2021 6:32:59 PM	14.826	5.674	12.601	21.143	4.907
5/6/2021 6:33:14 PM	14.838	5.679	14.139	21.143	4.211
5/6/2021 6:33:29 PM	14.789	5.718	13.866	21.289	21.912
5/6/2021 6:33:44 PM	14.835	5.674	11.410	21.387	6.616
5/6/2021 6:34:00 PM	14.820	5.681	12.105	21.436	4.248
5/6/2021 6:34:14 PM	14.902	5.601	13.320	21.460	3.662
5/6/2021 6:34:29 PM	14.893	5.618	12.898	21.582	19.824
5/6/2021 6:34:45 PM	14.939	5.579	10.517	21.704	9.302
5/6/2021 6:34:59 PM	14.942	5.581	11.633	21.704	4.761
5/6/2021 6:35:14 PM	14.905	5.615	13.643	21.729	4.224
5/6/2021 6:35:29 PM	14.890	5.627	14.064	21.777	22.058
5/6/2021 6:35:44 PM	14.844	5.681	12.526	21.826	8.032
5/6/2021 6:35:59 PM	14.817	5.696	14.064	21.851	5.481
5/6/2021 6:36:14 PM	14.884	5.630	15.602	21.802	5.066

Plant Name: Enviva Waycross Run: 3
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 6:36:29 PM	14.905	5.610	14.883	21.899	21.277
5/6/2021 6:36:44 PM	14.994	5.527	11.931	21.899	8.765
5/6/2021 6:36:59 PM	14.984	5.540	12.526	21.948	4.871
5/6/2021 6:37:14 PM	14.975	5.544	13.891	21.997	4.187
5/6/2021 6:37:29 PM	14.859	5.667	13.519	22.021	22.144
5/6/2021 6:37:44 PM	14.789	5.735	11.038	22.046	6.689
5/6/2021 6:37:59 PM	14.652	5.862	11.757	22.021	4.175
5/6/2021 6:38:14 PM	14.588	5.906	12.998	21.973	3.650
5/6/2021 6:38:29 PM	14.634	5.881	12.650	22.046	20.483
5/6/2021 6:38:44 PM	14.686	5.823	10.269	22.119	9.387
5/6/2021 6:38:59 PM	14.777	5.723	11.807	22.144	4.980
5/6/2021 6:39:14 PM	14.856	5.613	14.511	22.046	4.541
5/6/2021 6:39:29 PM	14.856	5.613	15.875	21.899	22.571
5/6/2021 6:39:44 PM	14.783	5.674	15.528	21.631	7.971
5/6/2021 6:39:59 PM	14.731	5.688	18.479	19.629	5.518
5/6/2021 6:40:14 PM	14.847	5.566	20.960	17.822	5.078
5/6/2021 6:40:29 PM	14.899	5.525	20.464	17.944	21.130
5/6/2021 6:40:44 PM	14.997	5.444	17.711	17.529	8.643
5/6/2021 6:40:59 PM	14.948	5.559	18.678	16.846	4.907
5/6/2021 6:41:14 PM	14.945	5.574	19.621	16.357	4.260
5/6/2021 6:41:29 PM	14.832	5.698	17.859	16.406	21.545
5/6/2021 6:41:44 PM	14.768	5.754	14.039	16.455	6.494
5/6/2021 6:41:59 PM	14.887	5.623	14.139	16.553	4.089
5/6/2021 6:42:14 PM	15.045	5.483	14.957	16.577	3.601
5/6/2021 6:42:29 PM	15.134	5.410	14.188	16.650	19.116
5/6/2021 6:42:44 PM	15.125	5.427	11.559	16.748	8.777
5/6/2021 6:42:59 PM	15.155	5.388	12.526	16.772	4.602
5/6/2021 6:43:14 PM	15.131	5.413	14.436	16.797	4.114
5/6/2021 6:43:29 PM	15.073	5.479	14.833	16.968	21.899
5/6/2021 6:43:44 PM	14.994	5.559	13.692	16.992	7.715
5/6/2021 6:43:59 PM	14.939	5.588	15.602	16.919	5.261
5/6/2021 6:44:14 PM	14.969	5.564	17.363	16.870	4.858
5/6/2021 6:44:29 PM	14.890	5.652	16.545	16.870	21.130
5/6/2021 6:44:44 PM	14.926	5.601	13.593	16.846	8.655
5/6/2021 6:44:59 PM	14.923	5.605	14.461	16.895	4.736
5/6/2021 6:45:14 PM	14.981	5.544	15.974	16.919	4.102
5/6/2021 6:45:29 PM	14.896	5.645	15.503	17.090	21.167
5/6/2021 6:45:44 PM	14.899	5.625	12.799	17.212	6.311
5/6/2021 6:45:59 PM	14.948	5.569	13.469	17.383	3.955
5/6/2021 6:46:14 PM	15.000	5.520	14.585	17.529	3.491
5/6/2021 6:46:29 PM	14.908	5.630	14.015	17.773	19.470
5/6/2021 6:46:44 PM	14.862	5.674	11.584	17.847	9.106
5/6/2021 6:46:59 PM	14.832	5.701	13.022	17.920	4.688
5/6/2021 6:47:14 PM	14.716	5.813	15.329	17.993	4.224
5/6/2021 6:47:29 PM	14.637	5.894	15.875	18.213	22.327
5/6/2021 6:47:44 PM	14.564	5.964	14.387	18.384	7.971
5/6/2021 6:47:59 PM	14.579	5.935	16.470	18.506	5.408
5/6/2021 6:48:14 PM	14.609	5.908	18.554	18.555	4.980
5/6/2021 6:48:29 PM	14.695	5.820	17.835	18.701	21.838
5/6/2021 6:48:44 PM	14.725	5.811	14.486	18.921	8.850

Plant Name: Enviva Waycross Run: 3
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 6:48:59 PM	14.737	5.781	15.404	19.067	4.907
5/6/2021 6:49:14 PM	14.707	5.818	17.190	19.165	4.236
5/6/2021 6:49:29 PM	14.619	5.908	16.718	19.312	22.388
5/6/2021 6:49:44 PM	14.600	5.920	13.568	19.458	6.726
5/6/2021 6:49:59 PM	14.649	5.854	14.213	19.507	4.187
5/6/2021 6:50:14 PM	14.890	5.623	15.553	19.580	3.662
5/6/2021 6:50:29 PM	14.960	5.571	15.081	19.775	19.482
5/6/2021 6:50:44 PM	14.975	5.559	12.229	19.800	9.363
5/6/2021 6:50:59 PM	14.859	5.667	13.320	19.775	4.846
5/6/2021 6:51:14 PM	14.835	5.688	15.528	19.604	4.285
5/6/2021 6:51:29 PM	14.737	5.791	15.999	19.580	22.229
5/6/2021 6:51:44 PM	14.756	5.759	14.412	19.604	8.008
5/6/2021 6:51:59 PM	14.872	5.630	16.049	19.604	5.457
5/6/2021 6:52:14 PM	14.960	5.557	17.686	19.580	5.017
5/6/2021 6:52:29 PM	14.939	5.591	16.892	19.629	21.729
5/6/2021 6:52:44 PM	14.853	5.674	13.742	19.653	8.801
5/6/2021 6:52:59 PM	14.862	5.640	14.536	19.702	4.919
5/6/2021 6:53:14 PM	14.850	5.676	16.098	19.727	4.211
5/6/2021 6:53:29 PM	14.896	5.610	15.577	19.922	22.083
5/6/2021 6:53:44 PM	14.963	5.562	12.675	20.068	6.677
5/6/2021 6:53:59 PM	14.981	5.522	13.221	20.044	4.150
5/6/2021 6:54:14 PM	14.994	5.535	14.412	19.971	3.674
5/6/2021 6:54:29 PM	14.753	5.769	13.940	20.020	20.020
5/6/2021 6:54:44 PM	14.600	5.913	11.385	20.044	9.558
5/6/2021 6:54:59 PM	14.616	5.886	12.849	20.044	4.858
5/6/2021 6:55:14 PM	14.680	5.815	15.354	19.995	4.297
5/6/2021 6:55:29 PM	14.768	5.737	15.999	20.068	22.192
5/6/2021 6:55:44 PM	14.908	5.601	14.362	20.215	8.057
5/6/2021 6:55:59 PM	15.048	5.457	15.949	20.288	5.457
5/6/2021 6:56:14 PM	15.018	5.503	17.636	20.313	4.993
5/6/2021 6:56:29 PM	14.963	5.557	16.793	20.435	20.923
5/6/2021 6:56:44 PM	14.887	5.627	13.494	20.483	8.923
5/6/2021 6:56:59 PM	14.963	5.544	14.039	20.483	4.871
5/6/2021 6:57:14 PM	14.984	5.537	15.478	20.435	4.211
5/6/2021 6:57:29 PM	14.856	5.671	15.007	20.483	21.375
5/6/2021 6:57:44 PM	14.826	5.703	12.278	20.483	6.665
5/6/2021 6:57:59 PM	14.847	5.657	12.898	20.435	4.187
5/6/2021 6:58:14 PM	14.984	5.530	14.139	20.313	3.711
5/6/2021 6:58:29 PM	14.963	5.569	13.643	20.313	19.543
5/6/2021 6:58:44 PM	14.923	5.608	11.013	20.313	9.351
5/6/2021 6:58:59 PM	14.914	5.613	12.129	20.264	4.834
5/6/2021 6:59:14 PM	14.905	5.618	14.288	20.264	4.370
5/6/2021 6:59:29 PM	14.923	5.608	14.883	20.361	21.631
5/6/2021 6:59:44 PM	14.984	5.547	13.543	20.410	8.044
5/6/2021 6:59:59 PM	14.987	5.535	15.255	20.435	5.493
5/6/2021 7:00:14 PM	14.978	5.537	16.942	20.410	5.103
5/6/2021 7:00:29 PM	14.832	5.691	16.197	20.508	21.130
5/6/2021 7:00:44 PM	14.676	5.837	13.171	20.557	8.911
5/6/2021 7:00:59 PM	14.646	5.850	14.114	20.557	5.127
5/6/2021 7:01:14 PM	14.680	5.813	15.825	20.532	4.431

Plant Name: Enviva Waycross Run: 3
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 7:01:29 PM	14.698	5.808	15.478	20.728	22.571
5/6/2021 7:01:44 PM	14.646	5.862	12.626	20.923	6.995
5/6/2021 7:01:59 PM	14.680	5.808	13.519	21.045	4.370
5/6/2021 7:02:14 PM	14.753	5.747	15.131	21.240	3.796
5/6/2021 7:02:29 PM	14.774	5.735	14.833	21.387	20.007
5/6/2021 7:02:44 PM	14.704	5.806	11.857	21.582	9.692
5/6/2021 7:02:59 PM	14.692	5.793	12.998	21.704	4.895
5/6/2021 7:03:14 PM	14.811	5.688	15.404	21.777	4.407
5/6/2021 7:03:29 PM	14.805	5.693	15.974	21.924	22.168
5/6/2021 7:03:44 PM	14.887	5.623	14.064	21.973	8.081
5/6/2021 7:03:59 PM	14.981	5.513	15.404	21.948	5.444
5/6/2021 7:04:14 PM	15.070	5.432	17.016	21.875	5.042
5/6/2021 7:04:29 PM	14.920	5.608	16.197	21.924	21.375
5/6/2021 7:04:44 PM	14.774	5.742	12.874	21.948	8.862
5/6/2021 7:04:59 PM	14.762	5.728	13.593	21.997	4.968
5/6/2021 7:05:14 PM	14.926	5.569	15.304	22.021	4.260
5/6/2021 7:05:29 PM	15.094	5.422	15.032	22.095	21.545
5/6/2021 7:05:44 PM	15.207	5.317	12.055	22.070	6.665
5/6/2021 7:05:59 PM	15.192	5.332	12.204	22.095	4.211
5/6/2021 7:06:14 PM	15.033	5.500	13.146	22.095	3.723
5/6/2021 7:06:29 PM	14.768	5.750	12.675	22.290	20.215
5/6/2021 7:06:44 PM	14.673	5.828	10.344	22.290	9.521
5/6/2021 7:06:59 PM	14.744	5.747	11.906	22.314	4.846
5/6/2021 7:07:14 PM	14.981	5.513	14.412	22.266	4.309
5/6/2021 7:07:29 PM	15.186	5.325	15.056	22.339	21.326
5/6/2021 7:07:44 PM	15.326	5.205	13.196	22.388	7.947
5/6/2021 7:07:59 PM	15.256	5.271	14.114	22.388	5.408
5/6/2021 7:08:14 PM	15.091	5.444	15.354	22.241	5.005
5/6/2021 7:08:29 PM	14.875	5.645	14.585	22.266	21.069
5/6/2021 7:08:44 PM	14.814	5.701	11.857	22.290	8.936
5/6/2021 7:08:59 PM	14.847	5.654	12.799	22.339	4.932
5/6/2021 7:09:14 PM	14.902	5.605	14.511	22.314	4.248
5/6/2021 7:09:29 PM	15.018	5.491	14.238	22.437	21.191
5/6/2021 7:09:44 PM	15.137	5.386	11.534	22.461	6.604
5/6/2021 7:09:59 PM	15.134	5.388	11.931	22.412	4.211
5/6/2021 7:10:14 PM	15.051	5.481	12.998	22.290	3.699
5/6/2021 7:10:29 PM	14.869	5.652	12.526	22.437	19.873
5/6/2021 7:10:44 PM	14.725	5.786	10.071	22.534	9.570
5/6/2021 7:10:59 PM	14.579	5.908	11.485	22.559	4.895
5/6/2021 7:11:14 PM	14.661	5.828	14.039	22.412	4.370
5/6/2021 7:11:29 PM	14.801	5.684	14.883	22.534	22.168
5/6/2021 7:11:44 PM	14.991	5.515	13.271	22.559	8.093
5/6/2021 7:11:59 PM	15.042	5.459	14.660	22.583	5.493
5/6/2021 7:12:14 PM	14.984	5.530	16.173	22.583	5.042
5/6/2021 7:12:29 PM	14.872	5.652	15.429	22.729	21.228
5/6/2021 7:12:44 PM	14.808	5.710	12.402	22.754	8.911
5/6/2021 7:12:59 PM	14.808	5.693	13.295	22.754	4.968
5/6/2021 7:13:14 PM	14.750	5.762	15.007	22.754	4.297
5/6/2021 7:13:29 PM	14.664	5.837	14.784	22.900	22.375
5/6/2021 7:13:44 PM	14.801	5.688	12.005	22.827	6.726

Plant Name: Enviva Waycross Run: 3
 Location: RTO2 Stack (Dryer Line 2) Date: 5/6/2021

	O2	CO2	CO	NO	THC
	%	%	ppm	ppm	ppm
5/6/2021 7:13:59 PM	15.112	5.381	12.526	22.729	4.236
5/6/2021 7:14:14 PM	15.365	5.161	13.717	22.437	3.772
5/6/2021 7:14:29 PM	15.399	5.144	13.271	22.290	19.238
5/6/2021 7:14:44 PM	15.292	5.251	10.567	22.144	9.436
5/6/2021 7:14:59 PM	15.100	5.444	11.212	22.070	4.858
5/6/2021 7:15:14 PM	14.911	5.627	12.948	21.802	4.395
5/6/2021 7:15:29 PM	14.789	5.740	13.419	21.655	22.021
5/6/2021 7:15:44 PM	14.884	5.627	12.427	21.484	8.093
5/6/2021 7:15:59 PM	15.192	5.313	14.387	21.387	5.505
5/6/2021 7:16:14 PM	15.433	5.095	16.173	21.216	5.078
5/6/2021 7:16:29 PM	15.512	5.039	15.404	21.240	20.349
5/6/2021 7:16:44 PM	15.417	5.149	12.328	21.167	8.777
5/6/2021 7:16:59 PM	15.225	5.325	12.502	21.021	4.944
5/6/2021 7:17:14 PM	15.115	5.427	13.519	20.825	4.248
5/6/2021 7:17:29 PM	15.082	5.454	12.998	20.874	21.765
5/6/2021 7:17:44 PM	15.149	5.386	10.765	20.850	6.665
5/6/2021 7:17:59 PM	15.137	5.398	11.485	20.776	4.187
5/6/2021 7:18:14 PM	15.082	5.442	12.551	20.654	3.711
5/6/2021 7:18:29 PM	14.994	5.530	12.179	20.605	19.324
5/6/2021 7:18:44 PM	15.036	5.483	10.096	20.605	9.412
5/6/2021 7:18:59 PM	15.112	5.405	11.286	20.630	4.797
5/6/2021 7:19:14 PM	15.283	5.232	13.271	20.654	4.297
5/6/2021 7:19:29 PM	15.405	5.129	13.791	20.850	20.996
5/6/2021 7:19:44 PM	15.372	5.176	12.601	20.898	7.898
5/6/2021 7:19:59 PM	15.274	5.264	13.791	20.923	5.420
5/6/2021 7:20:14 PM	15.170	5.366	14.883	20.850	5.054
5/6/2021 7:20:29 PM	15.094	5.432	14.015	20.947	25.488
5/6/2021 7:20:44 PM	15.128	5.408	11.534	20.923	11.060
5/6/2021 7:20:59 PM	15.180	5.344	12.303	20.923	6.812
5/6/2021 7:21:14 PM	15.335	5.205	13.643	20.801	5.164
5/6/2021 7:21:29 PM	15.298	5.249	13.221	20.801	21.985
5/6/2021 7:21:44 PM	15.271	5.281	10.889	20.801	7.214
5/6/2021 7:21:59 PM	15.225	5.308	11.212	20.776	4.980
5/6/2021 7:22:14 PM	15.298	5.229	12.055	20.776	4.089
5/6/2021 7:22:29 PM	15.253	5.288	11.609	20.801	19.812
5/6/2021 7:22:44 PM	15.149	5.400	9.674	20.801	9.851
5/6/2021 7:22:59 PM	15.033	5.515	10.864	20.752	5.042
5/6/2021 7:23:14 PM	14.994	5.542	12.799	20.728	4.504
5/6/2021 7:23:29 PM	14.957	5.576	13.345	20.801	21.985
5/6/2021 7:23:44 PM	15.082	5.447	12.229	20.825	8.386
5/6/2021 7:23:59 PM	15.265	5.249	13.841	20.850	5.676
5/6/2021 7:24:14 PM	15.326	5.210	15.329	20.801	5.188

Enviva Waycross - RTO2 Stack (Dryer Line 2)			Methane (ppmvw)	Methanol (ppmvw)	Formaldehyde (ppmvw)	Acetaldehyde (ppmvw)	Temp (C)	Press (Atm)
Averages	Run 1	1540-1640	0.00	6.39	0.57	0.00	191.34	0.947
Spectrum	Date	Time						
SPC__005991.LAB	5/6/2021	3:41:04 PM	0.00	6.58	0.65	0.00	191.35	0.948
SPC__005992.LAB	5/6/2021	3:42:05 PM	0.00	6.00	0.61	0.00	191.34	0.948
SPC__005993.LAB	5/6/2021	3:43:04 PM	0.00	5.98	0.58	0.00	191.33	0.948
SPC__005994.LAB	5/6/2021	3:44:04 PM	0.00	6.07	0.57	0.00	191.34	0.947
SPC__005995.LAB	5/6/2021	3:45:04 PM	0.00	6.14	0.58	0.00	191.32	0.948
SPC__005996.LAB	5/6/2021	3:46:04 PM	0.00	6.14	0.64	0.00	191.31	0.947
SPC__005997.LAB	5/6/2021	3:47:04 PM	0.00	6.05	0.53	0.00	191.32	0.948
SPC__005998.LAB	5/6/2021	3:48:04 PM	0.00	6.17	0.42	0.00	191.30	0.950
SPC__005999.LAB	5/6/2021	3:49:04 PM	0.00	5.98	0.46	0.00	191.35	0.950
SPC__006000.LAB	5/6/2021	3:50:04 PM	0.00	5.91	0.32	0.00	191.36	0.948
SPC__006001.LAB	5/6/2021	3:51:03 PM	0.00	5.44	0.26	0.00	191.39	0.947
SPC__006002.LAB	5/6/2021	3:52:04 PM	0.00	5.38	0.37	0.00	191.37	0.947
SPC__006003.LAB	5/6/2021	3:53:03 PM	0.00	6.15	0.39	0.00	191.37	0.948
SPC__006004.LAB	5/6/2021	3:54:03 PM	0.00	5.87	0.39	0.00	191.37	0.948
SPC__006005.LAB	5/6/2021	3:55:03 PM	0.00	6.68	0.42	0.00	191.35	0.947
SPC__006006.LAB	5/6/2021	3:56:03 PM	0.00	6.34	0.60	0.00	191.34	0.947
SPC__006007.LAB	5/6/2021	3:57:03 PM	0.00	5.94	0.78	0.00	191.34	0.947
SPC__006008.LAB	5/6/2021	3:58:03 PM	0.00	5.76	0.50	0.00	191.36	0.947
SPC__006009.LAB	5/6/2021	3:59:03 PM	0.00	6.28	0.46	0.00	191.37	0.947
SPC__006010.LAB	5/6/2021	4:00:03 PM	0.00	6.42	0.51	0.00	191.38	0.947
SPC__006011.LAB	5/6/2021	4:01:03 PM	0.00	6.69	0.56	0.00	191.35	0.947
SPC__006012.LAB	5/6/2021	4:02:03 PM	0.00	6.55	0.58	0.00	191.35	0.947
SPC__006013.LAB	5/6/2021	4:03:03 PM	0.00	6.80	0.65	0.00	191.39	0.947
SPC__006014.LAB	5/6/2021	4:04:03 PM	0.00	6.95	0.56	0.00	191.38	0.947
SPC__006015.LAB	5/6/2021	4:05:02 PM	0.00	6.45	0.48	0.00	191.38	0.947
SPC__006016.LAB	5/6/2021	4:06:02 PM	0.00	6.53	0.53	0.00	191.41	0.948
SPC__006017.LAB	5/6/2021	4:07:02 PM	0.00	6.85	0.70	0.00	191.40	0.947
SPC__006018.LAB	5/6/2021	4:08:02 PM	0.00	5.41	0.64	0.00	191.40	0.947
SPC__006019.LAB	5/6/2021	4:09:02 PM	0.00	5.66	0.61	0.00	191.39	0.947
SPC__006020.LAB	5/6/2021	4:10:02 PM	0.00	6.16	0.53	0.00	191.37	0.947
SPC__006021.LAB	5/6/2021	4:11:02 PM	0.00	6.73	0.51	0.00	191.40	0.947
SPC__006022.LAB	5/6/2021	4:12:02 PM	0.00	7.07	0.51	0.00	191.39	0.947
SPC__006023.LAB	5/6/2021	4:13:02 PM	0.00	7.11	0.47	0.00	191.40	0.947
SPC__006024.LAB	5/6/2021	4:14:02 PM	0.00	6.42	0.57	0.00	191.38	0.947
SPC__006025.LAB	5/6/2021	4:15:02 PM	0.00	6.90	0.50	0.00	191.36	0.947
SPC__006026.LAB	5/6/2021	4:16:02 PM	0.00	6.62	0.51	0.00	191.34	0.947
SPC__006027.LAB	5/6/2021	4:17:01 PM	0.00	6.74	0.46	0.00	191.33	0.948
SPC__006028.LAB	5/6/2021	4:18:01 PM	0.00	6.72	0.54	0.00	191.32	0.948
SPC__006029.LAB	5/6/2021	4:19:01 PM	0.00	6.55	0.47	0.00	191.34	0.947
SPC__006030.LAB	5/6/2021	4:20:01 PM	0.00	6.90	0.52	0.00	191.34	0.947
SPC__006031.LAB	5/6/2021	4:21:01 PM	0.00	6.51	0.47	0.00	191.35	0.947
SPC__006032.LAB	5/6/2021	4:22:01 PM	0.00	6.54	0.37	0.00	191.34	0.947
SPC__006033.LAB	5/6/2021	4:23:01 PM	0.00	6.59	0.44	0.00	191.33	0.947
SPC__006034.LAB	5/6/2021	4:24:01 PM	0.00	7.20	0.46	0.00	191.31	0.946
SPC__006035.LAB	5/6/2021	4:25:01 PM	0.00	6.59	0.54	0.00	191.28	0.947
SPC__006036.LAB	5/6/2021	4:26:01 PM	0.00	6.83	0.59	0.00	191.29	0.947
SPC__006037.LAB	5/6/2021	4:27:01 PM	0.00	6.50	0.66	0.00	191.33	0.947
SPC__006038.LAB	5/6/2021	4:28:01 PM	0.00	6.53	0.60	0.00	191.33	0.947
SPC__006039.LAB	5/6/2021	4:29:00 PM	0.00	6.49	0.63	0.00	191.32	0.947
SPC__006040.LAB	5/6/2021	4:30:00 PM	0.00	6.53	0.72	0.00	191.31	0.947
SPC__006041.LAB	5/6/2021	4:31:00 PM	0.00	6.65	0.67	0.00	191.31	0.947
SPC__006042.LAB	5/6/2021	4:32:00 PM	0.00	6.77	0.72	0.00	191.33	0.947
SPC__006043.LAB	5/6/2021	4:33:00 PM	0.00	6.23	0.79	0.00	191.32	0.947
SPC__006044.LAB	5/6/2021	4:34:00 PM	0.00	6.16	0.98	0.00	191.33	0.947
SPC__006045.LAB	5/6/2021	4:35:00 PM	0.00	5.94	1.06	0.00	191.32	0.946
SPC__006046.LAB	5/6/2021	4:36:00 PM	0.00	6.41	0.79	0.00	191.33	0.946
SPC__006047.LAB	5/6/2021	4:37:00 PM	0.00	6.31	0.83	0.00	191.30	0.947
SPC__006048.LAB	5/6/2021	4:38:00 PM	0.00	6.44	0.86	0.00	191.31	0.947
SPC__006049.LAB	5/6/2021	4:39:00 PM	0.00	6.51	0.58	0.00	191.32	0.947
SPC__006050.LAB	5/6/2021	4:40:00 PM	0.00	6.26	0.66	0.00	191.30	0.947
SPC__006051.LAB	5/6/2021	4:41:00 PM	0.00	6.88	0.59	0.00	191.30	0.947

Enviva Waycross - RTO2 Stack (Dryer Line 2)			Methane (ppmvw)	Methanol (ppmvw)	Formaldehyde (ppmvw)	Acetaldehyde (ppmvw)	Temp (C)	Press (Atm)
Averages	Run 2	1706-1806	0.003	6.770	0.606	0.000	191.305	0.946
Spectrum	Date	Time						
SPC__006077.LAB	5/6/2021	5:06:58 PM	0.00	7.98	0.32	0.00	191.30	0.947
SPC__006078.LAB	5/6/2021	5:07:57 PM	0.17	7.93	0.33	0.00	191.28	0.947
SPC__006079.LAB	5/6/2021	5:08:57 PM	0.00	7.71	0.14	0.00	191.31	0.946
SPC__006080.LAB	5/6/2021	5:09:57 PM	0.00	7.57	0.19	0.00	191.32	0.947
SPC__006081.LAB	5/6/2021	5:10:57 PM	0.00	7.59	0.10	0.00	191.30	0.947
SPC__006082.LAB	5/6/2021	5:11:57 PM	0.00	7.58	0.18	0.00	191.30	0.947
SPC__006083.LAB	5/6/2021	5:12:57 PM	0.00	7.40	0.28	0.00	191.31	0.947
SPC__006084.LAB	5/6/2021	5:13:57 PM	0.00	7.47	0.35	0.00	191.31	0.946
SPC__006085.LAB	5/6/2021	5:14:57 PM	0.00	7.52	0.41	0.00	191.31	0.947
SPC__006086.LAB	5/6/2021	5:15:57 PM	0.00	7.34	0.39	0.00	191.31	0.947
SPC__006087.LAB	5/6/2021	5:16:57 PM	0.00	7.41	0.30	0.00	191.29	0.947
SPC__006088.LAB	5/6/2021	5:17:57 PM	0.00	6.35	0.46	0.00	191.29	0.947
SPC__006089.LAB	5/6/2021	5:18:57 PM	0.00	6.25	0.41	0.00	191.29	0.947
SPC__006090.LAB	5/6/2021	5:19:57 PM	0.00	6.43	0.49	0.00	191.32	0.946
SPC__006091.LAB	5/6/2021	5:20:56 PM	0.00	6.25	0.57	0.00	191.32	0.947
SPC__006092.LAB	5/6/2021	5:21:56 PM	0.00	6.34	0.45	0.00	191.32	0.946
SPC__006093.LAB	5/6/2021	5:22:56 PM	0.00	6.67	0.60	0.00	191.32	0.946
SPC__006094.LAB	5/6/2021	5:23:56 PM	0.00	7.56	0.47	0.00	191.32	0.946
SPC__006095.LAB	5/6/2021	5:24:56 PM	0.00	7.28	0.41	0.00	191.30	0.946
SPC__006096.LAB	5/6/2021	5:25:56 PM	0.00	6.44	0.66	0.00	191.30	0.947
SPC__006097.LAB	5/6/2021	5:26:56 PM	0.00	6.43	0.62	0.00	191.28	0.946
SPC__006098.LAB	5/6/2021	5:27:56 PM	0.00	6.33	0.66	0.00	191.28	0.946
SPC__006099.LAB	5/6/2021	5:28:56 PM	0.00	6.21	0.64	0.00	191.29	0.947
SPC__006100.LAB	5/6/2021	5:29:56 PM	0.00	6.22	0.53	0.00	191.31	0.947
SPC__006101.LAB	5/6/2021	5:30:56 PM	0.00	6.82	0.68	0.00	191.31	0.946
SPC__006102.LAB	5/6/2021	5:31:56 PM	0.00	6.34	0.78	0.00	191.31	0.946
SPC__006103.LAB	5/6/2021	5:32:56 PM	0.00	6.49	0.82	0.00	191.32	0.946
SPC__006104.LAB	5/6/2021	5:33:55 PM	0.00	7.00	0.81	0.00	191.32	0.946
SPC__006105.LAB	5/6/2021	5:34:55 PM	0.00	6.48	0.80	0.00	191.33	0.946
SPC__006106.LAB	5/6/2021	5:35:55 PM	0.00	6.06	0.68	0.00	191.34	0.946
SPC__006107.LAB	5/6/2021	5:36:55 PM	0.00	6.23	0.65	0.00	191.32	0.946
SPC__006108.LAB	5/6/2021	5:37:55 PM	0.00	6.43	0.68	0.00	191.30	0.945
SPC__006109.LAB	5/6/2021	5:38:55 PM	0.00	6.64	0.71	0.00	191.31	0.946
SPC__006110.LAB	5/6/2021	5:39:55 PM	0.00	6.94	0.65	0.00	191.31	0.947
SPC__006111.LAB	5/6/2021	5:40:55 PM	0.00	7.00	0.74	0.00	191.30	0.947
SPC__006112.LAB	5/6/2021	5:41:55 PM	0.00	6.58	0.87	0.00	191.33	0.947
SPC__006113.LAB	5/6/2021	5:42:55 PM	0.00	6.60	0.95	0.00	191.34	0.946
SPC__006114.LAB	5/6/2021	5:43:55 PM	0.00	6.85	0.89	0.00	191.32	0.946
SPC__006115.LAB	5/6/2021	5:44:55 PM	0.00	7.24	0.83	0.00	191.31	0.946
SPC__006116.LAB	5/6/2021	5:45:55 PM	0.00	6.37	0.72	0.00	191.28	0.946
SPC__006117.LAB	5/6/2021	5:46:54 PM	0.00	7.01	0.56	0.00	191.30	0.946
SPC__006118.LAB	5/6/2021	5:47:54 PM	0.00	6.37	0.55	0.00	191.29	0.947
SPC__006119.LAB	5/6/2021	5:48:54 PM	0.00	6.84	0.62	0.00	191.30	0.947
SPC__006120.LAB	5/6/2021	5:49:54 PM	0.00	6.17	0.54	0.00	191.31	0.947
SPC__006121.LAB	5/6/2021	5:50:54 PM	0.00	6.51	0.45	0.00	191.31	0.946
SPC__006122.LAB	5/6/2021	5:51:54 PM	0.00	6.68	0.61	0.00	191.31	0.946
SPC__006123.LAB	5/6/2021	5:52:54 PM	0.00	7.17	0.71	0.00	191.31	0.946
SPC__006124.LAB	5/6/2021	5:53:54 PM	0.00	6.68	0.80	0.00	191.29	0.946
SPC__006125.LAB	5/6/2021	5:54:54 PM	0.00	6.49	0.74	0.00	191.30	0.946
SPC__006126.LAB	5/6/2021	5:55:54 PM	0.00	6.84	0.89	0.00	191.29	0.947
SPC__006127.LAB	5/6/2021	5:56:54 PM	0.00	5.47	1.02	0.00	191.28	0.946
SPC__006128.LAB	5/6/2021	5:57:54 PM	0.00	5.62	0.73	0.00	191.30	0.946
SPC__006129.LAB	5/6/2021	5:58:53 PM	0.00	6.28	0.78	0.00	191.29	0.946
SPC__006130.LAB	5/6/2021	5:59:53 PM	0.00	6.70	0.73	0.00	191.29	0.946
SPC__006131.LAB	5/6/2021	6:00:53 PM	0.00	6.80	0.67	0.00	191.32	0.946
SPC__006132.LAB	5/6/2021	6:01:53 PM	0.00	7.13	0.60	0.00	191.29	0.946
SPC__006133.LAB	5/6/2021	6:02:53 PM	0.00	6.71	0.66	0.00	191.32	0.946
SPC__006134.LAB	5/6/2021	6:03:53 PM	0.00	7.23	0.65	0.00	191.32	0.946
SPC__006135.LAB	5/6/2021	6:04:53 PM	0.00	6.67	0.72	0.00	191.28	0.946
SPC__006136.LAB	5/6/2021	6:05:53 PM	0.00	6.44	0.78	0.00	191.30	0.946
SPC__006137.LAB	5/6/2021	6:06:53 PM	0.00	6.84	0.94	0.00	191.29	0.946

Enviva Waycross - RTO2 Stack (Dryer Line 2)			Methane (ppmvw)	Methanol (ppmvw)	Formaldehyde (ppmvw)	Acetaldehyde (ppmvw)	Temp (C)	Press (Atm)
Averages	Run 3	1824-1924	0.0000	6.5736	0.6492	0.0000	191.32	0.9464
Spectrum	Date	Time						
SPC__006155.LAB	5/6/2021	18:24	0.000	8.211	0.244	0.000	191.34	0.946
SPC__006156.LAB	5/6/2021	18:25	0.000	7.944	0.227	0.000	191.34	0.946
SPC__006157.LAB	5/6/2021	18:26	0.000	7.777	0.200	0.000	191.36	0.946
SPC__006158.LAB	5/6/2021	18:27	0.000	7.774	0.203	0.000	191.34	0.946
SPC__006159.LAB	5/6/2021	18:28	0.000	7.495	0.195	0.000	191.31	0.946
SPC__006160.LAB	5/6/2021	18:29	0.000	7.537	0.320	0.000	191.31	0.946
SPC__006161.LAB	5/6/2021	18:30	0.000	6.602	0.497	0.000	191.31	0.946
SPC__006162.LAB	5/6/2021	18:31	0.000	6.599	0.513	0.000	191.33	0.946
SPC__006163.LAB	5/6/2021	18:32	0.000	7.610	0.404	0.000	191.34	0.946
SPC__006164.LAB	5/6/2021	18:33	0.000	7.545	0.458	0.000	191.30	0.946
SPC__006165.LAB	5/6/2021	18:34	0.000	7.447	0.351	0.000	191.28	0.946
SPC__006166.LAB	5/6/2021	18:35	0.000	7.319	0.360	0.000	191.30	0.946
SPC__006167.LAB	5/6/2021	18:36	0.000	6.389	0.510	0.000	191.33	0.946
SPC__006168.LAB	5/6/2021	18:37	0.000	6.662	0.502	0.000	191.33	0.946
SPC__006169.LAB	5/6/2021	18:38	0.000	6.598	0.599	0.000	191.33	0.945
SPC__006170.LAB	5/6/2021	18:39	0.000	6.360	0.552	0.000	191.29	0.946
SPC__006171.LAB	5/6/2021	18:40	0.000	6.416	0.551	0.000	191.27	0.946
SPC__006172.LAB	5/6/2021	18:41	0.000	6.204	0.575	0.000	191.32	0.946
SPC__006173.LAB	5/6/2021	18:42	0.000	6.309	0.635	0.000	191.32	0.946
SPC__006174.LAB	5/6/2021	18:43	0.000	6.452	0.653	0.000	191.33	0.946
SPC__006175.LAB	5/6/2021	18:44	0.000	6.438	0.783	0.000	191.32	0.946
SPC__006176.LAB	5/6/2021	18:45	0.000	6.206	0.913	0.000	191.32	0.946
SPC__006177.LAB	5/6/2021	18:46	0.000	6.724	0.810	0.000	191.29	0.946
SPC__006178.LAB	5/6/2021	18:47	0.000	6.718	0.803	0.000	191.27	0.946
SPC__006179.LAB	5/6/2021	18:48	0.000	6.698	0.790	0.000	191.28	0.946
SPC__006180.LAB	5/6/2021	18:49	0.000	6.448	0.692	0.000	191.31	0.946
SPC__006181.LAB	5/6/2021	18:50	0.000	6.425	0.807	0.000	191.32	0.946
SPC__006182.LAB	5/6/2021	18:51	0.000	6.636	0.686	0.000	191.32	0.946
SPC__006183.LAB	5/6/2021	18:52	0.000	7.127	0.715	0.000	191.36	0.946
SPC__006184.LAB	5/6/2021	18:53	0.000	6.340	0.572	0.000	191.34	0.946
SPC__006185.LAB	5/6/2021	18:54	0.000	6.995	0.599	0.000	191.32	0.946
SPC__006186.LAB	5/6/2021	18:55	0.000	6.968	0.526	0.000	191.32	0.946
SPC__006187.LAB	5/6/2021	18:56	0.000	6.660	0.529	0.000	191.30	0.946
SPC__006188.LAB	5/6/2021	18:57	0.000	6.537	0.556	0.000	191.31	0.946
SPC__006189.LAB	5/6/2021	18:58	0.000	6.319	0.652	0.000	191.30	0.946
SPC__006190.LAB	5/6/2021	18:59	0.000	6.385	0.555	0.000	191.32	0.946
SPC__006191.LAB	5/6/2021	19:00	0.000	6.567	0.540	0.000	191.32	0.946
SPC__006192.LAB	5/6/2021	19:01	0.000	6.570	0.587	0.000	191.33	0.947
SPC__006193.LAB	5/6/2021	19:02	0.000	6.348	0.610	0.000	191.32	0.946
SPC__006194.LAB	5/6/2021	19:03	0.000	6.921	0.768	0.000	191.29	0.946
SPC__006195.LAB	5/6/2021	19:04	0.000	6.339	0.784	0.000	191.32	0.947
SPC__006196.LAB	5/6/2021	19:05	0.000	6.358	0.690	0.000	191.33	0.947
SPC__006197.LAB	5/6/2021	19:06	0.000	6.347	0.715	0.000	191.33	0.947
SPC__006198.LAB	5/6/2021	19:07	0.000	6.182	0.794	0.000	191.35	0.946
SPC__006199.LAB	5/6/2021	19:08	0.000	6.312	0.719	0.000	191.35	0.947
SPC__006200.LAB	5/6/2021	19:09	0.000	6.268	0.670	0.000	191.35	0.946
SPC__006201.LAB	5/6/2021	19:10	0.000	6.622	0.677	0.000	191.34	0.946
SPC__006202.LAB	5/6/2021	19:11	0.000	6.352	0.757	0.000	191.33	0.946
SPC__006203.LAB	5/6/2021	19:12	0.000	6.513	0.653	0.000	191.34	0.946
SPC__006204.LAB	5/6/2021	19:13	0.000	5.977	0.681	0.000	191.34	0.947
SPC__006205.LAB	5/6/2021	19:14	0.000	6.431	0.665	0.000	191.35	0.946
SPC__006206.LAB	5/6/2021	19:15	0.000	5.903	0.709	0.000	191.36	0.946
SPC__006207.LAB	5/6/2021	19:16	0.000	6.521	0.808	0.000	191.34	0.946
SPC__006208.LAB	5/6/2021	19:17	0.000	6.074	0.821	0.000	191.34	0.947
SPC__006209.LAB	5/6/2021	19:18	0.000	5.948	0.958	0.000	191.33	0.946
SPC__006210.LAB	5/6/2021	19:19	0.000	5.986	1.171	0.000	191.36	0.947
SPC__006211.LAB	5/6/2021	19:20	0.000	4.240	1.568	0.000	191.36	0.947
SPC__006212.LAB	5/6/2021	19:21	0.000	4.736	1.097	0.000	191.34	0.947
SPC__006213.LAB	5/6/2021	19:22	0.000	5.834	0.915	0.000	191.34	0.947
SPC__006214.LAB	5/6/2021	19:23	0.000	6.271	0.810	0.000	191.36	0.947
SPC__006215.LAB	5/6/2021	19:24	0.000	6.711	0.808	0.000	191.34	0.947

Facility: Enviva WAY
Location: Waycross, GA.

Source: RTO2 Stack (Dryer 2)

FLOW AND MOISTURE CALCULATIONS					
PARAMETER	NOMENCLATURE	RUN #1	RUN #2	RUN #3	Average
Date		5/6/2021	5/6/2021	5/6/2021	
Run Time		1540-1645	1705-1805	1824-1924	
Moisture Run Time	θ - min	60	60	60	
Stack Diameter	Ds - Inches	82.0	82.0	82.0	
Meter Calibration Factor	Y	0.976	0.976	0.976	
Barometric Pressure, inches Hg	Bp - in Hg	29.80	29.80	29.80	
Static Pressure	Pg - in. H ₂ O	-1.05	-1.15	-0.82	
Volume of Gas Sampled	Vm - cu. ft.	43.523	40.084	40.609	
Liquid Collected	ml	397.5	400.3	395.7	
Stack Area	As - sq. ft.	36.67	36.67	36.67	
Pitot Tube Coefficient	Cp	0.84	0.84	0.84	
Stack Pressure	Ps - in Hg	29.72	29.72	29.74	
Meter Box Pressure Differential	ΔH - in. H ₂ O	1.50	1.50	1.50	
Avg Square Root Velocity Head	ave sq rt Δp - in. H ₂ O	1.170	1.182	1.168	
Dry Gas Meter Temperature	Tm - °F	85.17	86.00	85.33	
Stack Temperature	Ts - °F	262.6	261.4	256.9	260.3
Oxygen	% O ₂	14.97	14.92	14.94	14.94
Carbon Dioxide	% CO ₂	5.54	5.60	5.58	5.57
Carbon Monoxide	% CO				
Nitrogen	% N ₂	79.50	79.48	79.48	
Volume of Gas Sampled, Dry	Vmstd - cu. ft.	41.128	37.820	38.362	
Volume of Water Vapor	Vwstd - cu. ft.	18.742	18.874	18.657	
Measured Moisture Content	% H ₂ O	31.30	33.29	32.72	32.44
Saturation Moisture	% H ₂ O	100.00	100.00	100.00	
Actual Stack Gas Moisture	% H ₂ O	31.30	33.29	32.72	
Dry Mole Fraction	Mfd	0.687	0.667	0.673	
Fuel Factor	Fo	1.071	1.067	1.068	
Gas Molecular Weight, Dry	Md	29.48	29.49	29.49	
Gas Molecular Weight, Wet	Ms	25.89	25.67	25.73	
Gas Velocity	vs - ft./sec.	81.43	82.55	81.19	81.72
Volumetric Air Flow, Actual	Qaw - ACFM	179,170	181,656	178,652	179,826
Volumetric Air Flow, Standard	Qsd - DSCFM	89,346	88,082	87,994	88,474

Source: RTO2 Stack (Dryer 2)

of points in flow traverse = |

Cyclonic Angle		Run 1			Run 2			Run 3		
		Δp - in. H ₂ O	sq. root Δp	Stack Temp	Δp - in. H ₂ O	sq. root Δp	Stack Temp	Δp - in. H ₂ O	sq. root Δp	Stack Temp
0	1	1.1	1.05	260	0.96	0.98	254	1.05	1.02	252
0	2	0.96	0.98	262	1.15	1.07	257	0.93	0.96	256
0	3	0.95	0.97	262	1.25	1.12	258	0.9	0.95	256
0	4	1.05	1.02	263	1.5	1.22	261	1.05	1.02	257
0	5	1.5	1.22	263	1.75	1.32	257	1.4	1.18	260
0	6	1.55	1.24	263	1.75	1.32	256	1.45	1.20	260
0	7	1.6	1.26	265	1.95	1.40	258	1.65	1.28	266
0	8	1.55	1.24	265	2.1	1.45	260	1.5	1.22	270
0	9	1.05	1.02	259	1.05	1.02	257	1.05	1.02	247
2	10	1.2	1.10	254	0.95	0.97	264	1.2	1.10	246
0	11	1.3	1.14	255	0.97	0.98	264	1.35	1.16	245
0	12	1.4	1.18	261	1.05	1.02	263	1.45	1.20	252
0	13	1.85	1.36	269	1.5	1.22	266	1.7	1.30	258
2	14	1.75	1.32	271	1.65	1.28	267	1.65	1.28	259
0	15	1.75	1.32	266	1.7	1.30	271	1.8	1.34	261
0	16	1.6	1.26	263	1.45	1.20	270	2	1.41	265
	17		0.00			0.00			0.00	
	18		0.00			0.00			0.00	
	19		0.00			0.00			0.00	
	20		0.00			0.00			0.00	
	21		0.00			0.00			0.00	
	22		0.00			0.00			0.00	
	23		0.00			0.00			0.00	
	24		0.00			0.00			0.00	
Averages			1.170	262.6		1.182	261.4		1.168	256.9

Air Control Techniques, P.C.
Moisture Sampling Train Field Data Sheet

Date 5/6/2021

SOURCE IDENTIFICATION				EQUIPMENT IDENTIFICATION			
Facility	Enviva WAY			Umbilical ID	U 90		
City, State	Waycross, GA.			Meterbox ID	1959		
Test Location	RTO2 Stack (Dryer 2)			ΔH@	1.953		
Personnel	DLS, WS			Gamma (γ)	0.976		

Run Identification								
1				Pre Leak Check		Actual	Req'd	Vac
				Post Leak Check		0	< 0.02 or 4%	12
						0	< 0.02 or 4%	11
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)
1540	0	257.127	82	1.5	NA	NA	63.0	4.0
	10	264.01	84	1.5	NA	NA	62.0	4.0
	20	270.88	85	1.5	NA	NA	62.0	4.0
	30	277.69	86	1.5	NA	NA	62.0	4.0
	40	284.31	87	1.5	NA	NA	63.0	4.0
	50	290.52	87	1.5	NA	NA	64.0	4.0
1645	65	300.650						

Run Identification								
2				Pre Leak Check		Actual	Req'd	Vac
				Post Leak Check		0	< 0.02 or 4%	10
						0	< 0.02 or 4%	10
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)
1705	0	300.779	84	1.5	NA	NA	65.0	4.0
	10	307.55	85	1.5	NA	NA	65.0	4.0
	20	314.41	86	1.5	NA	NA	64.0	4.0
	30	320.65	87	1.5	NA	NA	63.0	4.0
	40	327.41	87	1.5	NA	NA	63.0	4.0
	50	334.14	87	1.5	NA	NA	63.0	4.0
1805	60	340.863						

Run Identification								
3				Pre Leak Check		Actual	Req'd	Vac
				Post Leak Check		0	< 0.02 or 4%	10
						0	< 0.02 or 4%	8
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)
1824	0	341.018	84	1.5	NA	NA	64.0	3.0
	10	347.69	85	1.5	NA	NA	64.0	3.0
	20	353.99	85	1.5	NA	NA	65.0	3.0
	30	361.43	86	1.5	NA	NA	65.0	3.0
	40	368.21	86	1.5	NA	NA	64.0	3.0
	50	374.57	86	1.5	NA	NA	64.0	3.0
1924	60	381.627						

Air Control Techniques, P.C.
Moisture Recovery Sheet

Date 5/6/2021

Source Information			
Client	Enviva		
Plant Name	Enviva WAY		
City, State	Waycross, GA.		
Sampling Location	RTO2 Stack (Dryer 2)		
Job #	2513		
Process	normal		
Personnel	DLS		

Sampling Information				
Run Number	Run 1	Run 2	Run 3	
Filter Identification				
Sampling Date	5/6/2021	5/6/2021	5/6/2021	

Moisture Data				
<u>Impinger 1</u>				
Final Weight, grams	948.9	970.8	947.5	
Initial Weight, grams	681.3	695.9	674.0	
Condensed Water, grams	267.6	274.9	273.5	0.0
<u>Impinger 2</u>				
Final Weight, grams	768.9	769.3	748.2	
Initial Weight, grams	665.4	665.2	645.5	
Condensed Water, grams	103.5	104.1	102.7	0.0
<u>Impinger 3</u>				
Final Weight, grams				
Initial Weight, grams				
Condensed Water, grams	0.0	0.0	0.0	0.0
<u>Impinger 4</u>				
Final Weight, grams				
Initial Weight, grams				
Condensed Water, grams	0.0	0.0	0.0	0.0
<u>Silica Gel</u>				
Final Weight, grams	991.6	924.0	1011.1	
Initial Weight, grams	965.2	902.2	991.6	
Adsorbed Water, grams	26.4	21.8	19.5	0.0
Total Water, grams	397.5	400.8	395.7	

APPENDIX C

Hammermill Lines RCO1 Exhaust Stack Test Data

CEM and HAPs STUDY EMISSIONS SUMMARY					
Enviva Waycross - RCO 1 Stack (Hammermills)					
Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/4/2021	5/4/2021	5/4/2021	
Run Time		1001-1101	1118-1218	1230-1330	
Oxygen	%	20.50	20.66	20.69	20.62
Carbon Dioxide	%	0.39	0.22	0.22	0.28
Moisture	%	8.36	8.83	7.49	8.22
Volumetric Flow Rate, Std	DSCFM	78,014	78,162	79,336	78,504
Process Rate	ODT/hr	139.28	138.56	132.92	136.9
THC Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w} as C ₃	45.4	44.8	42.9	44.4
Concentration (dry)	ppm _{v,d} as C ₃	49.5	49.2	46.4	48.4
Emission Rate (propane)	lb/hr as C ₃ H ₈	26.55	26.41	25.3	26.08
Emission Factor (propane)	lb/ODT as C ₃ H ₈	0.191	0.191	0.190	0.190
Methane Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w} as CH ₄	30.6	29.3	28.5	29.5
Concentration (dry)	ppm _{v,d} as CH ₄	33.4	32.1	30.8	32.1
Emission Rate	lb/hr as CH ₄	6.51	6.27	6.11	6.30
Emission Factor	lb/ODT	0.047	0.045	0.046	0.046
Non-Methane Hydrocarbon Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppmv _d as C ₃	38.4	38.5	36.2	37.7
Emission Rate (propane)	lb/hr as C ₃ H ₈	20.6	20.7	19.7	20.3
Emission Factor (propane)	lb/ODT	0.148	0.149	0.148	0.148
Formaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.42	0.42	0.43	0.42
Concentration (dry)	ppmv _d	0.46	0.46	0.47	0.46
Emission Rate	lb/hr	0.17	0.17	0.17	0.17
Emission Factor	lb/ODT	0.0012	0.0012	0.0013	0.0012
Methanol Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.82	0.78	0.81	0.80
Concentration (dry)	ppmv _d	0.89	0.86	0.88	0.87
Emission Rate	lb/hr	0.347	0.334	0.347	0.34
Emission Factor	lb/ODT	0.002	0.002	0.003	0.0025
Acetaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.18	0.19	0.13	0.17
Concentration (dry)	ppmv _d	0.20	0.20	0.14	0.18
Emission Rate	lb/hr	0.11	0.11	0.08	0.10
Emission Factor	lb/ODT	0.00077	0.00079	0.00058	0.00071
ND values					

EPA Method OTM 26 VOC Emissions					
Enviva Waycross - RCO 1 Stack (Hammermills)					
Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/4/2021	5/4/2021	5/4/2021	
Run Time		1001-1101	1118-1218	1230-1330	
Volumetric Flow Rate, Std	DSCFM	78,014	78,162	79,336	78,504
Process Rate	tons material/hr	139.3	138.6	132.9	136.9
Emission Parameter	Units	Run 1	Run 2	Run 3	Average
THC	lbs/hr as propane	26.55	26.41	25.30	26.08
Methanol	lbs/hr as methanol	0.35	0.33	0.35	0.34
Methanol (measured as part of THC)	lbs/hr as propane	0.10	0.10	0.10	0.10
THC (not including methanol fraction)	lbs/hr as propane	26.44	26.31	25.20	25.98
Methane	lbs/hr as methane	6.51	6.27	6.11	6.30
Methane (as propane)	lbs/hr as propane	5.97	5.75	5.60	5.78
Acetaldehyde	lbs/hr as acetaldehyde	0.11	0.11	0.08	0.10
Acetaldehyde	lbs/hr as propane	0.04	0.04	0.03	0.03
THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as propane	20.43	20.52	19.57	20.17
THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as α -pinene	19.99	20.07	19.15	19.74
Formaldehyde	lbs/hr as formaldehyde	0.17	0.17	0.17	0.17
VOC Mass Emission Rate	lbs/hr	20.54	20.61	19.69	20.28
VOC Mass Emission Factor	lbs/ODT	0.148	0.149	0.148	0.148

Note 1: The fraction of methanol that is detected by Method 25A is calculated on a propane basis using (1) a carbon and molecular weight conversion factor of 0.458 and (2) the EPA OTM 26 default response factor 0.65.

Note 2: Methane is classified as a non-VOC measured with FIA. Methane is converted to a propane basis using (1) a carbon and molecular weight conversion factor of 0.917 and (2) the EPA OTM 26 default response factor 1.

Note 3: Acetaldehyde converted to a propane basis using (1) a carbon and molecular weight conversion factor of 0.667 and (2) the instrument-specific response factor for acetaldehyde measured on-site as part of the test program.

Note 4: THC not including the methanol and methane fraction detected by Method 25A is converted from a propane to an α pinene (terpene) basis using (1) a carbon and molecular weight conversion factor of 0.927 and (2) the instrument-specific response factor for α pinene measured on-site as part of the test program.

Notes

Measured by EPA Method 25A

Measured by EPA Method 320

Line B x 0.458 x 0.65 (Note 1)

Line A minus Line C

Measured by EPA Method 320

Line E x 0.917 x 1.0 (Note 2)

Measured by EPA Method 320

RF x 0.667 x Line X (Note 3)

Lines D - F - Z

Line G x 0.927 / Response Factor (Note 4)

Measured by EPA Method 320, not detected by FIA

Lines B + H + I + Z

Method 25A FIA Response Factors	Alpha Pinene	Acetaldehyde
THC Analyzer Model	700 HFID	700 HFID
THC Analyzer S/N	S/N 1601003	S/N 1601003
Date	5/4/2021	5/4/2021
Chemical Formula	C ₁₀ H ₁₆	CH ₃ CHO
Gas Standard, ppm	23.77	27.7
Gas Standard, as ppm C ₃	79.2	18.5
FIA Response, as C ₃	75.1	9.5
Response Factor	0.947	0.514

Enviva Waycross
Waycross, GA

Run 1
RCO 1 Stack (Hammermills)

Date:
Run Time:

4-May-21
1001-1101

Parameter	Symbol	O ₂ %	CO ₂ %	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards				
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	25.6
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	50.2
High-Level Gas	$C_{v, high}$	22.15	18.70	82.9
Calibration Span	CS	22.15	18.70	100
Analyzer Calibration Error - Instrument Response				
Zero Gas	$C_{Dir, zero}$	0.02	0.00	-0.1
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	25.6
Mid-Level Gas	$C_{Dir, mid}$	11.03	10.15	50
High-Level Gas	$C_{Dir, high}$	22.15	18.70	82.9
Analyzer Calibration Error - Results (Percent of Span)				
Zero Gas	ACE_{zero}	0.1	0.0	-0.1
Low-Level Gas	ACE_{low}	N/A	N/A	0.0
Mid-Level Gas	ACE_{mid}	0.3	0.5	-0.2
High-Level Gas	ACE_{high}	0.0	0.0	0.0
Specification	ACE_{spec}	±2	±2	±5
System Calibrations - Instrument Response				
Initial Zero	$C_{s, zero (pre)}$	0.22	0.05	-0.1
Final Zero	$C_{s, zero (post)}$	0.04	0.18	0.1
Upscale Gas Standard	C_{MA}	22.15	18.70	50.2
Initial Upscale	$C_{v, up (pre)}$	21.99	18.75	50.0
Final Upscale	$C_{v, up (post)}$	22.00	18.66	50.0
System Bias - Results (Percent)				
Zero (pre)	$SB_i (zero)$	0.9	0.3	0.0
Zero (post)	$SB_{final} (zero)$	0.1	1.0	0.2
Upscale (pre)	$SB_i (upscale)$	-0.7	0.3	0.0
Upscale (post)	$SB_{final} (upscale)$	-0.7	-0.2	0.0
Specification	SB_{spec}	±5	±5	±5
System Drift - Results (Percent)				
Zero	D_{zero}	0.8	0.7	0.2
Upscale	$D_{upscale}$	0.0	0.5	0.0
Specification	D_{spec}	±3	±3	±3
Response Test - Results (seconds)				
Upscale Test		45	45	NA
Zero Test		45	45	NA
Response Time		45	45	30
Calibration Correction				
Raw Average	C_{ave}	20.50	0.39	45.4
Bias Average - Zero	C_0	0.13	0.12	N/A
Bias Average - Upscale	C_M	22.00	18.71	N/A
Corrected Run Average	C_{Gas}	20.50	0.39	45.4

Enviva Waycross
Waycross, GA

Run 2
RCO 1 Stack (Hammermills)

Date:
Run Time:

4-May-21
1118-1218

Parameter	Symbol	O ₂ %	CO ₂ %	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards				
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	25.6
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	50.2
High-Level Gas	$C_{v, high}$	22.15	18.70	82.9
Calibration Span	CS	22.2	18.7	100
Analyzer Calibration Error - Instrument Response				
Zero Gas	$C_{Dir, zero}$	0.0	0.0	-0.1
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	25.6
Mid-Level Gas	$C_{Dir, mid}$	11.0	10.2	50.0
High-Level Gas	$C_{Dir, high}$	22.2	18.7	82.9
Analyzer Calibration Error - Results (Percent of Span)				
Zero Gas	ACE_{zero}	0.1	0.0	-0.1
Low-Level Gas	ACE_{low}	N/A	N/A	0.0
Mid-Level Gas	ACE_{mid}	0.3	0.5	-0.2
High-Level Gas	ACE_{high}	0.0	0.0	0.0
Specification	ACE_{spec}	±2	±2	±5
System Calibrations - Instrument Response				
Initial Zero	$C_{s, zero (pre)}$	0.04	0.18	0.1
Final Zero	$C_{s, zero (post)}$	0.02	0.19	-0.4
Upscale Gas Standard	C_{MA}	22.15	18.70	50.2
Initial Upscale	$C_{v, up (pre)}$	22.00	18.66	50.0
Final Upscale	$C_{v, up (post)}$	21.98	18.70	50.1
System Bias - Results (Percent)				
Zero (pre)	$SB_i (zero)$	0.1	1.0	0.2
Zero (post)	$SB_{final} (zero)$	0.0	1.0	-0.3
Upscale (pre)	$SB_i (upscale)$	-0.7	-0.2	0.0
Upscale (post)	$SB_{final} (upscale)$	-0.8	0.0	0.1
Specification	SB_{spec}	±5	±5	NA
System Drift - Results (Percent)				
Zero	D_{zero}	0.1	0.1	-0.5
Upscale	$D_{upscale}$	0.1	0.2	0.1
Specification	D_{spec}	±3	±3	±3
Response Test - Results (seconds)				
Upscale Test		45	45	NA
Zero Test		45	45	NA
Response Time		45	45	30
Calibration Correction				
Raw Average	C_{ave}	20.52	0.40	44.8
Bias Average - Zero	C_0	0.03	0.19	N/A
Bias Average - Upscale	C_M	21.99	18.68	N/A
Corrected Run Average	C_{Gas}	20.66	0.22	44.8

Enviva Waycross
Waycross, GA

Run 3
RCO 1 Stack (Hammermills)

Date:
Run Time:

4-May-21
1230-1330

Parameter	Symbol	O ₂ %	CO ₂ %	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards				
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	25.6
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	50.2
High-Level Gas	$C_{v, high}$	22.15	18.70	82.9
Calibration Span	CS	22.15	18.70	100.0
Analyzer Calibration Error - Instrument Response				
Zero Gas	$C_{Dir, zero}$	0.0	0.0	-0.10
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	25.6
Mid-Level Gas	$C_{Dir, mid}$	11.0	10.2	50.0
High-Level Gas	$C_{Dir, high}$	22.2	18.7	82.9
Analyzer Calibration Error - Results (Percent of Span)				
Zero Gas	ACE_{zero}	0.1	0.0	-0.1
Low-Level Gas	ACE_{low}	N/A	N/A	0.0
Mid-Level Gas	ACE_{mid}	0.3	0.5	-0.2
High-Level Gas	ACE_{high}	0.0	0.0	0.0
Specification	ACE_{spec}	±2	±2	±5
System Calibrations - Instrument Response				
Initial Zero	$C_{s, zero (pre)}$	0.02	0.19	-0.4
Final Zero	$C_{s, zero (post)}$	0.06	0.17	-0.3
Upscale Gas Standard	C_{MA}	22.15	18.70	50.2
Initial Upscale	$C_{v, up (pre)}$	21.98	18.70	50.1
Final Upscale	$C_{v, up (post)}$	21.97	18.60	49.9
System Bias - Results (Percent)				
Zero (pre)	$SB_i (zero)$	0.0	1.0	-0.3
Zero (post)	$SB_{final} (zero)$	0.2	0.9	-0.2
Upscale (pre)	$SB_i (upscale)$	-0.8	0.0	0.1
Upscale (post)	$SB_{final} (upscale)$	-0.8	-0.5	-0.1
Specification	SB_{spec}	±5	±5	NA
System Drift - Results (Percent)				
Zero	D_{zero}	0.2	0.1	0.1
Upscale	$D_{upscale}$	0.0	0.5	-0.2
Specification	D_{spec}	±3	±3	±3
Response Test - Results (seconds)				
Upscale Test		45	45	NA
Zero Test		45	45	NA
Response Time		45	45	30
Calibration Correction				
Raw Average	C_{ave}	20.53	0.40	42.9
Bias Average - Zero	C_0	0.04	0.18	N/A
Bias Average - Upscale	C_M	21.98	18.65	N/A
Corrected Run Average	C_{Gas}	20.69	0.22	42.9

Plant Name: Enviva Waycross Run: 1
 Location: RCO 1 Stack (Hammermills) Date: 5/4/2021

	O2 %	CO2 %	THC ppm
Run Averages	20.503	0.392	45.396
5/4/2021 10:01:18 AM	20.50	0.41	46.14
5/4/2021 10:01:33 AM	20.50	0.41	75.56
5/4/2021 10:01:48 AM	20.50	0.40	35.03
5/4/2021 10:02:03 AM	20.48	0.42	32.10
5/4/2021 10:02:18 AM	20.48	0.42	31.86
5/4/2021 10:02:33 AM	20.48	0.42	31.86
5/4/2021 10:02:48 AM	20.48	0.42	68.97
5/4/2021 10:03:03 AM	20.50	0.40	31.37
5/4/2021 10:03:18 AM	20.48	0.42	30.76
5/4/2021 10:03:33 AM	20.49	0.42	30.52
5/4/2021 10:03:48 AM	20.49	0.42	70.68
5/4/2021 10:04:03 AM	20.51	0.40	45.65
5/4/2021 10:04:18 AM	20.49	0.41	43.82
5/4/2021 10:04:33 AM	20.49	0.41	43.58
5/4/2021 10:04:48 AM	20.50	0.41	43.09
5/4/2021 10:05:03 AM	20.49	0.41	79.96
5/4/2021 10:05:18 AM	20.51	0.40	47.97
5/4/2021 10:05:33 AM	20.50	0.41	45.65
5/4/2021 10:05:48 AM	20.49	0.41	44.92
5/4/2021 10:06:03 AM	20.49	0.41	74.46
5/4/2021 10:06:18 AM	20.51	0.40	35.28
5/4/2021 10:06:33 AM	20.49	0.42	32.59
5/4/2021 10:06:48 AM	20.49	0.42	32.35
5/4/2021 10:07:03 AM	20.49	0.42	32.23
5/4/2021 10:07:18 AM	20.49	0.42	69.58
5/4/2021 10:07:33 AM	20.50	0.40	31.62
5/4/2021 10:07:48 AM	20.48	0.42	30.64
5/4/2021 10:08:03 AM	20.48	0.42	30.76
5/4/2021 10:08:18 AM	20.48	0.42	73.73
5/4/2021 10:08:33 AM	20.50	0.40	46.39
5/4/2021 10:08:48 AM	20.48	0.42	44.31
5/4/2021 10:09:03 AM	20.49	0.42	44.19
5/4/2021 10:09:18 AM	20.48	0.42	43.70
5/4/2021 10:09:33 AM	20.48	0.42	82.03
5/4/2021 10:09:48 AM	20.50	0.41	49.07
5/4/2021 10:10:03 AM	20.49	0.42	46.14
5/4/2021 10:10:18 AM	20.49	0.42	45.78
5/4/2021 10:10:33 AM	20.49	0.42	75.44
5/4/2021 10:10:48 AM	20.50	0.41	35.89
5/4/2021 10:11:03 AM	20.48	0.42	32.84
5/4/2021 10:11:18 AM	20.48	0.42	32.71
5/4/2021 10:11:33 AM	20.48	0.42	32.47
5/4/2021 10:11:48 AM	20.48	0.42	69.21
5/4/2021 10:12:03 AM	20.50	0.41	31.49
5/4/2021 10:12:18 AM	20.48	0.42	30.64
5/4/2021 10:12:33 AM	20.48	0.42	30.52
5/4/2021 10:12:48 AM	20.48	0.42	71.04
5/4/2021 10:13:03 AM	20.50	0.40	45.29
5/4/2021 10:13:18 AM	20.49	0.42	43.09

Plant Name: Enviva Waycross Run: 1
 Location: RCO 1 Stack (Hammermills) Date: 5/4/2021

	O2 %	CO2 %	THC ppm
5/4/2021 10:13:33 AM	20.49	0.41	42.60
5/4/2021 10:13:48 AM	20.49	0.41	42.24
5/4/2021 10:14:03 AM	20.49	0.41	79.47
5/4/2021 10:14:18 AM	20.51	0.40	48.95
5/4/2021 10:14:33 AM	20.50	0.41	46.14
5/4/2021 10:14:48 AM	20.50	0.42	45.53
5/4/2021 10:15:03 AM	20.50	0.42	73.12
5/4/2021 10:15:18 AM	20.51	0.41	34.55
5/4/2021 10:15:33 AM	20.49	0.42	31.86
5/4/2021 10:15:48 AM	20.49	0.42	31.49
5/4/2021 10:16:03 AM	20.49	0.42	31.01
5/4/2021 10:16:18 AM	20.49	0.42	66.16
5/4/2021 10:16:33 AM	20.51	0.41	30.40
5/4/2021 10:16:48 AM	20.49	0.42	29.54
5/4/2021 10:17:03 AM	20.49	0.42	29.54
5/4/2021 10:17:18 AM	20.49	0.42	68.85
5/4/2021 10:17:33 AM	20.51	0.40	43.95
5/4/2021 10:17:48 AM	20.49	0.42	41.75
5/4/2021 10:18:03 AM	20.49	0.42	41.14
5/4/2021 10:18:18 AM	20.50	0.42	40.41
5/4/2021 10:18:33 AM	20.50	0.42	74.83
5/4/2021 10:18:48 AM	20.52	0.40	45.04
5/4/2021 10:19:03 AM	20.51	0.42	42.48
5/4/2021 10:19:18 AM	20.51	0.42	42.11
5/4/2021 10:19:33 AM	20.51	0.41	69.34
5/4/2021 10:19:48 AM	20.52	0.41	33.45
5/4/2021 10:20:03 AM	20.50	0.42	30.64
5/4/2021 10:20:18 AM	20.50	0.42	30.52
5/4/2021 10:20:33 AM	20.50	0.42	30.40
5/4/2021 10:20:48 AM	20.50	0.42	63.72
5/4/2021 10:21:03 AM	20.52	0.41	29.91
5/4/2021 10:21:18 AM	20.50	0.42	29.30
5/4/2021 10:21:33 AM	20.50	0.42	29.30
5/4/2021 10:21:48 AM	20.50	0.42	68.12
5/4/2021 10:22:03 AM	20.52	0.41	43.21
5/4/2021 10:22:18 AM	20.51	0.42	41.26
5/4/2021 10:22:33 AM	20.51	0.42	40.77
5/4/2021 10:22:48 AM	20.51	0.41	40.16
5/4/2021 10:23:03 AM	20.51	0.42	75.44
5/4/2021 10:23:18 AM	20.53	0.40	46.26
5/4/2021 10:23:33 AM	20.51	0.41	43.33
5/4/2021 10:23:48 AM	20.51	0.41	43.09
5/4/2021 10:24:03 AM	20.51	0.41	69.95
5/4/2021 10:24:18 AM	20.52	0.39	33.94
5/4/2021 10:24:33 AM	20.50	0.41	31.13
5/4/2021 10:24:48 AM	20.50	0.41	30.76
5/4/2021 10:25:03 AM	20.50	0.40	30.88
5/4/2021 10:25:18 AM	20.50	0.40	64.70
5/4/2021 10:25:33 AM	20.52	0.38	29.79
5/4/2021 10:25:48 AM	20.50	0.39	28.93

Plant Name: Enviva Waycross Run: 1
 Location: RCO 1 Stack (Hammermills) Date: 5/4/2021

	O2 %	CO2 %	THC ppm
5/4/2021 10:26:03 AM	20.50	0.39	29.05
5/4/2021 10:26:18 AM	20.50	0.38	67.14
5/4/2021 10:26:33 AM	20.52	0.36	43.33
5/4/2021 10:26:48 AM	20.50	0.37	41.26
5/4/2021 10:27:03 AM	20.51	0.37	40.89
5/4/2021 10:27:18 AM	20.51	0.36	40.53
5/4/2021 10:27:33 AM	20.50	0.36	75.44
5/4/2021 10:27:48 AM	20.52	0.34	46.39
5/4/2021 10:28:03 AM	20.50	0.35	43.95
5/4/2021 10:28:18 AM	20.50	0.34	43.46
5/4/2021 10:28:33 AM	20.50	0.34	71.04
5/4/2021 10:28:48 AM	20.52	0.33	34.06
5/4/2021 10:29:03 AM	20.50	0.34	31.01
5/4/2021 10:29:18 AM	20.50	0.34	30.88
5/4/2021 10:29:33 AM	20.49	0.34	30.64
5/4/2021 10:29:48 AM	20.50	0.33	65.43
5/4/2021 10:30:03 AM	20.52	0.32	30.15
5/4/2021 10:30:18 AM	20.49	0.33	29.05
5/4/2021 10:30:33 AM	20.50	0.33	29.17
5/4/2021 10:30:48 AM	20.50	0.33	66.89
5/4/2021 10:31:03 AM	20.52	0.32	43.58
5/4/2021 10:31:18 AM	20.51	0.33	41.26
5/4/2021 10:31:33 AM	20.51	0.33	40.77
5/4/2021 10:31:48 AM	20.51	0.33	40.41
5/4/2021 10:32:03 AM	20.51	0.33	73.97
5/4/2021 10:32:18 AM	20.53	0.32	46.26
5/4/2021 10:32:33 AM	20.51	0.33	43.95
5/4/2021 10:32:48 AM	20.51	0.34	43.46
5/4/2021 10:33:03 AM	20.51	0.33	70.43
5/4/2021 10:33:18 AM	20.52	0.33	33.69
5/4/2021 10:33:33 AM	20.50	0.34	31.01
5/4/2021 10:33:48 AM	20.50	0.35	30.88
5/4/2021 10:34:03 AM	20.50	0.35	30.64
5/4/2021 10:34:18 AM	20.50	0.35	63.84
5/4/2021 10:34:33 AM	20.52	0.33	29.79
5/4/2021 10:34:48 AM	20.50	0.35	29.30
5/4/2021 10:35:03 AM	20.50	0.35	29.17
5/4/2021 10:35:18 AM	20.50	0.35	65.80
5/4/2021 10:35:33 AM	20.52	0.34	43.82
5/4/2021 10:35:48 AM	20.50	0.36	41.63
5/4/2021 10:36:03 AM	20.50	0.36	41.26
5/4/2021 10:36:18 AM	20.50	0.35	40.89
5/4/2021 10:36:33 AM	20.50	0.35	72.63
5/4/2021 10:36:48 AM	20.53	0.35	45.65
5/4/2021 10:37:03 AM	20.52	0.36	43.21
5/4/2021 10:37:18 AM	20.52	0.36	43.46
5/4/2021 10:37:33 AM	20.51	0.36	68.73
5/4/2021 10:37:48 AM	20.53	0.36	34.30
5/4/2021 10:38:03 AM	20.50	0.38	31.62
5/4/2021 10:38:18 AM	20.50	0.38	31.37

Plant Name: Enviva Waycross Run: 1
 Location: RCO 1 Stack (Hammermills) Date: 5/4/2021

	O2 %	CO2 %	THC ppm
5/4/2021 10:38:33 AM	20.50	0.38	31.01
5/4/2021 10:38:48 AM	20.50	0.38	63.96
5/4/2021 10:39:03 AM	20.52	0.37	30.03
5/4/2021 10:39:18 AM	20.50	0.38	29.54
5/4/2021 10:39:33 AM	20.50	0.38	29.42
5/4/2021 10:39:48 AM	20.50	0.38	64.58
5/4/2021 10:40:03 AM	20.52	0.37	43.58
5/4/2021 10:40:18 AM	20.51	0.38	41.38
5/4/2021 10:40:33 AM	20.51	0.38	41.02
5/4/2021 10:40:48 AM	20.51	0.38	40.65
5/4/2021 10:41:03 AM	20.51	0.38	73.36
5/4/2021 10:41:18 AM	20.52	0.37	46.02
5/4/2021 10:41:33 AM	20.52	0.38	43.70
5/4/2021 10:41:48 AM	20.52	0.38	43.58
5/4/2021 10:42:03 AM	20.52	0.38	68.48
5/4/2021 10:42:18 AM	20.53	0.37	33.81
5/4/2021 10:42:33 AM	20.51	0.39	31.37
5/4/2021 10:42:48 AM	20.51	0.39	31.13
5/4/2021 10:43:03 AM	20.51	0.39	31.13
5/4/2021 10:43:18 AM	20.51	0.39	62.26
5/4/2021 10:43:33 AM	20.52	0.38	30.27
5/4/2021 10:43:48 AM	20.51	0.39	29.79
5/4/2021 10:44:03 AM	20.50	0.39	29.66
5/4/2021 10:44:18 AM	20.50	0.40	65.06
5/4/2021 10:44:33 AM	20.52	0.38	44.19
5/4/2021 10:44:48 AM	20.51	0.39	42.36
5/4/2021 10:45:03 AM	20.51	0.39	42.24
5/4/2021 10:45:18 AM	20.50	0.39	42.11
5/4/2021 10:45:33 AM	20.50	0.40	75.68
5/4/2021 10:45:48 AM	20.52	0.38	47.73
5/4/2021 10:46:03 AM	20.50	0.40	45.04
5/4/2021 10:46:18 AM	20.50	0.40	45.04
5/4/2021 10:46:33 AM	20.50	0.40	72.51
5/4/2021 10:46:48 AM	20.52	0.39	35.64
5/4/2021 10:47:03 AM	20.50	0.41	32.47
5/4/2021 10:47:18 AM	20.50	0.40	32.10
5/4/2021 10:47:33 AM	20.50	0.41	31.98
5/4/2021 10:47:48 AM	20.50	0.41	67.02
5/4/2021 10:48:03 AM	20.52	0.39	31.37
5/4/2021 10:48:18 AM	20.50	0.41	30.88
5/4/2021 10:48:33 AM	20.49	0.41	30.64
5/4/2021 10:48:48 AM	20.50	0.41	70.07
5/4/2021 10:49:03 AM	20.51	0.39	47.00
5/4/2021 10:49:18 AM	20.50	0.41	44.92
5/4/2021 10:49:33 AM	20.49	0.41	44.31
5/4/2021 10:49:48 AM	20.50	0.41	44.19
5/4/2021 10:50:03 AM	20.50	0.41	78.98
5/4/2021 10:50:18 AM	20.51	0.40	49.32
5/4/2021 10:50:33 AM	20.50	0.41	46.39
5/4/2021 10:50:48 AM	20.50	0.41	45.78

Plant Name: Enviva Waycross Run: 1
 Location: RCO 1 Stack (Hammermills) Date: 5/4/2021

	O2	CO2	THC
	%	%	ppm
5/4/2021 10:51:03 AM	20.50	0.40	73.00
5/4/2021 10:51:18 AM	20.52	0.40	36.25
5/4/2021 10:51:33 AM	20.50	0.41	33.45
5/4/2021 10:51:48 AM	20.50	0.41	33.20
5/4/2021 10:52:03 AM	20.49	0.41	32.96
5/4/2021 10:52:18 AM	20.49	0.41	69.58
5/4/2021 10:52:33 AM	20.52	0.40	32.23
5/4/2021 10:52:48 AM	20.49	0.41	31.25
5/4/2021 10:53:03 AM	20.50	0.41	31.62
5/4/2021 10:53:18 AM	20.49	0.41	71.41
5/4/2021 10:53:33 AM	20.52	0.40	48.46
5/4/2021 10:53:48 AM	20.50	0.41	45.90
5/4/2021 10:54:03 AM	20.50	0.41	45.53
5/4/2021 10:54:18 AM	20.50	0.40	45.17
5/4/2021 10:54:33 AM	20.50	0.40	80.32
5/4/2021 10:54:48 AM	20.52	0.39	50.05
5/4/2021 10:55:03 AM	20.50	0.40	47.36
5/4/2021 10:55:18 AM	20.50	0.40	47.24
5/4/2021 10:55:33 AM	20.50	0.40	76.66
5/4/2021 10:55:48 AM	20.52	0.39	36.99
5/4/2021 10:56:03 AM	20.50	0.40	34.06
5/4/2021 10:56:18 AM	20.49	0.41	34.06
5/4/2021 10:56:33 AM	20.50	0.41	34.06
5/4/2021 10:56:48 AM	20.50	0.41	71.53
5/4/2021 10:57:03 AM	20.52	0.39	33.33
5/4/2021 10:57:18 AM	20.50	0.41	32.59
5/4/2021 10:57:33 AM	20.50	0.40	32.35
5/4/2021 10:57:48 AM	20.50	0.41	73.24
5/4/2021 10:58:03 AM	20.52	0.39	50.42
5/4/2021 10:58:18 AM	20.51	0.40	48.22
5/4/2021 10:58:33 AM	20.50	0.40	48.10
5/4/2021 10:58:48 AM	20.50	0.40	47.61
5/4/2021 10:59:03 AM	20.50	0.40	83.62
5/4/2021 10:59:18 AM	20.51	0.39	52.12
5/4/2021 10:59:33 AM	20.50	0.40	48.95
5/4/2021 10:59:48 AM	20.50	0.40	48.71
5/4/2021 11:00:03 AM	20.49	0.39	77.76
5/4/2021 11:00:18 AM	20.51	0.38	37.11
5/4/2021 11:00:33 AM	20.49	0.40	34.67
5/4/2021 11:00:48 AM	20.49	0.40	34.06
5/4/2021 11:01:03 AM	20.49	0.40	33.81
5/4/2021 11:01:18 AM	20.50	0.40	69.58
5/4/2021 11:01:33 AM	20.51	0.38	32.84
5/4/2021 11:01:48 AM	20.49	0.40	32.10

Plant Name:

Enviva Waycross

Run: 2

Location:

RCO 1 Stack (Hammermills)

Date: 5/4/2021

	O2 %	CO2 %	THC ppm
Run Averages	20.517	0.402	44.841
5/4/2021 11:18:33 AM	20.53	0.40	31.49
5/4/2021 11:44:48 AM	20.51	0.40	44.43
5/4/2021 11:45:03 AM	20.51	0.40	72.14
5/4/2021 11:45:18 AM	20.52	0.39	35.40
5/4/2021 11:45:33 AM	20.50	0.41	32.10
5/4/2021 11:45:48 AM	20.50	0.41	31.98
5/4/2021 11:46:02 AM	20.49	0.41	31.49
5/4/2021 11:46:18 AM	20.50	0.41	64.70
5/4/2021 11:46:33 AM	20.53	0.39	30.15
5/4/2021 11:46:48 AM	20.51	0.41	29.30
5/4/2021 11:47:03 AM	20.51	0.41	29.17
5/4/2021 11:47:18 AM	20.51	0.41	64.94
5/4/2021 11:47:32 AM	20.53	0.39	45.29
5/4/2021 11:47:48 AM	20.52	0.41	42.60
5/4/2021 11:48:03 AM	20.52	0.41	42.24
5/4/2021 11:48:18 AM	20.52	0.41	42.11
5/4/2021 11:48:33 AM	20.52	0.40	75.93
5/4/2021 11:48:48 AM	20.53	0.39	48.34
5/4/2021 11:49:03 AM	20.52	0.40	45.29
5/4/2021 11:49:18 AM	20.52	0.41	45.17
5/4/2021 11:49:32 AM	20.52	0.40	71.90
5/4/2021 11:49:48 AM	20.53	0.40	35.89
5/4/2021 11:50:03 AM	20.51	0.41	32.35
5/4/2021 11:50:18 AM	20.51	0.41	32.47
5/4/2021 11:50:33 AM	20.51	0.41	32.10
5/4/2021 11:50:48 AM	20.51	0.41	66.77
5/4/2021 11:51:03 AM	20.53	0.40	31.01
5/4/2021 11:51:18 AM	20.50	0.41	30.27
5/4/2021 11:51:32 AM	20.50	0.41	30.03
5/4/2021 11:51:48 AM	20.50	0.41	68.48
5/4/2021 11:52:03 AM	20.52	0.40	46.51
5/4/2021 11:52:17 AM	20.51	0.41	43.70
5/4/2021 11:52:33 AM	20.51	0.41	43.21
5/4/2021 11:52:48 AM	20.51	0.41	42.85
5/4/2021 11:53:03 AM	20.51	0.41	77.39
5/4/2021 11:53:18 AM	20.53	0.39	48.71
5/4/2021 11:53:32 AM	20.51	0.40	45.78
5/4/2021 11:53:48 AM	20.51	0.40	44.92
5/4/2021 11:54:03 AM	20.51	0.41	72.02
5/4/2021 11:54:18 AM	20.53	0.39	36.01
5/4/2021 11:54:33 AM	20.51	0.41	32.23
5/4/2021 11:54:47 AM	20.50	0.41	31.98
5/4/2021 11:55:03 AM	20.50	0.41	31.98
5/4/2021 11:55:18 AM	20.50	0.41	65.92
5/4/2021 11:55:32 AM	20.52	0.40	30.40
5/4/2021 11:55:48 AM	20.50	0.41	29.54
5/4/2021 11:56:02 AM	20.50	0.41	29.17
5/4/2021 11:56:18 AM	20.51	0.41	66.53
5/4/2021 11:56:33 AM	20.53	0.39	45.29

Plant Name: Enviva Waycross Run: 2
 Location: RCO 1 Stack (Hammermills) Date: 5/4/2021

	O2 %	CO2 %	THC ppm
5/4/2021 11:56:48 AM	20.52	0.40	42.48
5/4/2021 11:57:03 AM	20.51	0.40	41.99
5/4/2021 11:57:18 AM	20.52	0.40	41.63
5/4/2021 11:57:33 AM	20.52	0.40	74.58
5/4/2021 11:57:47 AM	20.53	0.39	47.85
5/4/2021 11:58:03 AM	20.52	0.40	44.68
5/4/2021 11:58:18 AM	20.52	0.40	44.56
5/4/2021 11:58:32 AM	20.52	0.40	69.70
5/4/2021 11:58:48 AM	20.53	0.39	35.28
5/4/2021 11:59:03 AM	20.51	0.41	31.49
5/4/2021 11:59:18 AM	20.51	0.40	31.13
5/4/2021 11:59:33 AM	20.52	0.41	30.76
5/4/2021 11:59:47 AM	20.52	0.40	63.11
5/4/2021 12:00:03 PM	20.53	0.39	29.66
5/4/2021 12:00:18 PM	20.51	0.41	28.93
5/4/2021 12:00:32 PM	20.52	0.41	28.93
5/4/2021 12:00:48 PM	20.52	0.41	67.50
5/4/2021 12:01:03 PM	20.53	0.39	44.56
5/4/2021 12:01:17 PM	20.52	0.40	41.87
5/4/2021 12:01:33 PM	20.52	0.40	41.50
5/4/2021 12:01:48 PM	20.52	0.40	41.26
5/4/2021 12:02:02 PM	20.52	0.40	74.95
5/4/2021 12:02:18 PM	20.53	0.39	47.24
5/4/2021 12:02:32 PM	20.52	0.40	43.70
5/4/2021 12:02:48 PM	20.52	0.40	43.33
5/4/2021 12:03:03 PM	20.52	0.40	69.21
5/4/2021 12:03:17 PM	20.54	0.39	34.55
5/4/2021 12:03:33 PM	20.51	0.41	30.88
5/4/2021 12:03:47 PM	20.51	0.41	30.52
5/4/2021 12:04:03 PM	20.51	0.40	30.40
5/4/2021 12:04:18 PM	20.51	0.40	63.84
5/4/2021 12:04:32 PM	20.53	0.39	29.66
5/4/2021 12:04:48 PM	20.52	0.41	28.81
5/4/2021 12:05:03 PM	20.52	0.41	28.81
5/4/2021 12:05:17 PM	20.52	0.41	64.94
5/4/2021 12:05:33 PM	20.54	0.39	43.95
5/4/2021 12:05:47 PM	20.53	0.40	41.26
5/4/2021 12:06:02 PM	20.52	0.40	40.89
5/4/2021 12:06:18 PM	20.53	0.40	40.89
5/4/2021 12:06:32 PM	20.53	0.40	74.10
5/4/2021 12:06:48 PM	20.54	0.39	46.51
5/4/2021 12:07:03 PM	20.53	0.40	43.21
5/4/2021 12:07:17 PM	20.53	0.40	42.85
5/4/2021 12:07:33 PM	20.52	0.40	68.73
5/4/2021 12:07:48 PM	20.54	0.39	34.79
5/4/2021 12:08:02 PM	20.52	0.40	31.13
5/4/2021 12:08:18 PM	20.52	0.41	31.01
5/4/2021 12:08:32 PM	20.52	0.41	30.64
5/4/2021 12:08:47 PM	20.51	0.41	64.21
5/4/2021 12:09:03 PM	20.54	0.39	30.03

Plant Name: Enviva Waycross Run: 2
 Location: RCO 1 Stack (Hammermills) Date: 5/4/2021

	O2 %	CO2 %	THC ppm
5/4/2021 12:09:17 PM	20.52	0.41	28.93
5/4/2021 12:09:33 PM	20.52	0.41	28.93
5/4/2021 12:09:48 PM	20.52	0.41	64.58
5/4/2021 12:10:02 PM	20.53	0.39	44.56
5/4/2021 12:10:18 PM	20.52	0.40	41.63
5/4/2021 12:10:33 PM	20.52	0.40	41.26
5/4/2021 12:10:47 PM	20.53	0.40	40.89
5/4/2021 12:11:03 PM	20.53	0.40	73.61
5/4/2021 12:11:17 PM	20.54	0.39	47.00
5/4/2021 12:11:32 PM	20.53	0.40	43.58
5/4/2021 12:11:48 PM	20.53	0.40	42.97
5/4/2021 12:12:02 PM	20.53	0.40	68.24
5/4/2021 12:12:17 PM	20.54	0.38	34.30
5/4/2021 12:12:33 PM	20.53	0.40	30.88
5/4/2021 12:12:47 PM	20.53	0.40	30.76
5/4/2021 12:13:02 PM	20.52	0.40	30.40
5/4/2021 12:13:18 PM	20.53	0.40	63.48
5/4/2021 12:13:32 PM	20.54	0.39	29.91
5/4/2021 12:13:48 PM	20.52	0.40	28.93
5/4/2021 12:14:02 PM	20.52	0.40	28.69
5/4/2021 12:14:18 PM	20.53	0.40	63.60
5/4/2021 12:14:32 PM	20.54	0.38	43.58
5/4/2021 12:14:47 PM	20.53	0.39	40.65
5/4/2021 12:15:03 PM	20.53	0.39	40.28
5/4/2021 12:15:17 PM	20.54	0.39	39.67
5/4/2021 12:15:33 PM	20.53	0.39	70.68
5/4/2021 12:15:47 PM	20.55	0.38	45.04
5/4/2021 12:16:02 PM	20.54	0.39	41.99
5/4/2021 12:16:18 PM	20.53	0.39	41.75
5/4/2021 12:16:32 PM	20.53	0.39	65.55
5/4/2021 12:16:47 PM	20.54	0.38	34.06
5/4/2021 12:17:03 PM	20.53	0.39	30.27
5/4/2021 12:17:17 PM	20.53	0.39	30.27
5/4/2021 12:17:33 PM	20.53	0.39	29.91
5/4/2021 12:17:47 PM	20.52	0.39	60.91
5/4/2021 12:18:03 PM	20.54	0.38	29.42
5/4/2021 12:18:17 PM	20.53	0.39	28.32
5/4/2021 12:18:32 PM	20.53	0.39	28.32
5/4/2021 12:18:48 PM	20.53	0.39	61.77
5/4/2021 12:19:02 PM	20.54	0.38	44.56

Plant Name: Enviva Waycross
 Location: RCO 1 Stack (Hammermills)

Run: 3
 Date: 5/4/2021

	O2	CO2	THC
	%	%	ppm
Run Averages	20.529	0.398	42.948
5/4/2021 12:31:02 PM	20.54	0.43	29.30
5/4/2021 12:31:18 PM	20.54	0.42	56.52
5/4/2021 12:31:32 PM	20.56	0.41	28.69
5/4/2021 12:31:47 PM	20.54	0.42	27.71
5/4/2021 12:32:02 PM	20.54	0.42	27.34
5/4/2021 12:32:17 PM	20.55	0.42	54.08
5/4/2021 12:32:34 PM	20.56	0.40	40.41
5/4/2021 12:32:47 PM	20.55	0.41	37.60
5/4/2021 12:33:03 PM	20.56	0.40	37.11
5/4/2021 12:33:17 PM	20.56	0.40	36.50
5/4/2021 12:33:32 PM	20.55	0.40	60.18
5/4/2021 12:33:47 PM	20.56	0.39	40.65
5/4/2021 12:34:02 PM	20.55	0.39	38.21
5/4/2021 12:34:17 PM	20.56	0.40	37.72
5/4/2021 12:34:32 PM	20.56	0.39	56.03
5/4/2021 12:34:47 PM	20.56	0.38	30.76
5/4/2021 12:35:02 PM	20.55	0.39	27.71
5/4/2021 12:35:17 PM	20.55	0.39	27.34
5/4/2021 12:35:32 PM	20.55	0.39	27.10
5/4/2021 12:35:47 PM	20.55	0.39	49.19
5/4/2021 12:36:02 PM	20.56	0.38	26.37
5/4/2021 12:36:17 PM	20.55	0.39	25.39
5/4/2021 12:36:32 PM	20.55	0.38	25.15
5/4/2021 12:36:48 PM	20.55	0.38	48.22
5/4/2021 12:37:02 PM	20.56	0.37	37.35
5/4/2021 12:37:17 PM	20.56	0.38	35.03
5/4/2021 12:37:32 PM	20.56	0.38	34.67
5/4/2021 12:37:47 PM	20.56	0.38	34.42
5/4/2021 12:38:02 PM	20.56	0.37	54.93
5/4/2021 12:38:17 PM	20.57	0.36	38.33
5/4/2021 12:38:32 PM	20.57	0.37	35.64
5/4/2021 12:38:47 PM	20.57	0.37	35.28
5/4/2021 12:39:02 PM	20.57	0.37	51.15
5/4/2021 12:39:17 PM	20.58	0.36	29.42
5/4/2021 12:39:32 PM	20.56	0.37	26.37
5/4/2021 12:39:47 PM	20.56	0.38	25.88
5/4/2021 12:40:02 PM	20.56	0.38	25.88
5/4/2021 12:40:17 PM	20.56	0.37	47.00
5/4/2021 12:40:32 PM	20.58	0.37	25.88
5/4/2021 12:40:47 PM	20.56	0.37	24.78
5/4/2021 12:41:02 PM	20.56	0.37	24.66
5/4/2021 12:41:17 PM	20.56	0.37	47.36
5/4/2021 12:41:32 PM	20.57	0.36	36.99
5/4/2021 12:41:47 PM	20.57	0.37	34.55
5/4/2021 12:42:02 PM	20.57	0.37	34.42

Plant Name: Enviva Waycross
Location: RCO 1 Stack (Hammermills)

Run: 3
Date: 5/4/2021

	O2 %	CO2 %	THC ppm
5/4/2021 12:42:17 PM	20.57	0.37	34.42
5/4/2021 12:42:32 PM	20.57	0.37	55.79
5/4/2021 12:42:47 PM	20.58	0.36	39.06
5/4/2021 12:43:02 PM	20.57	0.37	36.99
5/4/2021 12:43:17 PM	20.57	0.37	36.74
5/4/2021 12:43:32 PM	20.57	0.37	54.44
5/4/2021 12:43:47 PM	20.58	0.36	30.40
5/4/2021 12:44:02 PM	20.57	0.38	27.59
5/4/2021 12:44:17 PM	20.56	0.38	27.34
5/4/2021 12:44:32 PM	20.56	0.38	27.34
5/4/2021 12:44:47 PM	20.56	0.38	52.37
5/4/2021 12:45:02 PM	20.57	0.37	27.59
5/4/2021 12:45:17 PM	20.56	0.39	26.86
5/4/2021 12:45:32 PM	20.56	0.39	26.98
5/4/2021 12:45:47 PM	20.55	0.39	54.44
5/4/2021 12:46:02 PM	20.56	0.38	41.87
5/4/2021 12:46:17 PM	20.56	0.39	39.43
5/4/2021 12:46:32 PM	20.55	0.39	39.31
5/4/2021 12:46:47 PM	20.55	0.39	39.43
5/4/2021 12:47:02 PM	20.55	0.39	66.04
5/4/2021 12:47:17 PM	20.56	0.38	44.43
5/4/2021 12:47:32 PM	20.55	0.39	41.99
5/4/2021 12:47:47 PM	20.55	0.39	41.99
5/4/2021 12:48:02 PM	20.55	0.39	45.65
5/4/2021 12:48:17 PM	20.54	0.39	55.66
5/4/2021 12:48:32 PM	20.55	0.39	30.64
5/4/2021 12:48:47 PM	20.53	0.40	30.40
5/4/2021 12:49:02 PM	20.53	0.40	30.27
5/4/2021 12:49:17 PM	20.53	0.40	60.06
5/4/2021 12:49:32 PM	20.55	0.39	30.15
5/4/2021 12:49:47 PM	20.53	0.40	29.17
5/4/2021 12:50:02 PM	20.53	0.41	28.69
5/4/2021 12:50:17 PM	20.53	0.40	66.28
5/4/2021 12:50:32 PM	20.55	0.39	42.60
5/4/2021 12:50:47 PM	20.53	0.40	41.75
5/4/2021 12:51:02 PM	20.53	0.40	41.50
5/4/2021 12:51:17 PM	20.53	0.40	41.14
5/4/2021 12:51:32 PM	20.53	0.40	71.66
5/4/2021 12:51:47 PM	20.54	0.39	46.88
5/4/2021 12:52:02 PM	20.53	0.40	43.95
5/4/2021 12:52:17 PM	20.52	0.40	43.70
5/4/2021 12:52:32 PM	20.52	0.40	46.51
5/4/2021 12:52:47 PM	20.52	0.40	59.45
5/4/2021 12:53:02 PM	20.53	0.40	31.86
5/4/2021 12:53:17 PM	20.51	0.40	31.37
5/4/2021 12:53:32 PM	20.51	0.40	31.01

Plant Name: Enviva Waycross
Location: RCO 1 Stack (Hammermills)

Run: 3
Date: 5/4/2021

	O2 %	CO2 %	THC ppm
5/4/2021 12:53:47 PM	20.52	0.41	62.13
5/4/2021 12:54:02 PM	20.53	0.39	30.64
5/4/2021 12:54:17 PM	20.52	0.41	29.30
5/4/2021 12:54:32 PM	20.52	0.40	29.05
5/4/2021 12:54:47 PM	20.52	0.41	67.87
5/4/2021 12:55:02 PM	20.53	0.39	42.48
5/4/2021 12:55:17 PM	20.52	0.40	41.38
5/4/2021 12:55:32 PM	20.53	0.40	41.02
5/4/2021 12:55:47 PM	20.53	0.40	41.02
5/4/2021 12:56:02 PM	20.52	0.40	71.04
5/4/2021 12:56:17 PM	20.54	0.39	46.14
5/4/2021 12:56:32 PM	20.53	0.40	42.97
5/4/2021 12:56:47 PM	20.53	0.40	42.48
5/4/2021 12:57:02 PM	20.53	0.40	46.02
5/4/2021 12:57:17 PM	20.53	0.40	59.20
5/4/2021 12:57:32 PM	20.53	0.39	31.37
5/4/2021 12:57:47 PM	20.52	0.40	31.01
5/4/2021 12:58:02 PM	20.53	0.40	31.01
5/4/2021 12:58:17 PM	20.53	0.41	61.89
5/4/2021 12:58:32 PM	20.54	0.39	30.40
5/4/2021 12:58:47 PM	20.52	0.41	29.54
5/4/2021 12:59:02 PM	20.53	0.41	29.30
5/4/2021 12:59:17 PM	20.53	0.41	67.26
5/4/2021 12:59:32 PM	20.54	0.39	42.48
5/4/2021 12:59:47 PM	20.53	0.40	41.87
5/4/2021 1:00:02 PM	20.52	0.40	41.50
5/4/2021 1:00:17 PM	20.53	0.40	41.26
5/4/2021 1:00:32 PM	20.53	0.40	71.41
5/4/2021 1:00:47 PM	20.53	0.39	46.88
5/4/2021 1:01:02 PM	20.52	0.40	43.95
5/4/2021 1:01:17 PM	20.52	0.40	44.19
5/4/2021 1:01:32 PM	20.52	0.40	47.73
5/4/2021 1:01:47 PM	20.52	0.40	62.50
5/4/2021 1:02:02 PM	20.53	0.40	32.35
5/4/2021 1:02:17 PM	20.51	0.41	32.59
5/4/2021 1:02:32 PM	20.51	0.41	32.35
5/4/2021 1:02:47 PM	20.51	0.41	64.45
5/4/2021 1:03:02 PM	20.53	0.40	31.86
5/4/2021 1:03:17 PM	20.51	0.41	30.88
5/4/2021 1:03:32 PM	20.51	0.41	30.64
5/4/2021 1:03:47 PM	20.51	0.41	71.17
5/4/2021 1:04:02 PM	20.53	0.39	44.43
5/4/2021 1:04:17 PM	20.51	0.41	43.46
5/4/2021 1:04:32 PM	20.52	0.41	43.33
5/4/2021 1:04:47 PM	20.52	0.41	42.85
5/4/2021 1:05:02 PM	20.52	0.41	74.83

Plant Name: Enviva Waycross
Location: RCO 1 Stack (Hammermills)

Run: 3
Date: 5/4/2021

	O2 %	CO2 %	THC ppm
5/4/2021 1:05:17 PM	20.53	0.39	48.46
5/4/2021 1:05:32 PM	20.52	0.40	45.17
5/4/2021 1:05:47 PM	20.52	0.40	45.04
5/4/2021 1:06:02 PM	20.52	0.41	47.97
5/4/2021 1:06:17 PM	20.52	0.40	62.74
5/4/2021 1:06:32 PM	20.53	0.40	32.84
5/4/2021 1:06:47 PM	20.51	0.41	32.71
5/4/2021 1:07:02 PM	20.51	0.41	32.47
5/4/2021 1:07:17 PM	20.51	0.41	65.67
5/4/2021 1:07:32 PM	20.53	0.40	32.23
5/4/2021 1:07:47 PM	20.51	0.41	31.01
5/4/2021 1:08:02 PM	20.51	0.41	30.88
5/4/2021 1:08:17 PM	20.51	0.41	71.78
5/4/2021 1:08:32 PM	20.53	0.40	45.17
5/4/2021 1:08:47 PM	20.52	0.40	43.70
5/4/2021 1:09:02 PM	20.52	0.41	43.58
5/4/2021 1:09:17 PM	20.52	0.40	43.33
5/4/2021 1:09:32 PM	20.52	0.40	74.71
5/4/2021 1:09:47 PM	20.53	0.40	48.22
5/4/2021 1:10:02 PM	20.53	0.40	44.80
5/4/2021 1:10:17 PM	20.52	0.41	44.43
5/4/2021 1:10:32 PM	20.52	0.40	47.24
5/4/2021 1:10:47 PM	20.52	0.40	64.21
5/4/2021 1:11:02 PM	20.53	0.40	33.08
5/4/2021 1:11:17 PM	20.51	0.41	32.71
5/4/2021 1:11:32 PM	20.51	0.41	32.71
5/4/2021 1:11:47 PM	20.51	0.41	65.19
5/4/2021 1:12:02 PM	20.53	0.40	32.10
5/4/2021 1:12:17 PM	20.51	0.41	31.13
5/4/2021 1:12:32 PM	20.51	0.41	31.01
5/4/2021 1:12:47 PM	20.51	0.41	71.17
5/4/2021 1:13:02 PM	20.53	0.39	44.43
5/4/2021 1:13:17 PM	20.52	0.41	43.58
5/4/2021 1:13:32 PM	20.52	0.41	43.82
5/4/2021 1:13:47 PM	20.51	0.40	43.58
5/4/2021 1:14:02 PM	20.51	0.41	75.44
5/4/2021 1:14:17 PM	20.53	0.40	49.07
5/4/2021 1:14:32 PM	20.51	0.41	45.41
5/4/2021 1:14:47 PM	20.51	0.41	45.41
5/4/2021 1:15:02 PM	20.51	0.41	70.56
5/4/2021 1:15:17 PM	20.52	0.40	38.33
5/4/2021 1:15:32 PM	20.51	0.41	33.57
5/4/2021 1:15:47 PM	20.50	0.41	33.33
5/4/2021 1:16:02 PM	20.50	0.41	33.20
5/4/2021 1:16:17 PM	20.50	0.42	67.50
5/4/2021 1:16:32 PM	20.52	0.40	32.47

Plant Name: Enviva Waycross
 Location: RCO 1 Stack (Hammermills)

Run: 3
 Date: 5/4/2021

	O2 %	CO2 %	THC ppm
5/4/2021 1:16:47 PM	20.50	0.42	31.37
5/4/2021 1:17:02 PM	20.50	0.42	31.01
5/4/2021 1:17:17 PM	20.50	0.42	65.80
5/4/2021 1:17:32 PM	20.52	0.40	48.46
5/4/2021 1:17:47 PM	20.51	0.41	45.04
5/4/2021 1:18:02 PM	20.51	0.41	44.56
5/4/2021 1:18:17 PM	20.51	0.41	44.31
5/4/2021 1:18:32 PM	20.51	0.41	76.54
5/4/2021 1:18:47 PM	20.52	0.40	49.56
5/4/2021 1:19:02 PM	20.51	0.41	45.90
5/4/2021 1:19:17 PM	20.50	0.41	45.90
5/4/2021 1:19:32 PM	20.50	0.41	73.36
5/4/2021 1:19:47 PM	20.52	0.40	38.33
5/4/2021 1:20:02 PM	20.50	0.42	33.33
5/4/2021 1:20:17 PM	20.50	0.42	33.20
5/4/2021 1:20:32 PM	20.50	0.42	32.84
5/4/2021 1:20:47 PM	20.50	0.42	67.14
5/4/2021 1:21:02 PM	20.52	0.40	32.23
5/4/2021 1:21:17 PM	20.50	0.42	31.37
5/4/2021 1:21:32 PM	20.49	0.42	31.25
5/4/2021 1:21:47 PM	20.49	0.42	66.04
5/4/2021 1:22:02 PM	20.50	0.40	48.71
5/4/2021 1:22:17 PM	20.50	0.41	45.17
5/4/2021 1:22:32 PM	20.49	0.41	44.80
5/4/2021 1:22:47 PM	20.50	0.41	44.43
5/4/2021 1:23:02 PM	20.50	0.41	78.74
5/4/2021 1:23:17 PM	20.52	0.40	50.90
5/4/2021 1:23:32 PM	20.51	0.41	47.36
5/4/2021 1:23:47 PM	20.50	0.41	46.39
5/4/2021 1:24:02 PM	20.50	0.41	72.63
5/4/2021 1:24:17 PM	20.52	0.40	38.94
5/4/2021 1:24:32 PM	20.50	0.41	33.08
5/4/2021 1:24:47 PM	20.49	0.42	32.71
5/4/2021 1:25:02 PM	20.50	0.42	32.35
5/4/2021 1:25:17 PM	20.49	0.42	66.16
5/4/2021 1:25:32 PM	20.51	0.40	31.74
5/4/2021 1:25:47 PM	20.49	0.41	30.52
5/4/2021 1:26:02 PM	20.49	0.41	30.64
5/4/2021 1:26:17 PM	20.49	0.41	64.45
5/4/2021 1:26:32 PM	20.51	0.40	47.00
5/4/2021 1:26:47 PM	20.50	0.40	43.58
5/4/2021 1:27:02 PM	20.50	0.40	43.09
5/4/2021 1:27:17 PM	20.50	0.41	42.60
5/4/2021 1:27:32 PM	20.51	0.40	73.85
5/4/2021 1:27:47 PM	20.52	0.39	47.36
5/4/2021 1:28:02 PM	20.51	0.40	43.70

Plant Name: Enviva Waycross
Location: RCO 1 Stack (Hammermills)

Run: 3
Date: 5/4/2021

	O2 %	CO2 %	THC ppm
5/4/2021 1:28:17 PM	20.51	0.40	43.58
5/4/2021 1:28:32 PM	20.51	0.40	67.99
5/4/2021 1:28:47 PM	20.52	0.39	37.48
5/4/2021 1:29:02 PM	20.51	0.40	31.74
5/4/2021 1:29:17 PM	20.51	0.40	31.74
5/4/2021 1:29:32 PM	20.50	0.41	31.49
5/4/2021 1:29:47 PM	20.50	0.41	63.84
5/4/2021 1:30:02 PM	20.52	0.39	30.88
5/4/2021 1:30:17 PM	20.50	0.41	29.91
5/4/2021 1:30:32 PM	20.51	0.41	29.66
5/4/2021 1:30:47 PM	20.50	0.41	63.23
5/4/2021 1:31:02 PM	20.52	0.39	45.78
5/4/2021 1:31:17 PM	20.52	0.40	42.11
5/4/2021 1:31:32 PM	20.52	0.40	41.26
5/4/2021 1:31:47 PM	20.52	0.40	41.14

			Methane (ppmv)	Methanol (ppmv)	Formaldehyde (ppmv)	Acetaldehyde (ppmv)	Temp (C)	Press. (Atm)
Run 1	Averages	1001-1101	30.61	0.816	0.424	0.183	191.44	0.961
Run 2	Averages	1118-1218	29.28	0.781	0.419	0.185	191.45	0.961
Run 3	Averages	1230-1330	28.50	0.810	0.431	0.131	191.45	0.960

Spectrum	Date	Time	Methane (ppmv)	Methanol (ppmv)	Formaldehyde (ppmv)	Acetaldehyde (ppmv)	Temp (C)	Press. (Atm)
SPC__004948.LAB	5/4/2021	10:01:56 AM	31.54	0.756	0.506	0.210	191.46	0.961
SPC__004949.LAB	5/4/2021	10:02:55 AM	31.20	0.752	0.471	0.071	191.45	0.961
SPC__004950.LAB	5/4/2021	10:03:56 AM	30.88	0.847	0.572	0.106	191.45	0.961
SPC__004951.LAB	5/4/2021	10:04:55 AM	31.09	0.832	0.511	0.340	191.45	0.961
SPC__004952.LAB	5/4/2021	10:05:55 AM	31.43	0.885	0.532	0.360	191.45	0.961
SPC__004953.LAB	5/4/2021	10:06:55 AM	31.14	0.828	0.476	0.182	191.45	0.961
SPC__004954.LAB	5/4/2021	10:07:55 AM	30.67	0.836	0.450	0.098	191.44	0.961
SPC__004955.LAB	5/4/2021	10:08:55 AM	30.70	0.784	0.399	0.265	191.42	0.961
SPC__004956.LAB	5/4/2021	10:09:55 AM	31.06	0.785	0.492	0.524	191.34	0.961
SPC__004957.LAB	5/4/2021	10:10:55 AM	31.27	0.764	0.328	0.444	191.35	0.961
SPC__004958.LAB	5/4/2021	10:11:55 AM	30.85	0.759	0.375	0.090	191.39	0.961
SPC__004959.LAB	5/4/2021	10:12:55 AM	30.67	0.780	0.302	0.137	191.40	0.961
SPC__004960.LAB	5/4/2021	10:13:55 AM	30.95	0.827	0.347	0.275	191.45	0.961
SPC__004961.LAB	5/4/2021	10:14:55 AM	31.43	0.843	0.318	0.535	191.43	0.961
SPC__004962.LAB	5/4/2021	10:15:54 AM	31.25	0.842	0.410	0.196	191.45	0.961
SPC__004963.LAB	5/4/2021	10:16:54 AM	30.94	0.791	0.363	0.039	191.45	0.961
SPC__004964.LAB	5/4/2021	10:17:54 AM	31.00	0.810	0.417	0.099	191.45	0.961
SPC__004965.LAB	5/4/2021	10:18:54 AM	31.38	0.839	0.432	0.234	191.47	0.961
SPC__004966.LAB	5/4/2021	10:19:54 AM	31.54	0.874	0.418	0.094	191.45	0.961
SPC__004967.LAB	5/4/2021	10:20:54 AM	31.15	0.758	0.323	0.000	191.54	0.961
SPC__004968.LAB	5/4/2021	10:21:54 AM	31.00	0.866	0.394	0.097	191.55	0.960
SPC__004969.LAB	5/4/2021	10:22:54 AM	31.14	0.846	0.332	0.203	191.55	0.961
SPC__004970.LAB	5/4/2021	10:23:54 AM	31.54	0.902	0.401	0.096	191.53	0.961
SPC__004971.LAB	5/4/2021	10:24:54 AM	31.35	0.769	0.404	0.094	191.46	0.961
SPC__004972.LAB	5/4/2021	10:25:54 AM	30.89	0.769	0.389	0.000	191.44	0.961
SPC__004973.LAB	5/4/2021	10:26:54 AM	30.96	0.753	0.475	0.163	191.40	0.961
SPC__004974.LAB	5/4/2021	10:27:54 AM	31.35	0.862	0.463	0.263	191.36	0.961
SPC__004975.LAB	5/4/2021	10:28:54 AM	31.37	0.816	0.436	0.123	191.34	0.961
SPC__004976.LAB	5/4/2021	10:29:53 AM	30.86	0.925	0.378	0.056	191.32	0.961
SPC__004977.LAB	5/4/2021	10:30:53 AM	30.39	0.830	0.430	0.000	191.35	0.961
SPC__004978.LAB	5/4/2021	10:31:53 AM	30.54	0.914	0.381	0.209	191.34	0.961
SPC__004979.LAB	5/4/2021	10:32:53 AM	31.00	0.906	0.430	0.193	191.41	0.961
SPC__004980.LAB	5/4/2021	10:33:53 AM	30.79	0.804	0.453	0.031	191.44	0.961
SPC__004981.LAB	5/4/2021	10:34:53 AM	30.19	0.758	0.389	0.000	191.44	0.961
SPC__004982.LAB	5/4/2021	10:35:53 AM	30.18	0.777	0.379	0.061	191.43	0.961
SPC__004983.LAB	5/4/2021	10:36:53 AM	30.47	0.895	0.380	0.155	191.45	0.961
SPC__004984.LAB	5/4/2021	10:37:53 AM	30.64	0.915	0.515	0.192	191.45	0.961
SPC__004985.LAB	5/4/2021	10:38:53 AM	30.19	0.861	0.369	0.000	191.45	0.961
SPC__004986.LAB	5/4/2021	10:39:53 AM	29.95	0.849	0.511	0.000	191.43	0.961
SPC__004987.LAB	5/4/2021	10:40:53 AM	29.97	0.737	0.476	0.183	191.45	0.961
SPC__004988.LAB	5/4/2021	10:41:52 AM	30.28	0.738	0.469	0.132	191.45	0.961
SPC__004989.LAB	5/4/2021	10:42:52 AM	30.18	0.868	0.446	0.000	191.45	0.961
SPC__004990.LAB	5/4/2021	10:43:52 AM	29.86	0.767	0.446	0.000	191.45	0.961
SPC__004991.LAB	5/4/2021	10:44:52 AM	30.00	0.828	0.431	0.000	191.45	0.961
SPC__004992.LAB	5/4/2021	10:45:52 AM	30.33	0.887	0.484	0.260	191.47	0.961
SPC__004993.LAB	5/4/2021	10:46:52 AM	30.54	0.847	0.453	0.145	191.48	0.961
SPC__004994.LAB	5/4/2021	10:47:52 AM	30.19	0.788	0.362	0.000	191.49	0.961
SPC__004995.LAB	5/4/2021	10:48:52 AM	30.04	0.794	0.451	0.026	191.48	0.961
SPC__004996.LAB	5/4/2021	10:49:52 AM	30.24	0.870	0.419	0.287	191.47	0.961
SPC__004997.LAB	5/4/2021	10:50:52 AM	30.67	0.831	0.397	0.270	191.54	0.961
SPC__004998.LAB	5/4/2021	10:51:52 AM	30.34	0.839	0.462	0.180	191.55	0.961
SPC__004999.LAB	5/4/2021	10:52:52 AM	29.88	0.792	0.498	0.107	191.54	0.961
SPC__005000.LAB	5/4/2021	10:53:52 AM	29.91	0.810	0.441	0.289	191.48	0.961
SPC__005001.LAB	5/4/2021	10:54:52 AM	30.12	0.847	0.479	0.458	191.47	0.961
SPC__005002.LAB	5/4/2021	10:55:51 AM	30.13	0.806	0.501	0.426	191.45	0.961
SPC__005003.LAB	5/4/2021	10:56:51 AM	29.71	0.748	0.318	0.202	191.45	0.961
SPC__005004.LAB	5/4/2021	10:57:51 AM	29.46	0.665	0.339	0.287	191.45	0.961
SPC__005005.LAB	5/4/2021	10:58:51 AM	29.57	0.734	0.372	0.503	191.44	0.961
SPC__005006.LAB	5/4/2021	10:59:51 AM	29.99	0.771	0.451	0.583	191.42	0.961
SPC__005007.LAB	5/4/2021	11:00:51 AM	29.68	0.830	0.373	0.324	191.40	0.961
SPC__005008.LAB	5/4/2021	11:01:51 AM	29.25	0.793	0.459	0.275	191.37	0.961
SPC__005025.LAB	5/4/2021	11:18:50 AM	28.94	0.721	0.350	0.057	191.45	0.961
SPC__005026.LAB	5/4/2021	11:19:50 AM	28.82	0.788	0.451	0.000	191.45	0.961
SPC__005027.LAB	5/4/2021	11:20:50 AM	28.90	0.710	0.515	0.109	191.45	0.961
SPC__005028.LAB	5/4/2021	11:21:50 AM	29.29	0.752	0.612	0.430	191.45	0.961
SPC__005029.LAB	5/4/2021	11:22:49 AM	29.52	0.804	0.385	0.220	191.45	0.961
SPC__005030.LAB	5/4/2021	11:23:49 AM	29.26	0.709	0.364	0.052	191.45	0.961

			Methane (ppmvw)	Methanol (ppmvw)	Formaldehyde (ppmvw)	Acetaldehyde (ppmvw)	Temp (C)	Press. (Atm)
SPC__005031.LAB	5/4/2021	11:24:49 AM	29.10	0.709	0.463	0.000	191.45	0.961
SPC__005032.LAB	5/4/2021	11:25:49 AM	29.23	0.844	0.403	0.309	191.45	0.961
SPC__005033.LAB	5/4/2021	11:26:49 AM	29.62	0.741	0.396	0.343	191.45	0.961
SPC__005034.LAB	5/4/2021	11:27:49 AM	29.56	0.818	0.416	0.087	191.45	0.961
SPC__005035.LAB	5/4/2021	11:28:49 AM	29.19	0.807	0.515	0.063	191.45	0.961
SPC__005036.LAB	5/4/2021	11:29:49 AM	29.28	0.773	0.458	0.140	191.43	0.960
SPC__005037.LAB	5/4/2021	11:30:49 AM	29.63	0.783	0.449	0.404	191.45	0.961
SPC__005038.LAB	5/4/2021	11:31:49 AM	29.91	0.775	0.401	0.264	191.45	0.961
SPC__005039.LAB	5/4/2021	11:32:49 AM	29.59	0.700	0.415	0.073	191.45	0.961
SPC__005040.LAB	5/4/2021	11:33:49 AM	29.41	0.752	0.442	0.138	191.42	0.961
SPC__005041.LAB	5/4/2021	11:34:49 AM	29.57	0.801	0.353	0.449	191.45	0.961
SPC__005042.LAB	5/4/2021	11:35:48 AM	29.85	0.793	0.420	0.503	191.45	0.961
SPC__005043.LAB	5/4/2021	11:36:48 AM	29.54	0.768	0.449	0.164	191.45	0.961
SPC__005044.LAB	5/4/2021	11:37:48 AM	29.00	0.725	0.494	0.225	191.45	0.961
SPC__005045.LAB	5/4/2021	11:38:48 AM	29.07	0.802	0.534	0.340	191.45	0.961
SPC__005046.LAB	5/4/2021	11:39:48 AM	29.40	0.761	0.496	0.524	191.45	0.961
SPC__005047.LAB	5/4/2021	11:40:48 AM	29.74	0.775	0.437	0.309	191.45	0.960
SPC__005048.LAB	5/4/2021	11:41:48 AM	29.42	0.667	0.419	0.000	191.45	0.960
SPC__005049.LAB	5/4/2021	11:42:48 AM	29.13	0.739	0.276	0.118	191.44	0.960
SPC__005050.LAB	5/4/2021	11:43:48 AM	29.39	0.677	0.385	0.316	191.46	0.961
SPC__005051.LAB	5/4/2021	11:44:48 AM	29.73	0.705	0.487	0.367	191.45	0.960
SPC__005052.LAB	5/4/2021	11:45:48 AM	29.53	0.852	0.486	0.113	191.45	0.960
SPC__005053.LAB	5/4/2021	11:46:48 AM	29.11	0.690	0.380	0.033	191.45	0.960
SPC__005054.LAB	5/4/2021	11:47:47 AM	29.02	0.746	0.397	0.146	191.46	0.961
SPC__005055.LAB	5/4/2021	11:48:47 AM	29.30	0.740	0.365	0.366	191.45	0.961
SPC__005056.LAB	5/4/2021	11:49:47 AM	29.58	0.757	0.441	0.201	191.45	0.960
SPC__005057.LAB	5/4/2021	11:50:47 AM	29.32	0.736	0.494	0.000	191.45	0.960
SPC__005058.LAB	5/4/2021	11:51:47 AM	29.07	0.840	0.486	0.211	191.45	0.960
SPC__005059.LAB	5/4/2021	11:52:47 AM	29.23	0.840	0.424	0.278	191.45	0.960
SPC__005060.LAB	5/4/2021	11:53:47 AM	29.64	0.826	0.446	0.425	191.46	0.960
SPC__005061.LAB	5/4/2021	11:54:47 AM	29.51	0.892	0.569	0.204	191.45	0.960
SPC__005062.LAB	5/4/2021	11:55:47 AM	28.99	0.805	0.387	0.029	191.45	0.960
SPC__005063.LAB	5/4/2021	11:56:47 AM	29.01	0.804	0.472	0.258	191.44	0.960
SPC__005064.LAB	5/4/2021	11:57:47 AM	29.27	0.888	0.319	0.377	191.43	0.960
SPC__005065.LAB	5/4/2021	11:58:47 AM	29.50	0.854	0.499	0.280	191.44	0.960
SPC__005066.LAB	5/4/2021	11:59:47 AM	29.13	0.853	0.408	0.000	191.45	0.960
SPC__005067.LAB	5/4/2021	12:00:47 PM	28.92	0.865	0.333	0.131	191.43	0.961
SPC__005068.LAB	5/4/2021	12:01:47 PM	29.05	0.800	0.322	0.132	191.45	0.960
SPC__005069.LAB	5/4/2021	12:02:46 PM	29.41	0.765	0.237	0.336	191.46	0.961
SPC__005070.LAB	5/4/2021	12:03:46 PM	29.31	0.794	0.340	0.173	191.45	0.961
SPC__005071.LAB	5/4/2021	12:04:46 PM	28.99	0.827	0.317	0.000	191.44	0.961
SPC__005072.LAB	5/4/2021	12:05:46 PM	28.98	0.757	0.408	0.079	191.43	0.961
SPC__005073.LAB	5/4/2021	12:06:46 PM	29.30	0.782	0.344	0.228	191.43	0.961
SPC__005074.LAB	5/4/2021	12:07:46 PM	29.58	0.847	0.367	0.180	191.44	0.961
SPC__005075.LAB	5/4/2021	12:08:46 PM	29.27	0.792	0.416	0.028	191.43	0.960
SPC__005076.LAB	5/4/2021	12:09:46 PM	29.00	0.866	0.424	0.073	191.41	0.960
SPC__005077.LAB	5/4/2021	12:10:46 PM	29.15	0.820	0.383	0.089	191.45	0.960
SPC__005078.LAB	5/4/2021	12:11:46 PM	29.59	0.806	0.456	0.334	191.45	0.961
SPC__005079.LAB	5/4/2021	12:12:46 PM	29.39	0.867	0.434	0.095	191.45	0.961
SPC__005080.LAB	5/4/2021	12:13:46 PM	28.96	0.779	0.312	0.012	191.42	0.961
SPC__005081.LAB	5/4/2021	12:14:46 PM	28.81	0.685	0.462	0.001	191.45	0.961
SPC__005082.LAB	5/4/2021	12:15:45 PM	29.14	0.755	0.421	0.261	191.44	0.961
SPC__005083.LAB	5/4/2021	12:16:45 PM	29.28	0.787	0.359	0.216	191.44	0.961
SPC__005084.LAB	5/4/2021	12:17:45 PM	28.90	0.782	0.445	0.009	191.45	0.961
SPC__005085.LAB	5/4/2021	12:18:45 PM	28.49	0.748	0.398	0.007	191.45	0.961
SPC__005097.LAB	5/4/2021	12:30:44 PM	28.18	1.564	0.311	0.018	191.44	0.960
SPC__005098.LAB	5/4/2021	12:31:44 PM	28.17	1.083	0.498	0.000	191.45	0.960
SPC__005099.LAB	5/4/2021	12:32:44 PM	28.24	0.926	0.482	0.030	191.45	0.960
SPC__005100.LAB	5/4/2021	12:33:44 PM	28.49	0.838	0.529	0.156	191.45	0.960
SPC__005101.LAB	5/4/2021	12:34:44 PM	28.81	0.878	0.545	0.052	191.45	0.960
SPC__005102.LAB	5/4/2021	12:35:44 PM	28.62	0.810	0.362	0.000	191.45	0.960
SPC__005103.LAB	5/4/2021	12:36:44 PM	28.31	0.766	0.564	0.000	191.47	0.961
SPC__005104.LAB	5/4/2021	12:37:44 PM	28.48	0.806	0.411	0.000	191.45	0.961
SPC__005105.LAB	5/4/2021	12:38:44 PM	28.90	0.808	0.526	0.000	191.45	0.961
SPC__005106.LAB	5/4/2021	12:39:44 PM	28.98	0.782	0.374	0.000	191.45	0.960
SPC__005107.LAB	5/4/2021	12:40:44 PM	28.66	0.705	0.453	0.000	191.45	0.961
SPC__005108.LAB	5/4/2021	12:41:44 PM	28.44	0.771	0.434	0.000	191.46	0.961
SPC__005109.LAB	5/4/2021	12:42:43 PM	28.67	0.866	0.491	0.000	191.45	0.960
SPC__005110.LAB	5/4/2021	12:43:43 PM	28.95	0.822	0.527	0.000	191.44	0.960
SPC__005111.LAB	5/4/2021	12:44:43 PM	28.75	0.827	0.491	0.000	191.45	0.960
SPC__005112.LAB	5/4/2021	12:45:43 PM	28.56	0.800	0.372	0.000	191.44	0.960
SPC__005113.LAB	5/4/2021	12:46:43 PM	28.75	0.793	0.492	0.082	191.40	0.960
SPC__005114.LAB	5/4/2021	12:47:43 PM	29.19	0.820	0.508	0.310	191.43	0.960

			Methane (ppmvw)	Methanol (ppmvw)	Formaldehyde (ppmvw)	Acetaldehyde (ppmvw)	Temp (C)	Press. (Atm)
SPC__005115.LAB	5/4/2021	12:48:43 PM	29.22	0.789	0.411	0.132	191.44	0.960
SPC__005116.LAB	5/4/2021	12:49:43 PM	28.78	0.857	0.326	0.000	191.45	0.960
SPC__005117.LAB	5/4/2021	12:50:43 PM	28.77	0.784	0.351	0.122	191.43	0.960
SPC__005118.LAB	5/4/2021	12:51:43 PM	28.90	0.805	0.438	0.255	191.45	0.960
SPC__005119.LAB	5/4/2021	12:52:43 PM	29.33	0.835	0.397	0.271	191.45	0.960
SPC__005120.LAB	5/4/2021	12:53:43 PM	29.03	0.744	0.372	0.003	191.44	0.960
SPC__005121.LAB	5/4/2021	12:54:43 PM	28.69	0.752	0.374	0.081	191.44	0.960
SPC__005122.LAB	5/4/2021	12:55:42 PM	28.71	0.743	0.382	0.187	191.42	0.960
SPC__005123.LAB	5/4/2021	12:56:42 PM	29.05	0.794	0.412	0.237	191.45	0.960
SPC__005124.LAB	5/4/2021	12:57:42 PM	28.92	0.750	0.455	0.120	191.44	0.960
SPC__005125.LAB	5/4/2021	12:58:42 PM	28.56	0.756	0.444	0.000	191.45	0.960
SPC__005126.LAB	5/4/2021	12:59:42 PM	28.37	0.748	0.380	0.042	191.45	0.960
SPC__005127.LAB	5/4/2021	1:00:42 PM	28.57	0.707	0.442	0.229	191.44	0.960
SPC__005128.LAB	5/4/2021	1:01:42 PM	28.81	0.761	0.399	0.176	191.45	0.960
SPC__005129.LAB	5/4/2021	1:02:42 PM	28.53	0.804	0.501	0.000	191.45	0.960
SPC__005130.LAB	5/4/2021	1:03:42 PM	28.17	0.772	0.483	0.091	191.45	0.960
SPC__005131.LAB	5/4/2021	1:04:42 PM	28.16	0.838	0.485	0.175	191.45	0.960
SPC__005132.LAB	5/4/2021	1:05:42 PM	28.51	0.766	0.431	0.273	191.45	0.960
SPC__005133.LAB	5/4/2021	1:06:42 PM	28.56	0.754	0.508	0.097	191.45	0.960
SPC__005134.LAB	5/4/2021	1:07:42 PM	28.30	0.768	0.499	0.000	191.45	0.960
SPC__005135.LAB	5/4/2021	1:08:41 PM	28.13	0.756	0.475	0.113	191.45	0.960
SPC__005136.LAB	5/4/2021	1:09:42 PM	28.31	0.843	0.530	0.210	191.45	0.960
SPC__005137.LAB	5/4/2021	1:10:41 PM	28.64	0.758	0.497	0.245	191.45	0.960
SPC__005138.LAB	5/4/2021	1:11:41 PM	28.45	0.809	0.359	0.160	191.45	0.960
SPC__005139.LAB	5/4/2021	1:12:41 PM	28.15	0.754	0.401	0.085	191.45	0.960
SPC__005140.LAB	5/4/2021	1:13:41 PM	28.03	0.764	0.395	0.227	191.44	0.960
SPC__005141.LAB	5/4/2021	1:14:41 PM	28.36	0.781	0.497	0.286	191.43	0.960
SPC__005142.LAB	5/4/2021	1:15:41 PM	28.49	0.747	0.483	0.072	191.42	0.960
SPC__005143.LAB	5/4/2021	1:16:41 PM	28.21	0.754	0.384	0.000	191.43	0.960
SPC__005144.LAB	5/4/2021	1:17:41 PM	27.96	0.788	0.355	0.097	191.46	0.960
SPC__005145.LAB	5/4/2021	1:18:41 PM	28.12	0.816	0.538	0.398	191.43	0.960
SPC__005146.LAB	5/4/2021	1:19:41 PM	28.50	0.762	0.403	0.277	191.43	0.960
SPC__005147.LAB	5/4/2021	1:20:41 PM	28.35	0.755	0.339	0.227	191.44	0.960
SPC__005148.LAB	5/4/2021	1:21:40 PM	28.16	0.859	0.362	0.230	191.44	0.960
SPC__005149.LAB	5/4/2021	1:22:40 PM	28.14	0.842	0.406	0.317	191.45	0.960
SPC__005150.LAB	5/4/2021	1:23:40 PM	28.55	0.868	0.413	0.344	191.44	0.960
SPC__005151.LAB	5/4/2021	1:24:40 PM	28.58	0.766	0.367	0.280	191.45	0.960
SPC__005152.LAB	5/4/2021	1:25:40 PM	28.07	0.822	0.334	0.229	191.45	0.960
SPC__005153.LAB	5/4/2021	1:26:40 PM	27.85	0.787	0.406	0.267	191.44	0.960
SPC__005154.LAB	5/4/2021	1:27:40 PM	27.95	0.805	0.315	0.373	191.45	0.960
SPC__005155.LAB	5/4/2021	1:28:40 PM	28.34	0.798	0.378	0.219	191.45	0.960
SPC__005156.LAB	5/4/2021	1:29:40 PM	28.23	0.777	0.318	0.116	191.45	0.960
SPC__005157.LAB	5/4/2021	1:30:40 PM	27.80	0.813	0.448	0.107	191.45	0.960

Facility: Enviva WAY
Location: Waycross, GA.

Source: RCO1 Stack (Hammermills)

FLOW AND MOISTURE CALCULATIONS					
PARAMETER	NOMENCLATURE	RUN #1	RUN #2	RUN #3	Average
Date		5/4/2021	5/4/2021	5/4/2021	
Run Time		1001-1101	1118-1218	1230-1330	
Moisture Run Time	θ - min	60	60	60	
Stack Diameter	Ds - Inches	87.5	87.5	87.5	
Meter Calibration Factor	Y	0.985	0.985	0.985	
Barometric Pressure, inches Hg	Bp - in Hg	29.80	29.80	29.80	
Static Pressure	Pg - in. H ₂ O	-0.42	-0.43	-0.49	
Volume of Gas Sampled	Vm - cu. ft.	41.291	40.907	41.825	
Liquid Collected	ml	77.0	79.9	67.9	
Stack Area	As - sq. ft.	41.76	41.76	41.76	
Pitot Tube Coefficient	Cp	0.84	0.84	0.84	
Stack Pressure	Ps - in Hg	29.77	29.77	29.76	
Meter Box Pressure Differential	ΔH - in. H ₂ O	1.50	1.50	1.50	
Avg Square Root Velocity Head	ave sq rt Δp - in. H ₂ O	0.649	0.651	0.654	
Dry Gas Meter Temperature	Tm - °F	79.50	86.50	89.67	
Stack Temperature	Ts - °F	163.1	160.3	162.4	161.9
Oxygen	% O ₂	20.51	20.66	20.69	20.62
Carbon Dioxide	% CO ₂	0.38	0.22	0.22	0.27
Carbon Monoxide	% CO	0.00	0.00	0.00	
Nitrogen	% N ₂	79.11	79.12	79.09	
Volume of Gas Sampled, Dry	Vmstd - cu. ft.	39.792	38.917	39.561	
Volume of Water Vapor	Vwstd - cu. ft.	3.631	3.767	3.201	
Measured Moisture Content	% H ₂ O	8.36	8.83	7.49	8.22
Saturation Moisture	% H ₂ O	34.83	32.59	34.23	
Actual Stack Gas Moisture	% H ₂ O	8.36	8.83	7.49	
Dry Mole Fraction	Mfd	0.916	0.912	0.925	
Gas Molecular Weight, Dry	Md	28.88	28.86	28.86	
Gas Molecular Weight, Wet	Ms	27.97	27.90	28.05	
Gas Velocity	vs - ft./sec.	40.30	40.40	40.56	40.42
Volumetric Air Flow, Actual	Qaw - ACFM	100,981	101,229	101,614	101,275
Volumetric Air Flow, Standard	Qsd - DSCFM	78,016	78,162	79,336	78,505

Source: RCO1 Stack (Hammermills)

of points in flow traverse = |

Cyclonic Angles		Run 1			Run 2			Run 3		
		Δp - in. H ₂ O	sq. root Δp	Stack Temp	Δp - in. H ₂ O	sq. root Δp	Stack Temp	Δp - in. H ₂ O	sq. root Δp	Stack Temp
5	1	0.42	0.65	160	0.43	0.66	144	0.54	0.73	147
-2	2	0.4	0.63	161	0.41	0.64	151	0.51	0.71	155
5	3	0.39	0.62	163	0.38	0.62	155	0.41	0.64	161
0	4	0.32	0.57	169	0.39	0.62	156	0.33	0.57	161
5	5	0.39	0.62	161	0.42	0.65	160	0.42	0.65	161
0	6	0.43	0.66	165	0.44	0.66	165	0.41	0.64	162
0	7	0.44	0.66	169	0.44	0.66	167	0.43	0.66	165
0	8	0.38	0.62	169	0.37	0.61	169	0.36	0.60	168
5	9	0.42	0.65	157	0.48	0.69	158	0.43	0.66	161
0	10	0.46	0.68	157	0.43	0.66	161	0.47	0.69	164
0	11	0.42	0.65	159	0.43	0.66	164	0.46	0.68	165
0	12	0.37	0.61	157	0.41	0.64	160	0.38	0.62	163
5	13	0.46	0.68	162	0.41	0.64	154	0.43	0.66	164
5	14	0.55	0.74	170	0.46	0.68	162	0.46	0.68	169
0	15	0.5	0.71	169	0.47	0.69	170	0.44	0.66	167
0	16	0.41	0.64	162	0.42	0.65	169	0.39	0.62	165
	17		0.00			0.00			0.00	
	18		0.00			0.00			0.00	
	19		0.00			0.00			0.00	
	20		0.00			0.00			0.00	
	21		0.00			0.00			0.00	
	22		0.00			0.00			0.00	
	23		0.00			0.00			0.00	
	24		0.00			0.00			0.00	
Averages			0.649	163.1		0.651	160.3		0.654	162.4

Air Control Techniques, P.C.
Moisture Sampling Train Field Data Sheet

Date 5/4/2021

SOURCE IDENTIFICATION				EQUIPMENT IDENTIFICATION			
Facility	Enviva WAY			Umbilical ID	U 90		
City, State	Waycross, GA.			Meterbox ID	1992		
Test Location	RCO1 Stack (Hammermills)			$\Delta H@$	1.944		
Personnel	DLS, WS			Gamma (γ)	0.985		

Run Identification								
1				Pre Leak Check		Actual	Req'd	Vac
				Post Leak Check		0	< 0.02 or 4%	10
				0		< 0.02 or 4%	10	
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)
1001	0	55.769	77	1.5	NA	NA	64	7
	10	62.21	78	1.5	NA	NA	64	7
	20	69.34	80	1.5	NA	NA	63	7
	30	76.55	81	1.5	NA	NA	63	7
	40	83.21	81	1.5	NA	NA	64	7
	50	90.31	80	1.5	NA	NA	64	7
1101	60	97.060						

Run Identification								
2				Pre Leak Check		Actual	Req'd	Vac
				Post Leak Check		0	< 0.02 or 4%	8
				0		< 0.02 or 4%	8	
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)
1118	0	97.220	83	1.5	NA	NA	65	5
	10	104.19	86	1.5	NA	NA	65	5
	20	110.88	86	1.5	NA	NA	64	5
	30	117.9	87	1.5	NA	NA	64	5
	40	124.79	88	1.5	NA	NA	64	5
	50	131.55	89	1.5	NA	NA	64	5
1218	60	138.127						

Run Identification								
3				Pre Leak Check		Actual	Req'd	Vac
				Post Leak Check		0	< 0.02 or 4%	12
				0		< 0.02 or 4%	11	
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)
1230	0	138.312	89	1.5	NA	NA	64	7
	10	145.14	88	1.5	NA	NA	65	7
	20	152.17	89	1.5	NA	NA	65	7
	30	159.21	90	1.5	NA	NA	65	7
	40	166.25	91	1.5	NA	NA	65	7
	50	173.17	91	1.5	NA	NA	65	7
1330	60	180.137						

Air Control Techniques, P.C.
Moisture Recovery Sheet

Date 5/4/2021

Source Information			
Client	Enviva		
Plant Name	Enviva WAY		Job # 2513
City, State	Waycross, GA.		Process
Sampling Location	RCO1 Stack (Hammermills)		Personnel DLS

Sampling Information				
Run Number	Run 1	Run 2	Run 3	
Filter Identification	NA	NA	NA	
Sampling Date	5/4/2021	5/4/2021	5/4/2021	

Moisture Data				
<u>Impinger 1</u>				
Final Weight, grams	731.3	762.1	780.0	
Initial Weight, grams	683.1	706.9	731.3	
Condensed Water, grams	48.2	55.2	48.7	0.0
<u>Impinger 2</u>				
Final Weight, grams	692.5	658.6	698.0	
Initial Weight, grams	680.6	647.7	692.5	
Condensed Water, grams	11.9	10.9	5.5	0.0
<u>Impinger 3</u>				
Final Weight, grams				
Initial Weight, grams				
Condensed Water, grams	0.0	0.0	0.0	0.0
<u>Impinger 4</u>				
Final Weight, grams				
Initial Weight, grams				
Condensed Water, grams	0.0	0.0	0.0	0.0
<u>Silica Gel</u>				
Final Weight, grams	952.1	962.6	965.8	
Initial Weight, grams	935.2	948.8	952.1	
Adsorbed Water, grams	16.9	13.8	13.7	0.0
Total Water, grams	77.0	79.9	67.9	

APPENDIX D

Pellet Mill/Pellet Cooler Lines RCO2 Exhaust Stack Test Data

CEM and HAPs EMISSIONS SUMMARY					
Enviva Waycross - RCO2 Stack (Pellet Coolers)					
Parameter	Units	Run 1	Run 2	Run 3	Average
Date		5/5/2021	5/5/2021	5/5/2021	
Run Time		930-1030	1205-1305	1316-1416	
Oxygen	%	20.55	20.70	20.69	20.65
Carbon Dioxide	%	0.31	0.29	0.25	0.28
Moisture	%	8.18	8.26	7.80	8.08
Volumetric Flow Rate, Std	DSCFM	94,867	94,505	92,529	93,967
Process Rate	ODT/hr	127.70	118.54	130.16	125.5
THC Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w} as C ₃	24.0	20.8	21.1	22.0
Concentration (dry)	ppm _{v,d} as C ₃	26.1	22.6	22.9	23.9
Emission Rate (propane)	lb/hr as C ₃ H ₈	17.01	14.69	14.6	15.42
Emission Factor (propane)	lb/ODT as C ₃ H ₈	0.133	0.124	0.112	0.123
Methane Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppm _{v,w} as CH ₄	7.31	8.29	8.22	7.94
Concentration (dry)	ppm _{v,d} as CH ₄	7.96	9.03	8.92	8.64
Emission Rate	lb/hr as CH ₄	1.89	2.13	2.06	2.03
Emission Factor	lb/ODT	0.015	0.018	0.016	0.016
Non-Methane Hydrocarbon Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (dry)	ppm _{v,d} as C ₃	23.5	19.6	20.0	21.0
Emission Rate (propane)	lb/hr as C ₃ H ₈	15.3	12.7	12.7	13.6
Emission Factor (propane)	lb/ODT	0.120	0.107	0.097	0.108
Formaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.69	0.63	0.59	0.64
Concentration (dry)	ppmv _d	0.75	0.68	0.64	0.69
Emission Rate	lb/hr	0.33	0.30	0.28	0.30
Emission Factor	lb/ODT	0.0026	0.0025	0.0021	0.0024
Methanol Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.77	0.74	0.78	0.76
Concentration (dry)	ppmv _d	0.83	0.81	0.84	0.83
Emission Rate	lb/hr	0.395	0.381	0.390	0.39
Emission Factor	lb/ODT	0.003	0.003	0.003	0.0031
Acetaldehyde Emissions	Units	Run 1	Run 2	Run 3	Average
Concentration (actual)	ppmv _w	0.00	0.00	0.00	0.00
Concentration (dry)	ppmv _d	0.00	0.00	0.00	0.00
Emission Rate	lb/hr	0.00	0.00	0.00	0.00
Emission Factor	lb/ODT	0.000	0.000	0.000	0.0000
ND values					

EPA Method OTM 26 VOC Emissions						
Enviva Waycross - RCO2 Stack (Pellet Coolers)						
Parameter	Units	Run 1	Run 2	Run 3	Average	
Date		5/5/2021	5/5/2021	5/5/2021		
Run Time		930-1030	1205-1305	1316-1416		
Volumetric Flow Rate, Std	DSCFM	94,867	94,505	92,529	93,967	
Process Rate	tons material/hr	127.7	118.5	130.2	125.5	
Line	Emission Parameter	Units	Run 1	Run 2	Run 3	Average
A	THC	lbs/hr as propane	17.01	14.69	14.57	15.42
B	Methanol	lbs/hr as methanol	0.40	0.38	0.39	0.39
C	Methanol (measured as part of THC)	lbs/hr as propane	0.12	0.11	0.12	0.12
D	THC (not including methanol fraction)	lbs/hr as propane	16.89	14.57	14.46	15.31
E	Methane	lbs/hr as methane	1.89	2.13	2.06	2.03
F	Methane (as propane)	lbs/hr as propane	1.73	1.96	1.89	1.86
X	Acetaldehyde	lbs/hr as acetaldehyde	0.00	0.00	0.00	0.00
Z	Acetaldehyde	lbs/hr as propane	0.00	0.00	0.00	0.00
G	THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as propane	15.16	12.62	12.57	13.45
H	THC (not including methanol, acetaldehyde, and methane fraction)	lbs/hr as a-pinene	14.84	12.35	12.29	13.16
I	Formaldehyde	lbs/hr as formaldehyde	0.33	0.30	0.28	0.30
J	VOC Mass Emission Rate	lbs/hr	15.57	13.03	12.96	13.85
	VOC Mass Emission Factor	lbs/ODT	0.122	0.110	0.100	0.110

Note 1: The fraction of methanol that is detected by Method 25A is calculated on a propane basis using (1) a carbon and molecular weight conversion factor of 0.458 and (2) the EPA OTM 26 default response factor 0.65.

Note 2: Methane is classified as a non-VOC measured with FIA. Methane is converted to a propane basis using (1) a carbon and molecular weight conversion factor of 0.917 and (2) the EPA OTM 26 default response factor 1.

Note 3: Acetaldehyde converted to a propane basis using (1) a carbon and molecular weight conversion factor of 0.667 and (2) the instrument-specific response factor for acetaldehyde measured on-site as part of the test program.

Note 4: THC not including the methanol and methane fraction detected by Method 25A is converted from a propane to an alpha pinene (terpene) basis using (1) a carbon and molecular weight conversion factor of 0.927 and (2) the instrument-specific response factor for alpha pinene measured on-site as part of the test program.

Line Notes

- A Measured by EPA Method 25A
- B Measured by EPA Method 320
- C Line B x 0.458 x 0.65 (Note 1)
- D Line A minus Line C
- E Measured by EPA Method 320
- F Line E x 0.917 x 1.0 (Note 2)
- X Measured by EPA Method 320
- Z RF x 0.667 x Line X (Note 3)
- G Lines D - F - Z
- H Line G x 0.927 / Response Factor (Note 4)
- I Measured by EPA Method 320, not detected by FIA
- J Lines B + H + I + Z

Method 25A FAI Response Factors	Alpha Pinene	Acetaldehyde
THC Analyzer Model	700 HFID	700 HFID
THC Analyzer S/N	S/N 1601003	S/N 1601003
Date	5-May	5-May
Chemical Formula	C ₁₀ H ₁₆	CH ₃ CHO
Gas Standard, ppm	23.77	27.7
Gas Standard, as ppm C ₃	79.2	18.5
FIA Response, as C ₃	75.1	9.50
Response Factor	0.947	0.514

Enviva Waycross
Waycross, GA

Run 1
RCO2 Stack (Pellet Coolers)

Date:
Run Time:

5-May-21
930-1030

Parameter	Symbol	O ₂ %	CO ₂ %	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards				
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	25.6
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	50.23
High-Level Gas	$C_{v, high}$	22.15	18.70	82.87
Calibration Span	CS	22.15	18.70	100
Analyzer Calibration Error - Instrument Response				
Zero Gas	$C_{Dir, zero}$	0.03	-0.03	0.0
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	25.9
Mid-Level Gas	$C_{Dir, mid}$	11.05	10.18	50.2
High-Level Gas	$C_{Dir, high}$	22.20	18.71	82.9
Analyzer Calibration Error - Results (Percent of Span)				
Zero Gas	ACE_{zero}	0.1	-0.2	0.0
Low-Level Gas	ACE_{low}	N/A	N/A	0.3
Mid-Level Gas	ACE_{mid}	0.4	0.6	0.0
High-Level Gas	ACE_{high}	0.2	0.0	0.0
Specification	ACE_{spec}	±2	±2	±5
System Calibrations - Instrument Response				
Initial Zero	$C_{s, zero (pre)}$	0.32	0.10	0.0
Final Zero	$C_{s, zero (post)}$	0.27	0.08	-0.2
Upscale Gas Standard	C_{MA}	22.15	18.70	50.2
Initial Upscale	$C_{v, up (pre)}$	21.99	18.30	50.2
Final Upscale	$C_{v, up (post)}$	21.95	18.43	49.9
System Bias - Results (Percent)				
Zero (pre)	$SB_i (zero)$	1.3	0.7	0.0
Zero (post)	$SB_{final} (zero)$	1.1	0.6	-0.2
Upscale (pre)	$SB_i (upscale)$	-0.9	-2.2	0.0
Upscale (post)	$SB_{final} (upscale)$	-1.1	-1.5	-0.3
Specification	SB_{spec}	±5	±5	±5
System Drift - Results (Percent)				
Zero	D_{zero}	0.2	0.1	-0.2
Upscale	$D_{upscale}$	0.2	0.7	-0.3
Specification	D_{spec}	±3	±3	±3
Response Test - Results (seconds)				
Upscale Test		45	45	NA
Zero Test		40	45	NA
Response Time		45	45	35
Calibration Correction				
Raw Average	C_{ave}	20.55	0.31	24.0
Bias Average - Zero	C_0	0.30	0.09	N/A
Bias Average - Upscale	C_M	21.97	18.37	N/A
Corrected Run Average	C_{Gas}	20.55	0.31	24.0

Enviva Waycross
Waycross, GA

Run 2
RCO2 Stack (Pellet Coolers)

Date:
Run Time:

5-May-21
1205-1305

Parameter	Symbol	O ₂ %	CO ₂ %	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards				
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	25.6
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	50.2
High-Level Gas	$C_{v, high}$	22.15	18.70	82.9
Calibration Span	CS	22.2	18.7	100
Analyzer Calibration Error - Instrument Response				
Zero Gas	$C_{Dir, zero}$	0.0	0.0	0.0
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	25.9
Mid-Level Gas	$C_{Dir, mid}$	11.0	10.2	50.2
High-Level Gas	$C_{Dir, high}$	22.2	18.7	82.9
Analyzer Calibration Error - Results (Percent of Span)				
Zero Gas	ACE_{zero}	0.1	-0.2	0.0
Low-Level Gas	ACE_{low}	N/A	N/A	0.3
Mid-Level Gas	ACE_{mid}	0.4	0.6	0.0
High-Level Gas	ACE_{high}	0.2	0.0	0.0
Specification	ACE_{spec}	±2	±2	±5
System Calibrations - Instrument Response				
Initial Zero	$C_{s, zero (pre)}$	0.27	0.08	-0.2
Final Zero	$C_{s, zero (post)}$	0.20	0.19	-0.3
Upscale Gas Standard	C_{MA}	22.15	18.70	50.2
Initial Upscale	$C_{v, up (pre)}$	21.95	18.43	49.9
Final Upscale	$C_{v, up (post)}$	21.97	18.30	50.1
System Bias - Results (Percent)				
Zero (pre)	$SB_{i(zero)}$	1.1	0.6	-0.2
Zero (post)	$SB_{final(zero)}$	0.8	1.2	-0.3
Upscale (pre)	$SB_{i(upscale)}$	-1.1	-1.5	-0.3
Upscale (post)	$SB_{final(upscale)}$	-1.0	-2.2	-0.1
Specification	SB_{spec}	±5	±5	NA
System Drift - Results (Percent)				
Zero	D_{zero}	0.3	0.6	-0.1
Upscale	$D_{upscale}$	0.1	0.7	0.2
Specification	D_{spec}	±3	±3	±3
Response Test - Results (seconds)				
Upscale Test		45	45	NA
Zero Test		40	45	NA
Response Time		45	45	35
Calibration Correction				
Raw Average	C_{ave}	20.54	0.42	20.8
Bias Average - Zero	C_0	0.24	0.14	N/A
Bias Average - Upscale	C_M	21.96	18.37	N/A
Corrected Run Average	C_{Gas}	20.70	0.29	20.8

Enviva Waycross
Waycross, GA

Run 3
RCO2 Stack (Pellet Coolers)

Date:
Run Time:

5-May-21
1316-1416

Parameter	Symbol	O ₂ %	CO ₂ %	THC ppm (as C ₃ H ₈)
Analyzer Calibration Error - Calibration Standards				
Zero Gas	$C_{v, zero}$	0.0	0.0	0.0
Low-Level Gas	$C_{v, low}$	N/A	N/A	25.6
Mid-Level Gas	$C_{v, mid}$	10.95	10.06	50.2
High-Level Gas	$C_{v, high}$	22.15	18.70	82.9
Calibration Span	CS	22.15	18.70	100.0
Analyzer Calibration Error - Instrument Response				
Zero Gas	$C_{Dir, zero}$	0.0	0.0	0.00
Low-Level Gas	$C_{Dir, low}$	N/A	N/A	25.9
Mid-Level Gas	$C_{Dir, mid}$	11.0	10.2	50.2
High-Level Gas	$C_{Dir, high}$	22.2	18.7	82.9
Analyzer Calibration Error - Results (Percent of Span)				
Zero Gas	ACE_{zero}	0.1	-0.2	0.0
Low-Level Gas	ACE_{low}	N/A	N/A	0.3
Mid-Level Gas	ACE_{mid}	0.4	0.6	0.0
High-Level Gas	ACE_{high}	0.2	0.0	0.0
Specification	ACE_{spec}	±2	±2	±5
System Calibrations - Instrument Response				
Initial Zero	$C_{s, zero (pre)}$	0.20	0.19	-0.3
Final Zero	$C_{s, zero (post)}$	0.16	0.20	-0.2
Upscale Gas Standard	C_{MA}	22.15	18.70	50.2
Initial Upscale	$C_{v, up (pre)}$	21.97	18.30	50.1
Final Upscale	$C_{v, up (post)}$	21.93	18.33	50.3
System Bias - Results (Percent)				
Zero (pre)	$SB_i (zero)$	0.8	1.2	-0.3
Zero (post)	$SB_{final} (zero)$	0.6	1.2	-0.2
Upscale (pre)	$SB_i (upscale)$	-1.0	-2.2	-0.1
Upscale (post)	$SB_{final} (upscale)$	-1.2	-2.0	0.1
Specification	SB_{spec}	±5	±5	NA
System Drift - Results (Percent)				
Zero	D_{zero}	0.2	0.1	0.1
Upscale	$D_{upscale}$	0.2	0.2	0.2
Specification	D_{spec}	±3	±3	±3
Response Test - Results (seconds)				
Upscale Test		45	45	NA
Zero Test		40	45	NA
Response Time		45	45	35
Calibration Correction				
Raw Average	C_{ave}	20.52	0.43	21.1
Bias Average - Zero	C_0	0.18	0.20	N/A
Bias Average - Upscale	C_M	21.95	18.32	N/A
Corrected Run Average	C_{Gas}	20.69	0.25	21.1

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 1
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
Run Averages	20.553	0.311	23.970
5/5/2021 9:30:13 AM	20.59	0.31	15.34
5/5/2021 9:30:15 AM	20.59	0.31	28.09
5/5/2021 9:30:30 AM	20.59	0.31	29.08
5/5/2021 9:30:45 AM	20.59	0.31	8.22
5/5/2021 9:31:00 AM	20.57	0.31	12.02
5/5/2021 9:31:15 AM	20.58	0.31	39.63
5/5/2021 9:31:30 AM	20.59	0.30	11.78
5/5/2021 9:31:45 AM	20.58	0.31	11.29
5/5/2021 9:32:00 AM	20.58	0.31	44.29
5/5/2021 9:32:15 AM	20.59	0.30	13.86
5/5/2021 9:32:30 AM	20.58	0.31	33.00
5/5/2021 9:32:45 AM	20.59	0.31	28.95
5/5/2021 9:33:00 AM	20.59	0.30	16.32
5/5/2021 9:33:15 AM	20.58	0.31	21.84
5/5/2021 9:33:30 AM	20.58	0.31	38.03
5/5/2021 9:33:45 AM	20.60	0.30	13.74
5/5/2021 9:34:00 AM	20.58	0.31	12.64
5/5/2021 9:34:15 AM	20.58	0.31	40.24
5/5/2021 9:34:30 AM	20.60	0.30	15.09
5/5/2021 9:34:45 AM	20.59	0.31	27.11
5/5/2021 9:35:00 AM	20.59	0.31	28.46
5/5/2021 9:35:15 AM	20.60	0.30	8.10
5/5/2021 9:35:30 AM	20.58	0.31	11.78
5/5/2021 9:35:45 AM	20.58	0.31	38.64
5/5/2021 9:36:00 AM	20.60	0.30	11.53
5/5/2021 9:36:15 AM	20.59	0.31	11.04
5/5/2021 9:36:30 AM	20.59	0.31	42.32
5/5/2021 9:36:45 AM	20.60	0.30	13.62
5/5/2021 9:37:00 AM	20.59	0.31	30.79
5/5/2021 9:37:15 AM	20.59	0.31	29.57
5/5/2021 9:37:30 AM	20.59	0.30	16.68
5/5/2021 9:37:45 AM	20.58	0.31	21.22
5/5/2021 9:38:00 AM	20.58	0.31	39.63
5/5/2021 9:38:15 AM	20.59	0.30	14.35
5/5/2021 9:38:30 AM	20.57	0.31	13.37
5/5/2021 9:38:45 AM	20.58	0.31	40.48
5/5/2021 9:39:00 AM	20.59	0.30	15.58
5/5/2021 9:39:15 AM	20.58	0.31	27.36
5/5/2021 9:39:30 AM	20.57	0.31	29.08
5/5/2021 9:39:45 AM	20.59	0.30	8.22
5/5/2021 9:40:00 AM	20.57	0.31	11.53
5/5/2021 9:40:15 AM	20.57	0.31	39.50
5/5/2021 9:40:30 AM	20.59	0.31	11.90
5/5/2021 9:40:45 AM	20.57	0.31	11.53
5/5/2021 9:41:00 AM	20.57	0.32	45.64
5/5/2021 9:41:15 AM	20.59	0.30	14.35
5/5/2021 9:41:30 AM	20.57	0.31	32.63
5/5/2021 9:41:45 AM	20.57	0.31	30.79
5/5/2021 9:42:00 AM	20.59	0.31	17.42

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 1
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 9:42:15 AM	20.57	0.32	22.82
5/5/2021 9:42:30 AM	20.57	0.32	41.22
5/5/2021 9:42:45 AM	20.58	0.31	14.84
5/5/2021 9:43:00 AM	20.56	0.32	13.74
5/5/2021 9:43:15 AM	20.56	0.32	42.57
5/5/2021 9:43:30 AM	20.57	0.31	16.07
5/5/2021 9:43:45 AM	20.56	0.32	27.73
5/5/2021 9:44:00 AM	20.56	0.32	31.04
5/5/2021 9:44:15 AM	20.57	0.31	8.59
5/5/2021 9:44:30 AM	20.55	0.32	12.64
5/5/2021 9:44:45 AM	20.55	0.33	42.69
5/5/2021 9:45:00 AM	20.57	0.31	12.39
5/5/2021 9:45:15 AM	20.55	0.33	11.78
5/5/2021 9:45:30 AM	20.55	0.33	47.60
5/5/2021 9:45:45 AM	20.57	0.31	14.84
5/5/2021 9:46:00 AM	20.56	0.32	33.37
5/5/2021 9:46:15 AM	20.56	0.33	33.12
5/5/2021 9:46:30 AM	20.57	0.32	17.91
5/5/2021 9:46:45 AM	20.56	0.33	22.45
5/5/2021 9:47:00 AM	20.56	0.33	43.92
5/5/2021 9:47:15 AM	20.58	0.32	15.58
5/5/2021 9:47:30 AM	20.56	0.33	14.35
5/5/2021 9:47:45 AM	20.56	0.33	44.41
5/5/2021 9:48:00 AM	20.57	0.32	16.68
5/5/2021 9:48:15 AM	20.55	0.33	27.85
5/5/2021 9:48:30 AM	20.55	0.32	32.39
5/5/2021 9:48:45 AM	20.57	0.31	8.71
5/5/2021 9:49:00 AM	20.55	0.32	11.65
5/5/2021 9:49:15 AM	20.55	0.32	41.71
5/5/2021 9:49:30 AM	20.57	0.31	12.02
5/5/2021 9:49:45 AM	20.56	0.32	11.53
5/5/2021 9:50:00 AM	20.56	0.32	46.37
5/5/2021 9:50:15 AM	20.58	0.31	14.84
5/5/2021 9:50:30 AM	20.57	0.32	31.77
5/5/2021 9:50:45 AM	20.57	0.31	32.27
5/5/2021 9:51:00 AM	20.58	0.31	17.67
5/5/2021 9:51:15 AM	20.57	0.32	22.33
5/5/2021 9:51:30 AM	20.57	0.32	42.57
5/5/2021 9:51:45 AM	20.58	0.31	14.97
5/5/2021 9:52:00 AM	20.56	0.32	13.49
5/5/2021 9:52:15 AM	20.56	0.32	42.45
5/5/2021 9:52:30 AM	20.57	0.30	15.95
5/5/2021 9:52:45 AM	20.56	0.31	27.36
5/5/2021 9:53:00 AM	20.55	0.31	31.41
5/5/2021 9:53:15 AM	20.57	0.30	8.71
5/5/2021 9:53:30 AM	20.56	0.31	11.65
5/5/2021 9:53:45 AM	20.55	0.32	41.22
5/5/2021 9:54:00 AM	20.57	0.30	12.02
5/5/2021 9:54:15 AM	20.56	0.31	11.53
5/5/2021 9:54:30 AM	20.56	0.31	45.51

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 1
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 9:54:45 AM	20.58	0.30	14.48
5/5/2021 9:55:00 AM	20.56	0.31	31.53
5/5/2021 9:55:15 AM	20.56	0.31	32.63
5/5/2021 9:55:30 AM	20.57	0.30	17.67
5/5/2021 9:55:45 AM	20.55	0.31	21.35
5/5/2021 9:56:00 AM	20.55	0.31	41.34
5/5/2021 9:56:15 AM	20.57	0.30	14.97
5/5/2021 9:56:30 AM	20.56	0.31	13.25
5/5/2021 9:56:45 AM	20.56	0.31	41.47
5/5/2021 9:57:00 AM	20.57	0.30	15.09
5/5/2021 9:57:15 AM	20.56	0.31	25.89
5/5/2021 9:57:30 AM	20.55	0.31	31.90
5/5/2021 9:57:45 AM	20.56	0.30	8.46
5/5/2021 9:58:00 AM	20.55	0.31	11.04
5/5/2021 9:58:15 AM	20.55	0.31	42.69
5/5/2021 9:58:30 AM	20.56	0.30	11.90
5/5/2021 9:58:45 AM	20.55	0.31	11.41
5/5/2021 9:59:00 AM	20.55	0.31	45.27
5/5/2021 9:59:15 AM	20.56	0.30	13.49
5/5/2021 9:59:30 AM	20.55	0.31	29.93
5/5/2021 9:59:45 AM	20.55	0.31	31.77
5/5/2021 10:00:00 AM	20.57	0.30	14.97
5/5/2021 10:00:15 AM	20.55	0.31	19.26
5/5/2021 10:00:30 AM	20.55	0.31	40.98
5/5/2021 10:00:45 AM	20.57	0.30	12.27
5/5/2021 10:01:00 AM	20.54	0.31	11.41
5/5/2021 10:01:15 AM	20.55	0.31	41.22
5/5/2021 10:01:30 AM	20.55	0.30	14.48
5/5/2021 10:01:45 AM	20.55	0.31	23.80
5/5/2021 10:02:00 AM	20.55	0.31	32.39
5/5/2021 10:02:15 AM	20.56	0.30	8.22
5/5/2021 10:02:30 AM	20.55	0.31	10.43
5/5/2021 10:02:45 AM	20.55	0.31	41.83
5/5/2021 10:03:00 AM	20.56	0.29	10.80
5/5/2021 10:03:15 AM	20.55	0.31	10.31
5/5/2021 10:03:30 AM	20.55	0.31	44.53
5/5/2021 10:03:45 AM	20.56	0.30	12.64
5/5/2021 10:04:00 AM	20.55	0.31	30.06
5/5/2021 10:04:15 AM	20.55	0.30	31.28
5/5/2021 10:04:30 AM	20.56	0.30	14.48
5/5/2021 10:04:45 AM	20.55	0.30	18.40
5/5/2021 10:05:00 AM	20.55	0.30	41.83
5/5/2021 10:05:15 AM	20.56	0.29	12.64
5/5/2021 10:05:30 AM	20.55	0.31	11.53
5/5/2021 10:05:45 AM	20.55	0.31	41.83
5/5/2021 10:06:00 AM	20.56	0.29	14.72
5/5/2021 10:06:15 AM	20.55	0.30	24.90
5/5/2021 10:06:30 AM	20.55	0.31	33.98
5/5/2021 10:06:45 AM	20.56	0.30	8.34
5/5/2021 10:07:00 AM	20.54	0.31	10.67

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 1
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 10:07:15 AM	20.54	0.31	43.80
5/5/2021 10:07:30 AM	20.55	0.30	11.29
5/5/2021 10:07:45 AM	20.53	0.31	10.55
5/5/2021 10:08:00 AM	20.53	0.31	46.62
5/5/2021 10:08:15 AM	20.55	0.29	13.74
5/5/2021 10:08:30 AM	20.54	0.30	30.30
5/5/2021 10:08:45 AM	20.54	0.30	33.61
5/5/2021 10:09:00 AM	20.55	0.29	15.34
5/5/2021 10:09:15 AM	20.54	0.30	19.02
5/5/2021 10:09:30 AM	20.54	0.30	43.67
5/5/2021 10:09:45 AM	20.55	0.29	13.13
5/5/2021 10:10:00 AM	20.54	0.30	12.02
5/5/2021 10:10:15 AM	20.54	0.30	43.18
5/5/2021 10:10:30 AM	20.54	0.29	15.46
5/5/2021 10:10:45 AM	20.53	0.30	25.52
5/5/2021 10:11:00 AM	20.53	0.30	35.09
5/5/2021 10:11:15 AM	20.55	0.29	8.59
5/5/2021 10:11:30 AM	20.53	0.30	10.43
5/5/2021 10:11:45 AM	20.53	0.31	44.17
5/5/2021 10:12:00 AM	20.55	0.29	11.29
5/5/2021 10:12:15 AM	20.53	0.30	10.67
5/5/2021 10:12:30 AM	20.53	0.30	46.99
5/5/2021 10:12:45 AM	20.54	0.29	13.62
5/5/2021 10:13:00 AM	20.53	0.30	30.79
5/5/2021 10:13:15 AM	20.53	0.30	33.74
5/5/2021 10:13:30 AM	20.54	0.29	15.95
5/5/2021 10:13:45 AM	20.53	0.30	19.38
5/5/2021 10:14:00 AM	20.53	0.30	43.43
5/5/2021 10:14:15 AM	20.54	0.29	13.13
5/5/2021 10:14:30 AM	20.52	0.31	12.15
5/5/2021 10:14:45 AM	20.52	0.31	43.80
5/5/2021 10:15:00 AM	20.54	0.29	15.34
5/5/2021 10:15:15 AM	20.53	0.30	25.03
5/5/2021 10:15:30 AM	20.52	0.30	35.33
5/5/2021 10:15:45 AM	20.55	0.29	8.59
5/5/2021 10:16:00 AM	20.53	0.30	11.04
5/5/2021 10:16:15 AM	20.53	0.31	46.25
5/5/2021 10:16:30 AM	20.54	0.29	12.15
5/5/2021 10:16:45 AM	20.52	0.30	11.41
5/5/2021 10:17:00 AM	20.53	0.31	47.85
5/5/2021 10:17:15 AM	20.54	0.29	13.99
5/5/2021 10:17:30 AM	20.53	0.31	30.79
5/5/2021 10:17:45 AM	20.53	0.31	34.84
5/5/2021 10:18:00 AM	20.54	0.30	15.83
5/5/2021 10:18:15 AM	20.53	0.31	19.63
5/5/2021 10:18:30 AM	20.53	0.31	45.27
5/5/2021 10:18:45 AM	20.54	0.29	13.62
5/5/2021 10:19:00 AM	20.53	0.31	12.27
5/5/2021 10:19:15 AM	20.52	0.31	44.53
5/5/2021 10:19:30 AM	20.54	0.30	15.58

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 1
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 10:19:45 AM	20.53	0.31	24.90
5/5/2021 10:20:00 AM	20.52	0.31	35.95
5/5/2021 10:20:15 AM	20.54	0.30	8.59
5/5/2021 10:20:30 AM	20.52	0.31	10.18
5/5/2021 10:20:45 AM	20.52	0.31	45.76
5/5/2021 10:21:00 AM	20.54	0.30	11.41
5/5/2021 10:21:15 AM	20.52	0.31	10.80
5/5/2021 10:21:30 AM	20.52	0.32	47.85
5/5/2021 10:21:45 AM	20.54	0.30	14.11
5/5/2021 10:22:00 AM	20.52	0.31	29.69
5/5/2021 10:22:15 AM	20.52	0.31	35.09
5/5/2021 10:22:30 AM	20.53	0.31	16.07
5/5/2021 10:22:45 AM	20.52	0.32	19.63
5/5/2021 10:23:00 AM	20.52	0.32	45.27
5/5/2021 10:23:15 AM	20.54	0.31	13.25
5/5/2021 10:23:30 AM	20.52	0.32	12.15
5/5/2021 10:23:45 AM	20.52	0.32	43.92
5/5/2021 10:24:00 AM	20.53	0.32	15.70
5/5/2021 10:24:15 AM	20.52	0.33	25.15
5/5/2021 10:24:30 AM	20.52	0.33	36.68
5/5/2021 10:24:45 AM	20.54	0.32	8.59
5/5/2021 10:25:00 AM	20.52	0.33	10.80
5/5/2021 10:25:15 AM	20.52	0.33	45.64
5/5/2021 10:25:30 AM	20.53	0.32	12.02
5/5/2021 10:25:45 AM	20.52	0.34	11.41
5/5/2021 10:26:00 AM	20.52	0.34	49.69
5/5/2021 10:26:15 AM	20.54	0.32	14.23
5/5/2021 10:26:30 AM	20.52	0.34	30.79
5/5/2021 10:26:45 AM	20.52	0.33	34.35
5/5/2021 10:27:00 AM	20.54	0.33	15.83
5/5/2021 10:27:15 AM	20.52	0.34	19.75
5/5/2021 10:27:30 AM	20.52	0.34	45.64
5/5/2021 10:27:45 AM	20.53	0.33	13.99
5/5/2021 10:28:00 AM	20.52	0.34	12.76
5/5/2021 10:28:15 AM	20.52	0.34	45.02
5/5/2021 10:28:30 AM	20.53	0.33	15.95
5/5/2021 10:28:45 AM	20.52	0.34	25.76
5/5/2021 10:29:00 AM	20.52	0.34	36.80
5/5/2021 10:29:15 AM	20.53	0.33	8.71
5/5/2021 10:29:30 AM	20.52	0.34	11.04
5/5/2021 10:29:45 AM	20.52	0.34	47.60
5/5/2021 10:30:00 AM	20.53	0.33	12.02
5/5/2021 10:30:15 AM	20.52	0.34	11.53
5/5/2021 10:30:30 AM	20.51	0.34	50.54
5/5/2021 10:30:45 AM	20.52	0.33	14.72

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 2
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
Run Averages	20.540	0.419	20.758
5/5/2021 12:05:14 PM	20.543	0.334	11.655
5/5/2021 12:05:29 PM	20.531	0.347	19.138
5/5/2021 12:05:44 PM	20.531	0.347	36.927
5/5/2021 12:05:59 PM	20.549	0.334	12.145
5/5/2021 12:06:14 PM	20.537	0.347	12.636
5/5/2021 12:06:29 PM	20.537	0.342	40.730
5/5/2021 12:06:44 PM	20.549	0.332	10.060
5/5/2021 12:06:59 PM	20.537	0.342	9.201
5/5/2021 12:07:14 PM	20.537	0.342	38.276
5/5/2021 12:07:30 PM	20.549	0.334	13.618
5/5/2021 12:07:44 PM	20.540	0.349	15.458
5/5/2021 12:08:00 PM	20.537	0.413	38.031
5/5/2021 12:08:14 PM	20.555	0.417	7.606
5/5/2021 12:08:29 PM	20.537	0.430	7.361
5/5/2021 12:08:44 PM	20.537	0.430	43.674
5/5/2021 12:08:59 PM	20.552	0.415	9.937
5/5/2021 12:09:14 PM	20.537	0.430	9.078
5/5/2021 12:09:29 PM	20.537	0.430	42.202
5/5/2021 12:09:44 PM	20.552	0.413	11.041
5/5/2021 12:09:59 PM	20.540	0.427	17.911
5/5/2021 12:10:14 PM	20.537	0.425	35.087
5/5/2021 12:10:29 PM	20.552	0.417	11.041
5/5/2021 12:10:44 PM	20.537	0.425	11.532
5/5/2021 12:10:59 PM	20.537	0.425	40.117
5/5/2021 12:11:14 PM	20.552	0.415	9.692
5/5/2021 12:11:29 PM	20.537	0.425	8.956
5/5/2021 12:11:44 PM	20.537	0.425	37.908
5/5/2021 12:11:59 PM	20.546	0.415	13.250
5/5/2021 12:12:14 PM	20.537	0.425	15.335
5/5/2021 12:12:29 PM	20.537	0.425	38.399
5/5/2021 12:12:44 PM	20.555	0.415	7.606
5/5/2021 12:12:59 PM	20.537	0.430	7.361
5/5/2021 12:13:14 PM	20.537	0.430	42.570
5/5/2021 12:13:29 PM	20.552	0.415	9.937
5/5/2021 12:13:44 PM	20.537	0.430	9.078
5/5/2021 12:13:59 PM	20.537	0.430	43.306
5/5/2021 12:14:14 PM	20.552	0.420	11.164
5/5/2021 12:14:29 PM	20.537	0.430	18.402
5/5/2021 12:14:44 PM	20.537	0.430	36.436
5/5/2021 12:14:59 PM	20.552	0.420	11.287
5/5/2021 12:15:14 PM	20.537	0.432	11.532
5/5/2021 12:15:29 PM	20.537	0.435	41.466
5/5/2021 12:15:44 PM	20.552	0.420	9.937
5/5/2021 12:15:59 PM	20.537	0.430	8.956
5/5/2021 12:16:14 PM	20.537	0.430	37.908
5/5/2021 12:16:29 PM	20.549	0.420	13.495
5/5/2021 12:16:44 PM	20.540	0.427	14.354
5/5/2021 12:16:59 PM	20.537	0.427	38.644
5/5/2021 12:17:14 PM	20.555	0.417	7.729

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 2
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 12:17:29 PM	20.537	0.430	7.484
5/5/2021 12:17:44 PM	20.537	0.432	42.570
5/5/2021 12:17:59 PM	20.552	0.420	10.428
5/5/2021 12:18:14 PM	20.537	0.430	9.692
5/5/2021 12:18:29 PM	20.537	0.430	42.325
5/5/2021 12:18:44 PM	20.552	0.420	11.409
5/5/2021 12:18:59 PM	20.540	0.430	18.525
5/5/2021 12:19:14 PM	20.537	0.430	35.332
5/5/2021 12:19:29 PM	20.552	0.420	11.287
5/5/2021 12:19:44 PM	20.537	0.430	11.655
5/5/2021 12:19:59 PM	20.537	0.430	40.853
5/5/2021 12:20:14 PM	20.552	0.417	10.060
5/5/2021 12:20:29 PM	20.537	0.430	9.078
5/5/2021 12:20:44 PM	20.537	0.430	38.031
5/5/2021 12:20:59 PM	20.546	0.422	13.740
5/5/2021 12:21:14 PM	20.540	0.432	14.231
5/5/2021 12:21:29 PM	20.537	0.435	38.276
5/5/2021 12:21:44 PM	20.549	0.417	7.606
5/5/2021 12:21:59 PM	20.537	0.430	7.238
5/5/2021 12:22:14 PM	20.531	0.432	42.448
5/5/2021 12:22:29 PM	20.546	0.422	10.060
5/5/2021 12:22:44 PM	20.531	0.437	9.446
5/5/2021 12:22:59 PM	20.531	0.439	42.816
5/5/2021 12:23:14 PM	20.546	0.427	11.287
5/5/2021 12:23:29 PM	20.537	0.437	17.053
5/5/2021 12:23:44 PM	20.534	0.435	37.295
5/5/2021 12:23:59 PM	20.552	0.425	11.409
5/5/2021 12:24:14 PM	20.537	0.437	11.900
5/5/2021 12:24:29 PM	20.537	0.439	41.221
5/5/2021 12:24:44 PM	20.549	0.427	10.060
5/5/2021 12:24:59 PM	20.537	0.437	9.078
5/5/2021 12:25:14 PM	20.537	0.437	37.172
5/5/2021 12:25:29 PM	20.549	0.427	13.618
5/5/2021 12:25:44 PM	20.540	0.435	13.986
5/5/2021 12:25:59 PM	20.537	0.435	38.522
5/5/2021 12:26:14 PM	20.552	0.420	7.484
5/5/2021 12:26:29 PM	20.537	0.430	7.484
5/5/2021 12:26:44 PM	20.534	0.437	43.552
5/5/2021 12:26:59 PM	20.549	0.425	10.551
5/5/2021 12:27:14 PM	20.537	0.437	9.692
5/5/2021 12:27:29 PM	20.537	0.437	42.938
5/5/2021 12:27:44 PM	20.552	0.417	11.655
5/5/2021 12:27:59 PM	20.540	0.430	17.298
5/5/2021 12:28:14 PM	20.537	0.432	36.927
5/5/2021 12:28:29 PM	20.549	0.425	11.655
5/5/2021 12:28:44 PM	20.537	0.435	11.900
5/5/2021 12:28:59 PM	20.537	0.430	41.098
5/5/2021 12:29:14 PM	20.552	0.417	10.060
5/5/2021 12:29:29 PM	20.537	0.432	9.201
5/5/2021 12:29:44 PM	20.537	0.437	37.786

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 2
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 12:29:59 PM	20.549	0.425	13.863
5/5/2021 12:30:14 PM	20.540	0.430	14.599
5/5/2021 12:30:29 PM	20.537	0.432	37.663
5/5/2021 12:30:44 PM	20.555	0.422	7.606
5/5/2021 12:30:59 PM	20.543	0.437	7.361
5/5/2021 12:31:14 PM	20.537	0.432	42.202
5/5/2021 12:31:29 PM	20.555	0.420	10.182
5/5/2021 12:31:44 PM	20.543	0.430	9.446
5/5/2021 12:31:59 PM	20.540	0.430	41.957
5/5/2021 12:32:14 PM	20.558	0.415	11.287
5/5/2021 12:32:29 PM	20.546	0.430	17.911
5/5/2021 12:32:44 PM	20.546	0.430	36.313
5/5/2021 12:32:59 PM	20.558	0.422	11.777
5/5/2021 12:33:14 PM	20.546	0.430	12.023
5/5/2021 12:33:29 PM	20.543	0.427	40.362
5/5/2021 12:33:44 PM	20.561	0.413	10.060
5/5/2021 12:33:59 PM	20.549	0.425	9.078
5/5/2021 12:34:14 PM	20.546	0.425	37.418
5/5/2021 12:34:29 PM	20.555	0.415	13.618
5/5/2021 12:34:44 PM	20.546	0.422	14.476
5/5/2021 12:34:59 PM	20.546	0.425	39.258
5/5/2021 12:35:14 PM	20.561	0.410	7.729
5/5/2021 12:35:29 PM	20.546	0.425	7.361
5/5/2021 12:35:44 PM	20.543	0.425	42.816
5/5/2021 12:35:59 PM	20.555	0.413	10.305
5/5/2021 12:36:14 PM	20.543	0.425	9.446
5/5/2021 12:36:29 PM	20.537	0.425	42.079
5/5/2021 12:36:44 PM	20.555	0.413	11.409
5/5/2021 12:36:59 PM	20.543	0.422	16.685
5/5/2021 12:37:14 PM	20.546	0.425	37.418
5/5/2021 12:37:29 PM	20.552	0.413	11.655
5/5/2021 12:37:44 PM	20.537	0.425	11.900
5/5/2021 12:37:59 PM	20.534	0.427	40.239
5/5/2021 12:38:14 PM	20.549	0.417	9.937
5/5/2021 12:38:29 PM	20.537	0.425	9.201
5/5/2021 12:38:44 PM	20.537	0.425	37.172
5/5/2021 12:38:59 PM	20.549	0.415	13.863
5/5/2021 12:39:14 PM	20.540	0.422	13.986
5/5/2021 12:39:29 PM	20.537	0.425	38.399
5/5/2021 12:39:44 PM	20.555	0.410	7.729
5/5/2021 12:39:59 PM	20.537	0.425	7.238
5/5/2021 12:40:14 PM	20.537	0.425	43.429
5/5/2021 12:40:29 PM	20.549	0.413	10.305
5/5/2021 12:40:44 PM	20.534	0.427	9.446
5/5/2021 12:40:59 PM	20.531	0.425	41.466
5/5/2021 12:41:14 PM	20.549	0.413	11.409
5/5/2021 12:41:29 PM	20.537	0.425	16.807
5/5/2021 12:41:44 PM	20.537	0.425	38.399
5/5/2021 12:41:59 PM	20.552	0.413	11.900
5/5/2021 12:42:14 PM	20.537	0.425	12.145

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 2
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 12:42:29 PM	20.537	0.425	41.589
5/5/2021 12:42:44 PM	20.549	0.415	10.428
5/5/2021 12:42:59 PM	20.537	0.425	9.446
5/5/2021 12:43:14 PM	20.537	0.425	37.786
5/5/2021 12:43:29 PM	20.546	0.415	13.986
5/5/2021 12:43:44 PM	20.540	0.425	13.986
5/5/2021 12:43:59 PM	20.537	0.427	39.749
5/5/2021 12:44:14 PM	20.549	0.415	7.852
5/5/2021 12:44:29 PM	20.531	0.430	7.238
5/5/2021 12:44:44 PM	20.531	0.427	42.202
5/5/2021 12:44:59 PM	20.549	0.415	10.551
5/5/2021 12:45:14 PM	20.537	0.427	9.569
5/5/2021 12:45:29 PM	20.537	0.427	43.184
5/5/2021 12:45:44 PM	20.552	0.413	11.777
5/5/2021 12:45:59 PM	20.540	0.425	17.298
5/5/2021 12:46:14 PM	20.537	0.425	38.276
5/5/2021 12:46:29 PM	20.555	0.408	11.900
5/5/2021 12:46:44 PM	20.537	0.420	12.023
5/5/2021 12:46:59 PM	20.537	0.425	40.730
5/5/2021 12:47:14 PM	20.549	0.410	10.305
5/5/2021 12:47:29 PM	20.534	0.422	9.446
5/5/2021 12:47:44 PM	20.528	0.422	38.031
5/5/2021 12:47:59 PM	20.537	0.410	13.740
5/5/2021 12:48:14 PM	20.531	0.420	13.372
5/5/2021 12:48:29 PM	20.531	0.420	38.767
5/5/2021 12:48:44 PM	20.546	0.408	7.729
5/5/2021 12:48:59 PM	20.531	0.420	7.115
5/5/2021 12:49:14 PM	20.531	0.420	42.079
5/5/2021 12:49:29 PM	20.543	0.408	10.182
5/5/2021 12:49:44 PM	20.531	0.422	9.324
5/5/2021 12:49:59 PM	20.534	0.420	41.221
5/5/2021 12:50:14 PM	20.549	0.408	11.287
5/5/2021 12:50:29 PM	20.537	0.420	15.826
5/5/2021 12:50:44 PM	20.534	0.425	37.418
5/5/2021 12:50:59 PM	20.549	0.413	11.777
5/5/2021 12:51:14 PM	20.531	0.425	11.777
5/5/2021 12:51:29 PM	20.531	0.425	41.466
5/5/2021 12:51:44 PM	20.543	0.415	10.428
5/5/2021 12:51:59 PM	20.531	0.425	9.324
5/5/2021 12:52:14 PM	20.528	0.427	38.031
5/5/2021 12:52:29 PM	20.540	0.417	13.863
5/5/2021 12:52:44 PM	20.534	0.425	13.372
5/5/2021 12:52:59 PM	20.531	0.425	39.626
5/5/2021 12:53:14 PM	20.546	0.413	7.729
5/5/2021 12:53:29 PM	20.528	0.425	7.115
5/5/2021 12:53:44 PM	20.524	0.425	42.448
5/5/2021 12:53:59 PM	20.543	0.415	10.673
5/5/2021 12:54:14 PM	20.531	0.425	9.814
5/5/2021 12:54:29 PM	20.531	0.425	42.570
5/5/2021 12:54:44 PM	20.543	0.413	12.023

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 2
 Date: 5/5/2021

	O2 %	CO2 %	THC ppm
5/5/2021 12:54:59 PM	20.531	0.422	16.807
5/5/2021 12:55:14 PM	20.531	0.422	39.626
5/5/2021 12:55:29 PM	20.543	0.413	12.391
5/5/2021 12:55:44 PM	20.531	0.425	12.268
5/5/2021 12:55:59 PM	20.531	0.425	42.079
5/5/2021 12:56:14 PM	20.543	0.413	10.305
5/5/2021 12:56:29 PM	20.531	0.425	9.324
5/5/2021 12:56:44 PM	20.531	0.425	38.154
5/5/2021 12:56:59 PM	20.540	0.413	14.108
5/5/2021 12:57:14 PM	20.531	0.422	13.004
5/5/2021 12:57:29 PM	20.528	0.425	39.135
5/5/2021 12:57:44 PM	20.546	0.413	7.852
5/5/2021 12:57:59 PM	20.531	0.425	7.238
5/5/2021 12:58:14 PM	20.531	0.425	43.797
5/5/2021 12:58:29 PM	20.546	0.413	10.551
5/5/2021 12:58:44 PM	20.531	0.422	9.692
5/5/2021 12:58:59 PM	20.531	0.422	42.325
5/5/2021 12:59:14 PM	20.546	0.413	11.655
5/5/2021 12:59:29 PM	20.537	0.425	15.458
5/5/2021 12:59:44 PM	20.537	0.420	38.767
5/5/2021 12:59:59 PM	20.549	0.408	12.145
5/5/2021 1:00:14 PM	20.531	0.417	11.655
5/5/2021 1:00:29 PM	20.537	0.417	40.730
5/5/2021 1:00:44 PM	20.552	0.405	10.060
5/5/2021 1:00:59 PM	20.537	0.415	9.078
5/5/2021 1:01:14 PM	20.537	0.413	35.823
5/5/2021 1:01:29 PM	20.546	0.403	13.495
5/5/2021 1:01:44 PM	20.540	0.413	12.881
5/5/2021 1:01:59 PM	20.534	0.417	38.767
5/5/2021 1:02:14 PM	20.552	0.405	7.606
5/5/2021 1:02:29 PM	20.531	0.420	7.115
5/5/2021 1:02:44 PM	20.537	0.420	41.221
5/5/2021 1:02:59 PM	20.549	0.408	10.182
5/5/2021 1:03:14 PM	20.534	0.420	9.569
5/5/2021 1:03:29 PM	20.537	0.422	41.957
5/5/2021 1:03:44 PM	20.546	0.410	11.900
5/5/2021 1:03:59 PM	20.531	0.422	16.071
5/5/2021 1:04:14 PM	20.531	0.420	39.871
5/5/2021 1:04:29 PM	20.546	0.410	12.023
5/5/2021 1:04:44 PM	20.531	0.422	12.023
5/5/2021 1:04:59 PM	20.531	0.425	41.343
5/5/2021 1:05:14 PM	20.543	0.410	10.428
5/5/2021 1:05:29 PM	20.531	0.420	9.446
5/5/2021 1:05:44 PM	20.528	0.417	37.663
5/5/2021 1:05:59 PM	20.540	0.408	13.986

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 3
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
Run Averages	20.516	0.435	21.141
5/5/2021 1:16:59 PM	20.50	0.43	42.82
5/5/2021 1:17:14 PM	20.52	0.42	12.27
5/5/2021 1:17:29 PM	20.51	0.43	16.19
5/5/2021 1:17:44 PM	20.51	0.43	41.71
5/5/2021 1:17:59 PM	20.52	0.42	12.64
5/5/2021 1:18:15 PM	20.51	0.43	12.39
5/5/2021 1:18:29 PM	20.51	0.43	42.45
5/5/2021 1:18:44 PM	20.53	0.42	10.55
5/5/2021 1:18:59 PM	20.52	0.43	9.69
5/5/2021 1:19:14 PM	20.52	0.43	39.01
5/5/2021 1:19:29 PM	20.52	0.42	14.97
5/5/2021 1:19:44 PM	20.52	0.43	13.74
5/5/2021 1:19:59 PM	20.51	0.43	41.22
5/5/2021 1:20:14 PM	20.53	0.42	8.22
5/5/2021 1:20:29 PM	20.52	0.43	7.61
5/5/2021 1:20:44 PM	20.52	0.44	45.02
5/5/2021 1:20:59 PM	20.53	0.42	10.55
5/5/2021 1:21:14 PM	20.52	0.43	9.69
5/5/2021 1:21:29 PM	20.52	0.43	43.43
5/5/2021 1:21:44 PM	20.53	0.42	11.78
5/5/2021 1:21:59 PM	20.52	0.43	15.21
5/5/2021 1:22:14 PM	20.52	0.43	40.85
5/5/2021 1:22:29 PM	20.53	0.42	12.27
5/5/2021 1:22:44 PM	20.52	0.43	12.02
5/5/2021 1:22:59 PM	20.52	0.44	42.57
5/5/2021 1:23:14 PM	20.53	0.43	10.80
5/5/2021 1:23:29 PM	20.52	0.44	9.94
5/5/2021 1:23:44 PM	20.52	0.44	39.14
5/5/2021 1:23:59 PM	20.53	0.43	14.84
5/5/2021 1:24:14 PM	20.52	0.44	12.76
5/5/2021 1:24:29 PM	20.51	0.45	42.69
5/5/2021 1:24:44 PM	20.53	0.43	8.46
5/5/2021 1:24:59 PM	20.51	0.44	7.61
5/5/2021 1:25:14 PM	20.51	0.44	44.41
5/5/2021 1:25:29 PM	20.52	0.43	10.80
5/5/2021 1:25:44 PM	20.51	0.44	10.06
5/5/2021 1:25:59 PM	20.51	0.44	43.92
5/5/2021 1:26:14 PM	20.52	0.42	12.02
5/5/2021 1:26:29 PM	20.52	0.44	14.48
5/5/2021 1:26:44 PM	20.51	0.44	40.24
5/5/2021 1:26:59 PM	20.53	0.43	12.02
5/5/2021 1:27:14 PM	20.51	0.44	11.65
5/5/2021 1:27:29 PM	20.52	0.44	42.94
5/5/2021 1:27:44 PM	20.53	0.43	10.80
5/5/2021 1:27:59 PM	20.52	0.44	9.81
5/5/2021 1:28:14 PM	20.52	0.44	38.15
5/5/2021 1:28:29 PM	20.53	0.43	14.84
5/5/2021 1:28:44 PM	20.52	0.44	12.64
5/5/2021 1:28:59 PM	20.52	0.44	41.34

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 3
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 1:29:14 PM	20.53	0.43	8.22
5/5/2021 1:29:29 PM	20.52	0.44	7.36
5/5/2021 1:29:44 PM	20.52	0.44	43.43
5/5/2021 1:29:59 PM	20.53	0.43	10.55
5/5/2021 1:30:14 PM	20.52	0.44	9.69
5/5/2021 1:30:29 PM	20.52	0.44	43.18
5/5/2021 1:30:44 PM	20.53	0.43	12.02
5/5/2021 1:30:59 PM	20.52	0.44	14.48
5/5/2021 1:31:14 PM	20.52	0.44	40.48
5/5/2021 1:31:29 PM	20.53	0.43	12.02
5/5/2021 1:31:44 PM	20.52	0.44	11.78
5/5/2021 1:31:59 PM	20.52	0.44	42.69
5/5/2021 1:32:14 PM	20.53	0.43	10.92
5/5/2021 1:32:29 PM	20.52	0.44	9.81
5/5/2021 1:32:44 PM	20.52	0.44	38.03
5/5/2021 1:32:59 PM	20.53	0.43	15.09
5/5/2021 1:33:14 PM	20.52	0.44	12.27
5/5/2021 1:33:29 PM	20.52	0.44	41.83
5/5/2021 1:33:44 PM	20.53	0.43	8.22
5/5/2021 1:33:59 PM	20.52	0.44	7.36
5/5/2021 1:34:14 PM	20.52	0.44	44.04
5/5/2021 1:34:29 PM	20.53	0.43	10.80
5/5/2021 1:34:44 PM	20.52	0.44	9.94
5/5/2021 1:34:59 PM	20.52	0.45	43.43
5/5/2021 1:35:14 PM	20.53	0.43	12.15
5/5/2021 1:35:29 PM	20.52	0.44	13.86
5/5/2021 1:35:44 PM	20.52	0.44	41.47
5/5/2021 1:35:59 PM	20.54	0.43	12.02
5/5/2021 1:36:14 PM	20.52	0.44	11.78
5/5/2021 1:36:29 PM	20.52	0.44	42.45
5/5/2021 1:36:44 PM	20.53	0.43	10.80
5/5/2021 1:36:59 PM	20.52	0.44	9.81
5/5/2021 1:37:14 PM	20.52	0.44	38.28
5/5/2021 1:37:29 PM	20.53	0.43	14.84
5/5/2021 1:37:44 PM	20.52	0.44	12.15
5/5/2021 1:37:59 PM	20.52	0.44	41.71
5/5/2021 1:38:14 PM	20.54	0.43	8.22
5/5/2021 1:38:29 PM	20.52	0.44	7.36
5/5/2021 1:38:44 PM	20.52	0.44	43.92
5/5/2021 1:38:59 PM	20.53	0.43	10.80
5/5/2021 1:39:14 PM	20.52	0.44	9.94
5/5/2021 1:39:29 PM	20.52	0.44	43.18
5/5/2021 1:39:44 PM	20.54	0.43	12.15
5/5/2021 1:39:59 PM	20.52	0.44	14.23
5/5/2021 1:40:14 PM	20.52	0.44	42.32
5/5/2021 1:40:29 PM	20.54	0.43	12.39
5/5/2021 1:40:44 PM	20.52	0.44	12.15
5/5/2021 1:40:59 PM	20.52	0.44	42.94
5/5/2021 1:41:14 PM	20.53	0.43	10.67
5/5/2021 1:41:29 PM	20.52	0.44	9.69

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 3
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 1:41:44 PM	20.52	0.44	37.17
5/5/2021 1:41:59 PM	20.52	0.43	14.72
5/5/2021 1:42:14 PM	20.52	0.43	11.90
5/5/2021 1:42:29 PM	20.52	0.43	42.20
5/5/2021 1:42:44 PM	20.53	0.42	8.10
5/5/2021 1:42:59 PM	20.52	0.44	7.36
5/5/2021 1:43:14 PM	20.52	0.44	43.55
5/5/2021 1:43:29 PM	20.53	0.43	10.67
5/5/2021 1:43:44 PM	20.52	0.44	10.06
5/5/2021 1:43:59 PM	20.52	0.44	42.32
5/5/2021 1:44:14 PM	20.53	0.42	11.78
5/5/2021 1:44:29 PM	20.52	0.44	13.86
5/5/2021 1:44:44 PM	20.52	0.44	41.47
5/5/2021 1:44:59 PM	20.53	0.42	11.16
5/5/2021 1:45:14 PM	20.52	0.44	10.80
5/5/2021 1:45:29 PM	20.52	0.44	41.59
5/5/2021 1:45:44 PM	20.53	0.43	9.69
5/5/2021 1:45:59 PM	20.51	0.44	8.59
5/5/2021 1:46:14 PM	20.51	0.44	37.66
5/5/2021 1:46:29 PM	20.52	0.43	14.35
5/5/2021 1:46:44 PM	20.52	0.44	11.04
5/5/2021 1:46:59 PM	20.51	0.44	43.67
5/5/2021 1:47:14 PM	20.53	0.42	7.85
5/5/2021 1:47:29 PM	20.51	0.44	7.12
5/5/2021 1:47:44 PM	20.51	0.44	44.78
5/5/2021 1:47:59 PM	20.52	0.42	10.06
5/5/2021 1:48:14 PM	20.52	0.44	8.96
5/5/2021 1:48:29 PM	20.52	0.44	43.92
5/5/2021 1:48:44 PM	20.53	0.42	11.29
5/5/2021 1:48:59 PM	20.52	0.43	12.39
5/5/2021 1:49:14 PM	20.52	0.44	42.20
5/5/2021 1:49:29 PM	20.53	0.42	10.55
5/5/2021 1:49:44 PM	20.52	0.43	10.31
5/5/2021 1:49:59 PM	20.52	0.43	43.06
5/5/2021 1:50:14 PM	20.53	0.42	9.20
5/5/2021 1:50:29 PM	20.51	0.44	8.10
5/5/2021 1:50:44 PM	20.51	0.44	37.42
5/5/2021 1:50:59 PM	20.52	0.43	14.60
5/5/2021 1:51:14 PM	20.52	0.43	9.94
5/5/2021 1:51:29 PM	20.51	0.44	43.18
5/5/2021 1:51:44 PM	20.53	0.42	7.73
5/5/2021 1:51:59 PM	20.52	0.43	6.87
5/5/2021 1:52:14 PM	20.51	0.44	45.88
5/5/2021 1:52:29 PM	20.53	0.42	10.06
5/5/2021 1:52:44 PM	20.51	0.44	9.08
5/5/2021 1:52:59 PM	20.51	0.44	43.55
5/5/2021 1:53:14 PM	20.52	0.42	11.53
5/5/2021 1:53:29 PM	20.51	0.43	12.64
5/5/2021 1:53:44 PM	20.51	0.43	41.96
5/5/2021 1:53:59 PM	20.52	0.42	10.31

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 3
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 1:54:14 PM	20.51	0.43	9.81
5/5/2021 1:54:29 PM	20.51	0.44	43.18
5/5/2021 1:54:44 PM	20.52	0.42	9.20
5/5/2021 1:54:59 PM	20.51	0.43	8.10
5/5/2021 1:55:14 PM	20.51	0.44	37.91
5/5/2021 1:55:29 PM	20.52	0.43	14.60
5/5/2021 1:55:44 PM	20.51	0.43	10.55
5/5/2021 1:55:59 PM	20.51	0.44	44.41
5/5/2021 1:56:14 PM	20.53	0.42	7.85
5/5/2021 1:56:29 PM	20.51	0.44	6.87
5/5/2021 1:56:44 PM	20.51	0.44	44.66
5/5/2021 1:56:59 PM	20.52	0.42	10.06
5/5/2021 1:57:14 PM	20.51	0.44	8.96
5/5/2021 1:57:29 PM	20.51	0.44	43.06
5/5/2021 1:57:44 PM	20.52	0.42	11.41
5/5/2021 1:57:59 PM	20.51	0.43	11.53
5/5/2021 1:58:14 PM	20.51	0.44	43.06
5/5/2021 1:58:29 PM	20.52	0.42	10.31
5/5/2021 1:58:44 PM	20.51	0.44	9.69
5/5/2021 1:58:59 PM	20.51	0.44	43.18
5/5/2021 1:59:14 PM	20.52	0.42	9.32
5/5/2021 1:59:29 PM	20.51	0.44	8.34
5/5/2021 1:59:44 PM	20.51	0.44	37.17
5/5/2021 1:59:59 PM	20.52	0.43	14.60
5/5/2021 2:00:14 PM	20.51	0.44	10.31
5/5/2021 2:00:29 PM	20.50	0.44	44.41
5/5/2021 2:00:44 PM	20.52	0.42	7.85
5/5/2021 2:00:59 PM	20.49	0.44	6.87
5/5/2021 2:01:14 PM	20.50	0.44	44.78
5/5/2021 2:01:29 PM	20.52	0.42	10.06
5/5/2021 2:01:44 PM	20.50	0.44	8.83
5/5/2021 2:01:59 PM	20.50	0.44	43.67
5/5/2021 2:02:14 PM	20.52	0.43	11.29
5/5/2021 2:02:29 PM	20.51	0.44	11.53
5/5/2021 2:02:44 PM	20.50	0.44	41.59
5/5/2021 2:02:59 PM	20.52	0.43	10.67
5/5/2021 2:03:14 PM	20.50	0.44	10.06
5/5/2021 2:03:29 PM	20.51	0.44	41.83
5/5/2021 2:03:44 PM	20.52	0.43	9.45
5/5/2021 2:03:59 PM	20.51	0.44	8.22
5/5/2021 2:04:14 PM	20.50	0.44	37.05
5/5/2021 2:04:29 PM	20.52	0.43	14.72
5/5/2021 2:04:44 PM	20.51	0.44	10.18
5/5/2021 2:04:59 PM	20.51	0.44	43.18
5/5/2021 2:05:14 PM	20.52	0.42	7.85
5/5/2021 2:05:29 PM	20.51	0.44	6.87
5/5/2021 2:05:44 PM	20.51	0.44	45.15
5/5/2021 2:05:59 PM	20.52	0.42	10.06
5/5/2021 2:06:14 PM	20.51	0.44	8.83
5/5/2021 2:06:29 PM	20.51	0.44	42.45

Plant Name: Enviva Waycross
 Location: RCO2 Stack (Pellet Coolers)

Run: 3
 Date: 5/5/2021

	O2	CO2	THC
	%	%	ppm
5/5/2021 2:06:44 PM	20.52	0.42	11.41
5/5/2021 2:06:59 PM	20.51	0.43	11.16
5/5/2021 2:07:14 PM	20.51	0.43	40.85
5/5/2021 2:07:29 PM	20.52	0.43	10.43
5/5/2021 2:07:44 PM	20.51	0.44	9.94
5/5/2021 2:07:59 PM	20.51	0.44	42.69
5/5/2021 2:08:14 PM	20.52	0.43	9.45
5/5/2021 2:08:29 PM	20.51	0.44	8.22
5/5/2021 2:08:44 PM	20.51	0.44	36.56
5/5/2021 2:08:59 PM	20.52	0.43	14.60
5/5/2021 2:09:14 PM	20.52	0.43	9.81
5/5/2021 2:09:29 PM	20.52	0.43	43.18
5/5/2021 2:09:44 PM	20.53	0.42	7.73
5/5/2021 2:09:59 PM	20.52	0.44	6.75
5/5/2021 2:10:14 PM	20.52	0.44	44.90
5/5/2021 2:10:29 PM	20.53	0.42	10.06
5/5/2021 2:10:44 PM	20.52	0.44	8.83
5/5/2021 2:10:59 PM	20.52	0.44	41.83
5/5/2021 2:11:14 PM	20.53	0.43	11.53
5/5/2021 2:11:29 PM	20.52	0.44	11.53
5/5/2021 2:11:44 PM	20.51	0.44	42.69
5/5/2021 2:11:59 PM	20.52	0.42	10.92
5/5/2021 2:12:14 PM	20.50	0.44	10.18
5/5/2021 2:12:29 PM	20.50	0.44	42.45
5/5/2021 2:12:44 PM	20.52	0.43	9.57
5/5/2021 2:12:59 PM	20.50	0.44	8.34
5/5/2021 2:13:14 PM	20.50	0.45	37.05
5/5/2021 2:13:29 PM	20.51	0.44	14.97
5/5/2021 2:13:44 PM	20.51	0.44	10.06
5/5/2021 2:13:59 PM	20.50	0.44	46.01
5/5/2021 2:14:14 PM	20.52	0.43	8.10
5/5/2021 2:14:29 PM	20.49	0.45	7.12
5/5/2021 2:14:44 PM	20.49	0.45	44.29
5/5/2021 2:14:59 PM	20.51	0.44	10.43
5/5/2021 2:15:14 PM	20.49	0.45	9.20
5/5/2021 2:15:29 PM	20.49	0.45	43.80
5/5/2021 2:15:44 PM	20.51	0.44	11.65
5/5/2021 2:15:59 PM	20.50	0.45	11.65
5/5/2021 2:16:14 PM	20.50	0.45	44.66
5/5/2021 2:16:29 PM	20.52	0.43	10.92
5/5/2021 2:16:44 PM	20.50	0.44	10.31
5/5/2021 2:16:59 PM	20.50	0.44	43.18

			Methane (ppmvw)	Methanol (ppmvw)	Formaldehyde (ppmvw)	Acetaldehyde (ppmvw)	Temp (C)	Press. (Atm)
Run 1	Averages	930-1030	7.311	0.767	0.693	0.000	191.58	0.966
Run 2	Averages	1205-1305	8.288	0.741	0.626	0.000	191.51	0.966
Run 3	Averages	1316-1416	8.221	0.778	0.594	0.000	191.45	0.966
Spectrum	Date	Time						
SPC_005246.LAB	5/5/2021	9:30:51 AM	7.397	0.779	0.799	0.000	191.64	0.966
SPC_005247.LAB	5/5/2021	9:31:51 AM	7.363	0.797	0.675	0.000	191.66	0.966
SPC_005248.LAB	5/5/2021	9:32:50 AM	7.257	0.756	0.704	0.000	191.68	0.966
SPC_005249.LAB	5/5/2021	9:33:50 AM	7.275	0.781	0.694	0.000	191.65	0.966
SPC_005250.LAB	5/5/2021	9:34:50 AM	7.320	0.795	0.716	0.000	191.63	0.966
SPC_005251.LAB	5/5/2021	9:35:50 AM	7.389	0.726	0.738	0.000	191.64	0.966
SPC_005252.LAB	5/5/2021	9:36:50 AM	7.345	0.783	0.716	0.000	191.68	0.966
SPC_005253.LAB	5/5/2021	9:37:50 AM	7.267	0.697	0.834	0.000	191.69	0.966
SPC_005254.LAB	5/5/2021	9:38:50 AM	7.308	0.702	0.771	0.000	191.71	0.966
SPC_005255.LAB	5/5/2021	9:39:50 AM	7.393	0.764	0.701	0.000	191.69	0.966
SPC_005256.LAB	5/5/2021	9:40:50 AM	7.457	0.718	0.725	0.000	191.65	0.966
SPC_005257.LAB	5/5/2021	9:41:50 AM	7.346	0.748	0.735	0.000	191.67	0.966
SPC_005258.LAB	5/5/2021	9:42:50 AM	7.356	0.802	0.783	0.000	191.63	0.966
SPC_005259.LAB	5/5/2021	9:43:50 AM	7.413	0.791	0.706	0.000	191.63	0.966
SPC_005260.LAB	5/5/2021	9:44:50 AM	7.514	0.786	0.893	0.000	191.66	0.966
SPC_005261.LAB	5/5/2021	9:45:50 AM	7.450	0.770	0.738	0.000	191.68	0.966
SPC_005262.LAB	5/5/2021	9:46:49 AM	7.343	0.756	0.734	0.000	191.65	0.966
SPC_005263.LAB	5/5/2021	9:47:49 AM	7.359	0.775	0.766	0.000	191.60	0.966
SPC_005264.LAB	5/5/2021	9:48:50 AM	7.457	0.732	0.651	0.000	191.64	0.966
SPC_005265.LAB	5/5/2021	9:49:49 AM	7.453	0.810	0.641	0.000	191.60	0.966
SPC_005266.LAB	5/5/2021	9:50:49 AM	7.323	0.696	0.722	0.000	191.55	0.966
SPC_005267.LAB	5/5/2021	9:51:49 AM	7.185	0.738	0.781	0.000	191.57	0.966
SPC_005268.LAB	5/5/2021	9:52:49 AM	7.346	0.767	0.719	0.000	191.57	0.966
SPC_005269.LAB	5/5/2021	9:53:49 AM	7.400	0.743	0.657	0.000	191.56	0.966
SPC_005270.LAB	5/5/2021	9:54:49 AM	7.370	0.790	0.666	0.000	191.56	0.966
SPC_005271.LAB	5/5/2021	9:55:49 AM	7.226	0.701	0.694	0.000	191.55	0.966
SPC_005272.LAB	5/5/2021	9:56:49 AM	7.268	0.720	0.640	0.000	191.56	0.966
SPC_005273.LAB	5/5/2021	9:57:49 AM	7.449	0.818	0.702	0.000	191.56	0.966
SPC_005274.LAB	5/5/2021	9:58:49 AM	7.370	0.778	0.673	0.000	191.55	0.966
SPC_005275.LAB	5/5/2021	9:59:49 AM	7.271	0.765	0.783	0.000	191.55	0.966
SPC_005276.LAB	5/5/2021	10:00:49 AM	7.231	0.750	0.657	0.000	191.58	0.967
SPC_005277.LAB	5/5/2021	10:01:48 AM	7.395	0.791	0.698	0.000	191.57	0.967
SPC_005278.LAB	5/5/2021	10:02:49 AM	7.383	0.806	0.718	0.000	191.56	0.967
SPC_005279.LAB	5/5/2021	10:03:48 AM	7.341	0.711	0.729	0.000	191.58	0.966
SPC_005280.LAB	5/5/2021	10:04:48 AM	7.242	0.820	0.649	0.000	191.55	0.966
SPC_005281.LAB	5/5/2021	10:05:48 AM	7.264	0.719	0.572	0.000	191.56	0.966
SPC_005282.LAB	5/5/2021	10:06:48 AM	7.332	0.788	0.605	0.000	191.55	0.966
SPC_005283.LAB	5/5/2021	10:07:48 AM	7.324	0.806	0.679	0.000	191.55	0.966
SPC_005284.LAB	5/5/2021	10:08:48 AM	7.275	0.837	0.593	0.000	191.55	0.966
SPC_005285.LAB	5/5/2021	10:09:48 AM	7.203	0.776	0.701	0.000	191.54	0.966
SPC_005286.LAB	5/5/2021	10:10:48 AM	7.338	0.715	0.696	0.000	191.48	0.966
SPC_005287.LAB	5/5/2021	10:11:48 AM	7.300	0.746	0.639	0.000	191.51	0.966
SPC_005288.LAB	5/5/2021	10:12:48 AM	7.347	0.677	0.734	0.000	191.52	0.966
SPC_005289.LAB	5/5/2021	10:13:48 AM	7.212	0.747	0.705	0.000	191.48	0.966
SPC_005290.LAB	5/5/2021	10:14:47 AM	7.170	0.800	0.601	0.000	191.45	0.967
SPC_005291.LAB	5/5/2021	10:15:47 AM	7.320	0.811	0.726	0.000	191.45	0.967
SPC_005292.LAB	5/5/2021	10:16:47 AM	7.335	0.823	0.606	0.000	191.45	0.967
SPC_005293.LAB	5/5/2021	10:17:47 AM	7.234	0.800	0.654	0.000	191.48	0.967
SPC_005294.LAB	5/5/2021	10:18:47 AM	7.168	0.742	0.731	0.000	191.51	0.967
SPC_005295.LAB	5/5/2021	10:19:47 AM	7.245	0.729	0.669	0.000	191.54	0.967
SPC_005296.LAB	5/5/2021	10:20:47 AM	7.292	0.784	0.619	0.000	191.55	0.967
SPC_005297.LAB	5/5/2021	10:21:47 AM	7.291	0.788	0.566	0.000	191.55	0.967
SPC_005298.LAB	5/5/2021	10:22:47 AM	7.117	0.791	0.648	0.000	191.55	0.967
SPC_005299.LAB	5/5/2021	10:23:47 AM	7.202	0.765	0.658	0.000	191.56	0.966
SPC_005300.LAB	5/5/2021	10:24:47 AM	7.291	0.827	0.699	0.000	191.63	0.966
SPC_005301.LAB	5/5/2021	10:25:47 AM	7.264	0.776	0.579	0.000	191.56	0.966
SPC_005302.LAB	5/5/2021	10:26:47 AM	7.265	0.744	0.718	0.000	191.57	0.966
SPC_005303.LAB	5/5/2021	10:27:47 AM	7.197	0.799	0.659	0.000	191.56	0.966
SPC_005304.LAB	5/5/2021	10:28:46 AM	7.249	0.774	0.634	0.000	191.55	0.966
SPC_005305.LAB	5/5/2021	10:29:46 AM	7.272	0.860	0.635	0.000	191.61	0.966
SPC_005306.LAB	5/5/2021	10:30:46 AM	7.183	0.675	0.746	0.000	191.57	0.969

			Methane (ppmv)	Methanol (ppmv)	Formaldehyde (ppmv)	Acetaldehyde (ppmv)	Temp (C)	Press. (Atm)
SPC__005401.LAB	5/5/2021	12:05:40 PM	8.450	0.772	0.587	0.000	191.52	0.967
SPC__005402.LAB	5/5/2021	12:06:39 PM	8.408	0.762	0.691	0.000	191.46	0.967
SPC__005403.LAB	5/5/2021	12:07:39 PM	8.554	0.705	0.618	0.000	191.47	0.966
SPC__005404.LAB	5/5/2021	12:08:39 PM	8.509	0.726	0.694	0.000	191.48	0.967
SPC__005405.LAB	5/5/2021	12:09:39 PM	8.517	0.757	0.681	0.000	191.47	0.966
SPC__005406.LAB	5/5/2021	12:10:39 PM	8.367	0.711	0.599	0.000	191.49	0.966
SPC__005407.LAB	5/5/2021	12:11:39 PM	8.408	0.725	0.560	0.000	191.47	0.966
SPC__005408.LAB	5/5/2021	12:12:39 PM	8.467	0.661	0.636	0.000	191.51	0.966
SPC__005409.LAB	5/5/2021	12:13:39 PM	8.439	0.685	0.529	0.000	191.55	0.966
SPC__005410.LAB	5/5/2021	12:14:39 PM	8.340	0.757	0.560	0.000	191.51	0.966
SPC__005411.LAB	5/5/2021	12:15:39 PM	8.329	0.700	0.718	0.000	191.55	0.966
SPC__005412.LAB	5/5/2021	12:16:39 PM	8.382	0.864	0.541	0.000	191.55	0.966
SPC__005413.LAB	5/5/2021	12:17:39 PM	8.387	0.705	0.616	0.000	191.55	0.966
SPC__005414.LAB	5/5/2021	12:18:39 PM	8.461	0.681	0.629	0.000	191.55	0.966
SPC__005415.LAB	5/5/2021	12:19:38 PM	8.335	0.650	0.571	0.000	191.55	0.966
SPC__005416.LAB	5/5/2021	12:20:39 PM	8.323	0.800	0.642	0.000	191.54	0.966
SPC__005417.LAB	5/5/2021	12:21:38 PM	8.429	0.805	0.663	0.000	191.55	0.966
SPC__005418.LAB	5/5/2021	12:22:38 PM	8.416	0.710	0.521	0.000	191.54	0.966
SPC__005419.LAB	5/5/2021	12:23:38 PM	8.375	0.787	0.669	0.000	191.55	0.966
SPC__005420.LAB	5/5/2021	12:24:38 PM	8.230	0.756	0.583	0.000	191.54	0.966
SPC__005421.LAB	5/5/2021	12:25:38 PM	8.272	0.757	0.633	0.000	191.51	0.966
SPC__005422.LAB	5/5/2021	12:26:38 PM	8.346	0.665	0.660	0.000	191.49	0.966
SPC__005423.LAB	5/5/2021	12:27:38 PM	8.299	0.723	0.641	0.000	191.53	0.966
SPC__005424.LAB	5/5/2021	12:28:38 PM	8.172	0.769	0.642	0.000	191.55	0.966
SPC__005425.LAB	5/5/2021	12:29:38 PM	8.192	0.719	0.648	0.000	191.55	0.966
SPC__005426.LAB	5/5/2021	12:30:38 PM	8.213	0.848	0.689	0.000	191.52	0.966
SPC__005427.LAB	5/5/2021	12:31:38 PM	8.285	0.743	0.649	0.000	191.53	0.966
SPC__005428.LAB	5/5/2021	12:32:38 PM	8.243	0.704	0.638	0.000	191.54	0.966
SPC__005429.LAB	5/5/2021	12:33:37 PM	8.124	0.764	0.605	0.000	191.48	0.966
SPC__005430.LAB	5/5/2021	12:34:37 PM	8.216	0.752	0.646	0.000	191.46	0.966
SPC__005431.LAB	5/5/2021	12:35:38 PM	8.238	0.730	0.579	0.000	191.47	0.966
SPC__005432.LAB	5/5/2021	12:36:37 PM	8.270	0.730	0.615	0.000	191.48	0.966
SPC__005433.LAB	5/5/2021	12:37:37 PM	8.191	0.758	0.586	0.000	191.49	0.966
SPC__005434.LAB	5/5/2021	12:38:37 PM	8.176	0.688	0.648	0.000	191.51	0.966
SPC__005435.LAB	5/5/2021	12:39:37 PM	8.303	0.840	0.654	0.000	191.48	0.966
SPC__005436.LAB	5/5/2021	12:40:37 PM	8.321	0.717	0.524	0.000	191.46	0.966
SPC__005437.LAB	5/5/2021	12:41:37 PM	8.250	0.822	0.636	0.000	191.47	0.966
SPC__005438.LAB	5/5/2021	12:42:37 PM	8.165	0.741	0.642	0.000	191.49	0.966
SPC__005439.LAB	5/5/2021	12:43:37 PM	8.285	0.724	0.641	0.000	191.47	0.966
SPC__005440.LAB	5/5/2021	12:44:37 PM	8.330	0.681	0.614	0.000	191.49	0.966
SPC__005441.LAB	5/5/2021	12:45:37 PM	8.314	0.773	0.636	0.000	191.49	0.966
SPC__005442.LAB	5/5/2021	12:46:36 PM	8.170	0.764	0.603	0.000	191.53	0.966
SPC__005443.LAB	5/5/2021	12:47:36 PM	8.212	0.740	0.630	0.000	191.54	0.966
SPC__005444.LAB	5/5/2021	12:48:36 PM	8.331	0.730	0.589	0.000	191.52	0.966
SPC__005445.LAB	5/5/2021	12:49:36 PM	8.298	0.729	0.575	0.000	191.53	0.966
SPC__005446.LAB	5/5/2021	12:50:36 PM	8.169	0.742	0.616	0.000	191.54	0.966
SPC__005447.LAB	5/5/2021	12:51:36 PM	8.119	0.741	0.596	0.000	191.55	0.966
SPC__005448.LAB	5/5/2021	12:52:36 PM	8.234	0.787	0.625	0.000	191.55	0.966
SPC__005449.LAB	5/5/2021	12:53:36 PM	8.283	0.697	0.591	0.000	191.49	0.966
SPC__005450.LAB	5/5/2021	12:54:36 PM	8.272	0.658	0.555	0.000	191.47	0.966
SPC__005451.LAB	5/5/2021	12:55:36 PM	8.110	0.795	0.593	0.000	191.46	0.966
SPC__005452.LAB	5/5/2021	12:56:36 PM	8.079	0.848	0.676	0.000	191.48	0.966
SPC__005453.LAB	5/5/2021	12:57:36 PM	8.265	0.734	0.626	0.000	191.50	0.966
SPC__005454.LAB	5/5/2021	12:58:36 PM	8.277	0.727	0.646	0.000	191.50	0.966
SPC__005455.LAB	5/5/2021	12:59:36 PM	8.205	0.770	0.742	0.000	191.52	0.966
SPC__005456.LAB	5/5/2021	1:00:36 PM	8.069	0.753	0.674	0.000	191.50	0.966
SPC__005457.LAB	5/5/2021	1:01:35 PM	8.223	0.808	0.671	0.000	191.49	0.966
SPC__005458.LAB	5/5/2021	1:02:35 PM	8.311	0.718	0.644	0.000	191.47	0.966
SPC__005459.LAB	5/5/2021	1:03:35 PM	8.336	0.711	0.661	0.000	191.47	0.966
SPC__005460.LAB	5/5/2021	1:04:36 PM	8.096	0.672	0.612	0.000	191.48	0.966
SPC__005461.LAB	5/5/2021	1:05:35 PM	8.156	0.694	0.708	0.000	191.48	0.967

			Methane (ppmv)	Methanol (ppmv)	Formaldehyde (ppmv)	Acetaldehyde (ppmv)	Temp (C)	Press. (Atm)
SPC__005472.LAB	5/5/2021	1:16:34 PM	7.119	1.034	0.559	0.000	191.46	0.966
SPC__005473.LAB	5/5/2021	1:17:34 PM	7.738	0.887	0.599	0.000	191.46	0.966
SPC__005474.LAB	5/5/2021	1:18:34 PM	7.959	0.846	0.584	0.000	191.45	0.966
SPC__005475.LAB	5/5/2021	1:19:34 PM	8.179	0.787	0.720	0.000	191.44	0.966
SPC__005476.LAB	5/5/2021	1:20:34 PM	8.268	0.760	0.589	0.000	191.45	0.966
SPC__005477.LAB	5/5/2021	1:21:34 PM	8.307	0.810	0.585	0.000	191.45	0.966
SPC__005478.LAB	5/5/2021	1:22:34 PM	8.212	0.731	0.611	0.000	191.45	0.966
SPC__005479.LAB	5/5/2021	1:23:34 PM	8.196	0.763	0.687	0.000	191.46	0.966
SPC__005480.LAB	5/5/2021	1:24:34 PM	8.275	0.723	0.623	0.000	191.44	0.966
SPC__005481.LAB	5/5/2021	1:25:34 PM	8.311	0.686	0.583	0.000	191.46	0.966
SPC__005482.LAB	5/5/2021	1:26:34 PM	8.341	0.759	0.622	0.000	191.45	0.966
SPC__005483.LAB	5/5/2021	1:27:34 PM	8.226	0.805	0.624	0.000	191.46	0.966
SPC__005484.LAB	5/5/2021	1:28:34 PM	8.302	0.825	0.673	0.000	191.46	0.966
SPC__005485.LAB	5/5/2021	1:29:33 PM	8.397	0.803	0.602	0.000	191.46	0.966
SPC__005486.LAB	5/5/2021	1:30:34 PM	8.413	0.729	0.581	0.000	191.47	0.966
SPC__005487.LAB	5/5/2021	1:31:33 PM	8.236	0.868	0.587	0.000	191.46	0.966
SPC__005488.LAB	5/5/2021	1:32:33 PM	8.254	0.766	0.531	0.000	191.46	0.966
SPC__005489.LAB	5/5/2021	1:33:33 PM	8.372	0.840	0.557	0.000	191.45	0.966
SPC__005490.LAB	5/5/2021	1:34:33 PM	8.290	0.791	0.622	0.000	191.45	0.966
SPC__005491.LAB	5/5/2021	1:35:33 PM	8.284	0.739	0.565	0.000	191.47	0.966
SPC__005492.LAB	5/5/2021	1:36:33 PM	8.193	0.816	0.598	0.000	191.47	0.966
SPC__005493.LAB	5/5/2021	1:37:33 PM	8.212	0.797	0.573	0.000	191.47	0.966
SPC__005494.LAB	5/5/2021	1:38:33 PM	8.365	0.793	0.529	0.000	191.45	0.966
SPC__005495.LAB	5/5/2021	1:39:33 PM	8.341	0.751	0.559	0.000	191.45	0.966
SPC__005496.LAB	5/5/2021	1:40:33 PM	8.130	0.712	0.594	0.000	191.46	0.966
SPC__005497.LAB	5/5/2021	1:41:33 PM	8.270	0.717	0.660	0.000	191.40	0.966
SPC__005498.LAB	5/5/2021	1:42:32 PM	8.345	0.785	0.589	0.000	191.42	0.966
SPC__005499.LAB	5/5/2021	1:43:32 PM	8.285	0.711	0.614	0.000	191.40	0.966
SPC__005500.LAB	5/5/2021	1:44:32 PM	8.245	0.747	0.575	0.000	191.45	0.966
SPC__005501.LAB	5/5/2021	1:45:32 PM	8.193	0.757	0.569	0.000	191.45	0.966
SPC__005502.LAB	5/5/2021	1:46:32 PM	8.304	0.742	0.614	0.000	191.45	0.966
SPC__005503.LAB	5/5/2021	1:47:32 PM	8.306	0.789	0.472	0.000	191.45	0.966
SPC__005504.LAB	5/5/2021	1:48:32 PM	8.320	0.804	0.563	0.000	191.45	0.966
SPC__005505.LAB	5/5/2021	1:49:32 PM	8.225	0.769	0.580	0.000	191.44	0.966
SPC__005506.LAB	5/5/2021	1:50:32 PM	8.220	0.786	0.630	0.000	191.45	0.966
SPC__005507.LAB	5/5/2021	1:51:32 PM	8.359	0.752	0.571	0.000	191.45	0.966
SPC__005508.LAB	5/5/2021	1:52:32 PM	8.319	0.834	0.536	0.000	191.45	0.966
SPC__005509.LAB	5/5/2021	1:53:32 PM	8.292	0.667	0.583	0.000	191.46	0.966
SPC__005510.LAB	5/5/2021	1:54:32 PM	8.189	0.717	0.569	0.000	191.46	0.966
SPC__005511.LAB	5/5/2021	1:55:31 PM	8.255	0.742	0.632	0.000	191.45	0.966
SPC__005512.LAB	5/5/2021	1:56:31 PM	8.323	0.789	0.576	0.000	191.45	0.966
SPC__005513.LAB	5/5/2021	1:57:31 PM	8.289	0.821	0.598	0.000	191.46	0.966
SPC__005514.LAB	5/5/2021	1:58:31 PM	8.189	0.767	0.641	0.000	191.46	0.966
SPC__005515.LAB	5/5/2021	1:59:31 PM	8.172	0.763	0.618	0.000	191.45	0.966
SPC__005516.LAB	5/5/2021	2:00:31 PM	8.247	0.791	0.592	0.000	191.45	0.966
SPC__005517.LAB	5/5/2021	2:01:31 PM	8.212	0.720	0.561	0.000	191.45	0.966
SPC__005518.LAB	5/5/2021	2:02:31 PM	8.254	0.806	0.518	0.000	191.45	0.966
SPC__005519.LAB	5/5/2021	2:03:31 PM	8.105	0.775	0.558	0.000	191.45	0.966
SPC__005520.LAB	5/5/2021	2:04:31 PM	8.214	0.785	0.561	0.000	191.45	0.966
SPC__005521.LAB	5/5/2021	2:05:31 PM	8.260	0.690	0.632	0.000	191.45	0.966
SPC__005522.LAB	5/5/2021	2:06:31 PM	8.253	0.686	0.513	0.000	191.45	0.966
SPC__005523.LAB	5/5/2021	2:07:31 PM	8.145	0.706	0.678	0.000	191.45	0.966
SPC__005524.LAB	5/5/2021	2:08:31 PM	8.137	0.729	0.556	0.000	191.45	0.966
SPC__005525.LAB	5/5/2021	2:09:30 PM	8.217	0.792	0.644	0.000	191.44	0.966
SPC__005526.LAB	5/5/2021	2:10:31 PM	8.194	0.792	0.620	0.000	191.45	0.966
SPC__005527.LAB	5/5/2021	2:11:30 PM	8.168	0.806	0.608	0.000	191.45	0.966
SPC__005528.LAB	5/5/2021	2:12:30 PM	8.113	0.860	0.637	0.000	191.46	0.966
SPC__005529.LAB	5/5/2021	2:13:30 PM	8.154	0.728	0.627	0.000	191.44	0.966
SPC__005530.LAB	5/5/2021	2:14:30 PM	8.311	0.871	0.560	0.000	191.43	0.966
SPC__005531.LAB	5/5/2021	2:15:30 PM	8.279	0.765	0.575	0.000	191.39	0.966
SPC__005532.LAB	5/5/2021	2:16:30 PM	8.228	0.871	0.619	0.000	191.44	0.966

Facility: **Enviva WAY**
Location: **Waycross, GA.**

Source: **RCO2 Stack (Pellet Cooler)**

FLOW AND MOISTURE CALCULATIONS					
PARAMETER	NOMENCLATURE	RUN #1	RUN #2	RUN #3	Average
Date		5/5/2021	5/5/2021	5/5/2021	
Run Time		930-1030	1205-1305	1316-1416	
Moisture Run Time	θ - min	60	60	60	
Stack Diameter	Ds - Inches	111	111	111	
Meter Calibration Factor	Y	0.985	0.976	0.976	
Barometric Pressure, inches Hg	Bp - in Hg	29.80	29.80	29.80	
Static Pressure	Pg - in. H ₂ O	-0.22	-0.26	-0.26	
Volume of Gas Sampled	Vm - cu. ft.	34.392	40.723	42.244	
Liquid Collected	ml	63.0	73.6	71.0	
Stack Area	As - sq. ft.	67.20	67.20	67.20	
Pitot Tube Coefficient	Cp	0.84	0.84	0.84	
Stack Pressure	Ps - in Hg	29.78	29.78	29.78	
Meter Box Pressure Differential	ΔH - in. H ₂ O	1.50	1.50	1.50	
Avg Square Root Velocity Head	ave sq rt Δp - in. H ₂ O	0.499	0.497	0.485	
Dry Gas Meter Temperature	Tm - °F	76.50	84.17	89.83	83.5
Stack Temperature	Ts - °F	187.8	186.8	188.8	187.8
Oxygen	% O ₂	20.55	20.70	20.69	20.65
Carbon Dioxide	% CO ₂	0.31	0.29	0.25	0.28
Carbon Monoxide	% CO	0.00	0.00	0.00	
Nitrogen	% N ₂	79.14	79.10	79.10	
Volume of Gas Sampled, Dry	Vmstd - cu. ft.	33.329	38.552	39.580	
Volume of Water Vapor	Vwstd - cu. ft.	2.970	3.471	3.348	
Measured Moisture Content	% H ₂ O	8.18	8.26	7.80	8.08
Saturation Moisture	% H ₂ O	60.80	59.50	62.13	
Actual Stack Gas Moisture	% H ₂ O	8.18	8.26	7.80	8.08
Dry Mole Fraction	Mfd	0.918	0.917	0.922	
Gas Molecular Weight, Dry	Md	28.87	28.84	28.84	
Gas Molecular Weight, Wet	Ms	27.98	27.94	27.99	
Gas Velocity	vs - ft./sec.	31.58	31.44	30.73	31.3
Volumetric Air Flow, Actual	Qaw - ACFM	127,348	126,783	123,894	126,008
Volumetric Air Flow, Standard	Qsd - DSCFM	94,867	94,505	92,529	93,967

Source: RCO2 Stack (Pellet Cooler)

of points in flow traverse = |

Cyclonic Angles		Run 1			Run 2			Run 3		
		Δp - in. H ₂ O	sq. root Δp	Stack Temp	Δp - in. H ₂ O	sq. root Δp	Stack Temp	Δp - in. H ₂ O	sq. root Δp	Stack Temp
0	1	0.27	0.52	184	0.26	0.51	183	0.21	0.46	182
0	2	0.26	0.51	189	0.23	0.48	183	0.23	0.48	182
0	3	0.24	0.49	188	0.23	0.48	185	0.22	0.47	188
0	4	0.16	0.40	187	0.18	0.42	187	0.17	0.41	186
0	5	0.27	0.52	186	0.25	0.50	187	0.24	0.49	188
0	6	0.29	0.54	190	0.26	0.51	188	0.25	0.50	191
0	7	0.29	0.54	191	0.3	0.55	188	0.29	0.54	193
0	8	0.23	0.48	188	0.24	0.49	188	0.23	0.48	190
0	9	0.26	0.51	189	0.26	0.51	186	0.26	0.51	188
0	10	0.3	0.55	188	0.28	0.53	187	0.23	0.48	189
0	11	0.32	0.57	187	0.28	0.53	190	0.29	0.54	190
0	12	0.22	0.47	185	0.23	0.48	189	0.22	0.47	192
0	13	0.23	0.48	184	0.23	0.48	186	0.22	0.47	187
0	14	0.24	0.49	187	0.26	0.51	186	0.25	0.50	189
0	15	0.25	0.50	192	0.26	0.51	187	0.27	0.52	194
0	16	0.18	0.42	190	0.21	0.46	189	0.2	0.45	192
	17		0.00			0.00			0.00	
	18		0.00			0.00			0.00	
	19		0.00			0.00			0.00	
	20		0.00			0.00			0.00	
	21		0.00			0.00			0.00	
	22		0.00			0.00			0.00	
	23		0.00			0.00			0.00	
	24		0.00			0.00			0.00	
Averages			0.499	187.8		0.497	186.8		0.485	188.8

Air Control Techniques, P.C.
Moisture Sampling Train Field Data Sheet

Date 5/5/2021

SOURCE IDENTIFICATION				EQUIPMENT IDENTIFICATION			
Facility	Enviva WAY			Umbilical ID	U 90		
City, State	Waycross, GA.			Meterbox ID	1992		
Test Location	RCO2 Stack (Pellet Cooler)			$\Delta H@$	1.944		
Personnel	DLS WS			Gamma (γ)	0.985		

Run Identification 1								
						Actual	Req'd	Vac
				Pre Leak Check		0	< 0.02 or 4%	8
				Post Leak Check		0	< 0.02 or 4%	9
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)
930	0	197.233	72	1.5	NA	NA	63	5
	10	203.93	74	1.5	NA	NA	63	5
	20	211	76	1.5	NA	NA	63	5
	30	216.21	77	1.5	NA	NA	64	5
	40	221.04	79	1.5	NA	NA	64	5
	50	228.1	81	1.5	NA	NA	64	5
1030	60	231.625	lost power twice briefly					

Run Identification 2								
						Actual	Req'd	Vac
				Pre Leak Check		0	< 0.02 or 4%	8
				Post Leak Check		0	< 0.02 or 4%	7
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)
1205	0	154.674	79	1.5	NA	NA	59	5
	10	161.51	80	1.5	NA	NA	59	5
	20	168.43	83	1.5	NA	NA	59	5
	30	175.13	86	1.5	NA	NA	59	5
	40	181.77	88	1.5	NA	NA	60	5
	50	188.52	89	1.5	NA	NA	60	5
1305	60	195.397						

Run Identification 3								
						Actual	Req'd	Vac
				Pre Leak Check		0	< 0.02 or 4%	10
				Post Leak Check		0	< 0.02 or 4%	9
Clock Time	Elapsed Time (min)	Volume Metered (ft ³)	Meter Temp. (°F)	ΔH (in. W.C.)	Probe Temp. (°F)	Filter Temp. (°F)	Impinger Temp. (°F)	Vacuum (in. Hg)
1316	0	195.547	87	1.5	NA	NA	60	5
	10	202.31	88	1.5	NA	NA	60	5
	20	209.19	88	1.5	NA	NA	61	5
	30	215.97	90	1.5	NA	NA	61	5
	40	224.03	92	1.5	NA	NA	62	6
	50	230.93	94	1.5	NA	NA	62	6
1416	60	237.791						

Air Control Techniques, P.C.
Moisture Recovery Sheet

Date 5/5/2021

Source Information			
Client	Enviva		
Plant Name	Enviva WAY		
City, State	Waycross, GA.		
Sampling Location	RCO2 Stack (Pellet Cooler)		
	Job #	2513	
	Process		
	Personnel	DLS WS	

Sampling Information				
Run Number	Run 1	Run 2	Run 3	
Filter Identification				
Sampling Date	5/5/2021	5/5/2021	5/5/2021	

Moisture Data				
<u>Impinger 1</u>				
Final Weight, grams	799.5	718.6	735.5	
Initial Weight, grams	748.0	671.3	685.7	
Condensed Water, grams	51.5	47.3	49.8	0.0
<u>Impinger 2</u>				
Final Weight, grams	702.4	706.5	708.2	
Initial Weight, grams	698.0	692.5	702.4	
Condensed Water, grams	4.4	14.0	5.8	0.0
<u>Impinger 3</u>				
Final Weight, grams				
Initial Weight, grams				
Condensed Water, grams	0.0	0.0	0.0	0.0
<u>Impinger 4</u>				
Final Weight, grams				
Initial Weight, grams				
Condensed Water, grams	0.0	0.0	0.0	0.0
<u>Silica Gel</u>				
Final Weight, grams	972.9	961.1	988.3	
Initial Weight, grams	965.8	948.8	972.9	
Adsorbed Water, grams	7.1	12.3	15.4	0.0
Total Water, grams	63.0	73.6	71	

APPENDIX E
Operating and Process Data

Enviva Pellets Waycross, LLC - Summary Data (May 4-7, 2021)

EMISSION UNIT	APCD	DATE	RUN	START	STOP	PRODUCTION RATE	MOISTURE	DRY PRODUCTION	WESP	RTO1
ID No.	ID No.					MT/HR	%	ODT/HR	kV	°F
DRY1	WE01 / RTO1	5/7/2021	RUN 1	5/7/2021 10:01AM	5/7/2021 11:01AM	57.56	10.87	56.56	113.6	1,594
DRY1	WE01 / RTO1	5/7/2021	RUN 2	5/7/2021 11:20AM	5/7/2021 12:20PM	60.54	11.58	59.02	116.1	1,593
DRY1	WE01 / RTO1	5/7/2021	RUN 3	5/7/2021 12:40PM	5/7/2021 1:40PM	59.53	13.12	57.02	116.5	1,593
DRY1	WE01 / RTO1		AVERAGE			59.21	11.86	57.53	115.4	1,593

EMISSION UNIT	APCD	DATE	RUN	START	STOP	PRODUCTION RATE	MOISTURE	DRY PRODUCTION	WESP	RTO2
ID No.	ID No.					MT/HR	%	ODT/HR	kV	°F
DRY2	WE02 / RTO2	5/6/2021	RUN 1	5/6/2021 3:40PM	5/6/2021 4:46PM	56.49	13.92	48.62	77.8	1,597
DRY2	WE02 / RTO2	5/6/2021	RUN 2	5/6/2021 5:06PM	5/6/2021 6:06PM	58.38	13.97	50.23	70.6	1,596
DRY2	WE02 / RTO2	5/6/2021	RUN 3	5/6/2021 6:24PM	5/6/2021 7:24PM	56.51	13.47	48.90	64.0	1,592
DRY2	WE02 / RTO2		AVERAGE			57.13	13.79	49.25	70.8	1,595

EMISSION UNIT	APCD	DATE	RUN	START	STOP	PRODUCTION RATE	MOISTURE	DRY PRODUCTION	RCO1
ID No.	ID No.					MT/HR	%	ODT/HR	°F
HML	HBH1-HBH10 / RCO1	5/4/2021	RUN 1	5/4/2021 10:01AM	5/4/2021 11:01AM	134.35	8.30	139.28	952
HML	HBH1-HBH10 / RCO1	5/4/2021	RUN 2	5/4/2021 11:18AM	5/4/2021 12:18PM	133.11	9.71	138.56	962
HML	HBH1-HBH10 / RCO1	5/4/2021	RUN 3	5/4/2021 12:30PM	5/4/2021 1:30PM	127.46	9.63	132.92	960
HML	HBH1-HBH10 / RCO1		AVERAGE			131.64	9.21	136.92	958

EMISSION UNIT	APCD	DATE	RUN	START	STOP	PRODUCTION RATE	MOISTURE	DRY PRODUCTION	RCO2
ID No.	ID No.					MT/HR	%	ODT/HR	°F
PML / PCL	PBH1-PBH5 / RCO2	5/5/2021	RUN 1	5/5/2021 9:30AM	5/5/2021 10:30AM	123.38	6.12	127.70	1,183
PML / PCL	PBH1-PBH5 / RCO2	5/5/2021	RUN 2	5/5/2021 12:05PM	5/5/2021 1:05PM	115.08	6.57	118.54	1,153
PML / PCL	PBH1-PBH5 / RCO2	5/5/2021	RUN 3	5/5/2021 1:16PM	5/5/2021 2:16PM	124.99	5.54	130.16	1,154
PML / PCL	PBH1-PBH5 / RCO2		AVERAGE			121.15	6.08	125.47	1,163

APPENDIX F
Calibration and Gas Certification Sheets

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number:	E03NI79E15A0088	Reference Number:	122-401883832-1
Cylinder Number:	CC718215	Cylinder Volume:	151.0 CF
Laboratory:	124 - Durham (SAP) - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22020	Valve Outlet:	590
Gas Code:	CO2,O2,BALN	Certification Date:	Aug 18, 2020

Expiration Date: Aug 18, 2028

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON DIOXIDE	10.00 %	10.06 %	G1	+/- 0.6% NIST Traceable	08/18/2020
OXYGEN	11.00 %	10.95 %	G1	+/- 0.8% NIST Traceable	08/18/2020
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	13060638	CC414571	13.359 % CARBON DIOXIDE/NITROGEN	+/- 0.6%	May 14, 2025
NTRM	98051109	SG9168283BAL	9.507 % OXYGEN/NITROGEN	+/- 0.7%	Oct 06, 2021

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VIA510 CO2 2L6YXWY0	Nondispersive Infrared (NDIR)	Jul 23, 2020
Horiba MPA510 O2 41499150042	Paramagnetic	Jul 23, 2020

Triad Data Available Upon Request



[Handwritten Signature]

 Approved for Release

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number: E03NI60E15A1069 Reference Number: 122-402014928-1
 Cylinder Number: CC364194 Cylinder Volume: 158.2 CF
 Laboratory: 124 - Durham (SAP) - NC Cylinder Pressure: 2015 PSIG
 PGVP Number: B22021 Valve Outlet: 590
 Gas Code: CO2,O2,BALN Certification Date: Feb 01, 2021

Expiration Date: Feb 01, 2029

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON DIOXIDE	18.00 %	18.70 %	G1	+/- 0.6% NIST Traceable	02/01/2021
OXYGEN	22.00 %	22.15 %	G1	+/- 0.6% NIST Traceable	02/01/2021
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12061508	CC354696	19.87 % CARBON DIOXIDE/NITROGEN	+/- 0.6%	Jan 11, 2024
NTRM	08010202	1D003076	23.20 % OXYGEN/NITROGEN	+/- 0.4%	Jan 01, 2024

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Horiba VA-5001 CO2 BF89GV17	Nondispersive Infrared (NDIR)	Jan 06, 2021
Horiba MPA510 O2 41499150042	Paramagnetic	Jan 07, 2021

Triad Data Available Upon Request



[Signature]

 Approved for Release

DocNumber: 000019337

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information:

CHEROKEE INSTRUMENTS INC
 100 LOGAN COURT
 ANGIER NC 27501

Praxair Order Number: 86503230
 Customer P. O. Number: 14849
 Customer Reference Number:

Fill Date: 12/17/2016
 Part Number: AI PR8.5MZE-AS
 Lot Number: 304322352604
 Cylinder Style & Outlet: AS CGA 590
 Cylinder Pressure & Volume: 2000 psig 140 cu. ft.

Certified Concentration:

Expiration Date:	12/21/2024	NIST Traceable
Cylinder Number:	CC104048	Analytical Uncertainty:
8.41 ppm	PROPANE	± 0.6 %
Balance	AIR	

Certification Information: Certification Date: 12/21/2016 Term: 96 Months Expiration Date: 12/21/2024

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1. Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: PROPANE

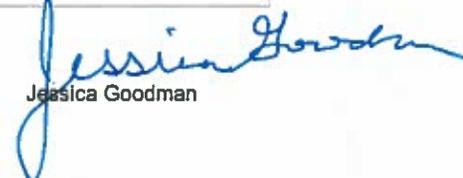
Requested Concentration: 8.5 ppm
 Certified Concentration: 8.41 ppm
 Instrument Used: MKS 2031
 Analytical Method: FTIR
 Last Multipoint Calibration: 12/8/2016

Reference Standard Type: GMIS
 Ref. Std. Cylinder #: CC107531
 Ref. Std. Conc: 30.05 PPM
 Ref. Std. Traceable to SRM #: 1667b
 SRM Sample #: 83-1-52
 SRM Cylinder #: XF004079B

First Analysis Data:		Date:		12/21/2016	
Z:	0	R:	30.77	C:	8.62
Conc:	8.42	Z:	0	C:	8.6
Conc:	8.4	R:	30.74	C:	8.41
UOM:	PPM	Mean Test Assay:	8.41 PPM		

Second Analysis Data:		Date:			
Z:	0	R:	0	C:	0
Conc:	0	Z:	0	C:	0
Conc:	0	R:	0	C:	0
UOM:	PPM	Mean Test Assay:	0 PPM		

Analyzed by: 
 Jeff Gosner

Certified by: 
 Jessica Goodman

DocNumber: 311258



Waycross, Georgia
 Praxair Distribution, Inc.
 One Steel Road East
 Morrisville PA 19067
 Tel: 1-800-638-6360
 Fax: 1-215-736-5237
 PGVP ID: F32020

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

CHEROKEE INSTRUMENTS INC
 100 LOGAN COURT
 ANGIER NC 27501

Certificate Issuance Date: 08/07/2020
 Praxair Order Number: 21004190
 Part Number: EV AIPR15ME-AS
 Customer PO Number: 20082

Fill Date: 07/30/2020
 Lot Number: 304342212001
 Cylinder Style & Outlet: AS CGA 590
 Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

Expiration Date:	08/06/2028	NIST Traceable
Cylinder Number:	CC246088	Expanded Uncertainty
15.0 ppm	Propane	± 0.6 %
Balance	Air	

ProSpec EZ Cert



Certification Information:

Certification Date: 08/06/2020 Term: 96 Months Expiration Date: 08/06/2028

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1.
 Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. **Component:** **Propane**
 Requested Concentration: 15 ppm
 Certified Concentration: 15.0 ppm
 Instrument Used: MKS Multigas 2031
 Analytical Method: FTIR
 Last Multipoint Calibration: 08/06/2020

Reference Standard: Type / Cylinder #: GMIS / CC121178
 Concentration / Uncertainty: 29.7 ppm ±0.539%
 Expiration Date: 01/11/2025
Traceable to: SRM # / Sample # / Cylinder #: 1667b / 83-K-16 / FF55526
 SRM Concentration / Uncertainty: 49.61 PPM / ±0.11 ppm
 SRM Expiration Date: 07/01/2024

First Analysis Data:				Date
Z: -0.08	R: 30.2	C: 15.2	Conc: 15	08/06/2020
R: 30.2	Z: -0.08	C: 15.2	Conc: 15	
Z: -0.08	C: 15.2	R: 30.2	Conc: 15	
UOM: ppm				Mean Test Assay: 15 ppm

Second Analysis Data:				Date
Z: 0	R: 0	C: 0	Conc: 0	
R: 0	Z: 0	C: 0	Conc: 0	
Z: 0	C: 0	R: 0	Conc: 0	
UOM: ppm				Mean Test Assay: ppm

Analyzed By

Megha Patel

Certified By

Remzy Jemal

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.



CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

CHEROKEE INSTRUMENTS INC
100 LOGAN COURT
ANGIER NC 27501

Certificate Issuance Date: 02/18/2019

Praxair Order Number: 68924169

Part Number: EV AIPR25.5MEAS

Customer PO Number: 0050001857

Fill Date: 02/18/2019

Lot Number: 304313044903

Cylinder Style & Outlet: AS

CGA 590

Cylinder Pressure and Volume: 2000 psig 140 R3

Certified Concentration

Expiration Date:	02/18/2027	NIST Traceable
Cylinder Number:	CC350803	Expanded Uncertainty
25.6 ppm	Propane	± 0.6 %
Balance	Air	

ProSpec EZ Cert



Certification Information:

Certification Date: 02/18/2019

Term: 96 Months

Expiration Date: 02/18/2027

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1.
Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: Propane

Requested Concentration: 25.5 ppm
Certified Concentration: 25.6 ppm
Instrument Used: MKS Multigas 2031
Analytical Method: FTIR
Last Multipoint Calibration: 01/18/2019

Reference Standard: Type / Cylinder #: GMIS / CC121178
Concentration / Uncertainty: 29.7 ppm ±0.539%
Expiration Date: 01/11/2025
Traceable to: SRM # / Sample # / Cylinder #: 1667b / 83-K-16 / FF55526
SRM Concentration / Uncertainty: 49.81 PPM / ±0.11 ppm
SRM Expiration Date: 07/01/2024

First Analysis Data:				Date			
Z:	0.01	R:	30.2	C:	26	Conc:	25.6
R:	30.2	Z:	0.01	C:	26	Conc:	25.6
Z:	0	C:	26	R:	30.2	Conc:	25.6
UOM:	ppm	Mean Test Assay:	25.6	ppm			

Second Analysis Data:				Date			
Z:	0	R:	0	C:	0	Conc:	0
R:	0	Z:	0	C:	0	Conc:	0
Z:	0	C:	0	R:	0	Conc:	0
UOM:	ppm	Mean Test Assay:		ppm			

Analyzed By

Megha Patel
Megha Patel

Certified By

Remy
Remy Jemal

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number: E02AI99E15A0456
 Cylinder Number: CC494806
 Laboratory: 124 - Durham (SAP) - NC
 PGVP Number: B22020
 Gas Code: PPN,BALA

Reference Number: 122-401931965-1
 Cylinder Volume: 146.2 CF
 Cylinder Pressure: 2015 PSIG
 Valve Outlet: 590
 Certification Date: Oct 16, 2020

Expiration Date: Oct 16, 2028

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
PROPANE	50.00 PPM	50.23 PPM	G1	+/- 1.3% NIST Traceable	10/16/2020
AIR	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	00010622	ALM028310	49.8 PPM PROPANE/AIR	+/- 1.2%	Apr 24, 2024

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801333 C3H8	FTIR	Sep 30, 2020

Triad Data Available Upon Request



[Signature]
 Approved for Release

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number:	E02NI99E15A0581	Reference Number:	122-401948476-1
Cylinder Number:	ALM-035333	Cylinder Volume:	144.4 CF
Laboratory:	124 - Durham (SAP) - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22020	Valve Outlet:	350
Gas Code:	PPN,BALN	Certification Date:	Nov 02, 2020

Expiration Date: Nov 02, 2028

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

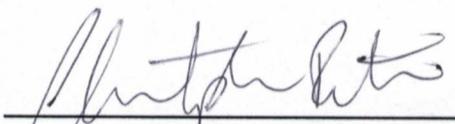
ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
PROPANE	85.00 PPM	82.87 PPM	G1	+/- 0.8% NIST Traceable	11/02/2020
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	01010418	1D1671	99.80 PPM PROPANE/AIR	+/- 0.6%	May 03, 2024

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801333 C3H8	FTIR	Oct 28, 2020

Triad Data Available Upon Request





Approved for Release

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number: E02NI99E15A0223	Reference Number: 122-401936626-1
Cylinder Number: CC125798	Cylinder Volume: 144.3 CF
Laboratory: 124 - Durham (SAP) - NC	Cylinder Pressure: 2015 PSIG
PGVP Number: B22020	Valve Outlet: 350
Gas Code: CO,BALN	Certification Date: Oct 23, 2020

Expiration Date: Oct 23, 2028

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

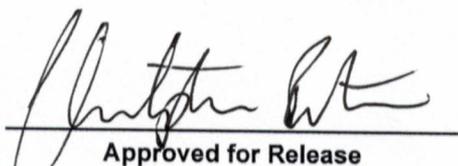
ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
CARBON MONOXIDE	45.00 PPM	44.90 PPM	G1	+/- 0.7% NIST Traceable	10/23/2020
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
NTRM	12011239	KAL004623	49.24 PPM CARBON MONOXIDE/NITROGEN	+/- 0.6%	Aug 31, 2024

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801549 CO	FTIR	Oct 14, 2020

Triad Data Available Upon Request




 Approved for Release



CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

CHEROKEE INSTRUMENTS INC
 100 LOGAN COURT
 ANGIER NC 27501

Certificate Issuance Date: 08/05/2019
 Praxair Order Number: 83426044
 Part Number: NI CO90ME-AS
 Customer PO Number: 0050002011

Fill Date: 07/30/2019
 Lot Number: 304622211903
 Cylinder Style & Outlet: AS CGA 350
 Cylinder Pressure and Volume: 2000 psig 142 ft3

Certified Concentration

Expiration Date:	08/05/2027	NIST Traceable
Cylinder Number:	SA15034	Expanded Uncertainty
90.4 ppm	Carbon monoxide	± 0.3 %
Balance	Nitrogen	

ProSpec EZ Cert



Certification Information:

Certification Date: 08/05/2019

Term: 96 Months

Expiration Date: 08/05/2027

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1.
 Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. **Component:** Carbon monoxide
 Requested Concentration: 90 ppm
 Certified Concentration: 90.4 ppm
 Instrument Used: HORIBA VIA-510
 Analytical Method: NDIR
 Last Multipoint Calibration: 08/02/2019

Reference Standard: Type / Cylinder #: GMIS / CC79023
 Concentration / Uncertainty: 101.1 ppm ±0.283%
 Expiration Date: 05/25/2025
Traceable to: SRM # / Sample # / Cylinder #: 1679C / 03-K-04 / FF25419
 SRM Concentration / Uncertainty: 99.28 PPM / ±0.21 ppm
 SRM Expiration Date: 09/25/2022

First Analysis Data:		Date	
Z: 0	R: 101.1	C: 90.2	Conc: 90.2
R: 101.1	Z: 0	C: 90.5	Conc: 90.5
Z: 0	C: 90.4	R: 101.1	Conc: 90.4
UOM: ppm	Mean Test Assay:	90.4	ppm

Second Analysis Data:		Date	
Z: 0	R: 0	C: 0	Conc: 0
R: 0	Z: 0	C: 0	Conc: 0
Z: 0	C: 0	R: 0	Conc: 0
UOM: ppm	Mean Test Assay:		ppm

Analyzed By

Megha Patel
 Megha Patel

Certified By

Remy Jamal
 Remy Jamal

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number:	E02NI99E15A2396	Reference Number:	122-402014927-1
Cylinder Number:	CC353114	Cylinder Volume:	144.3 CF
Laboratory:	124 - Durham (SAP) - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22021	Valve Outlet:	660
Gas Code:	NO,NOX,BALN	Certification Date:	Feb 05, 2021

Expiration Date: Feb 05, 2024

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS

Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NOX	46.00 PPM	46.46 PPM	G1	+/- 1.1% NIST Traceable	01/29/2021, 02/05/2021
NITRIC OXIDE	46.00 PPM	46.40 PPM	G1	+/- 1.0% NIST Traceable	01/29/2021, 02/05/2021
NITROGEN	Balance				

CALIBRATION STANDARDS

Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
GMIS	12182020103	CC708026	49.95 PPM NITRIC OXIDE/NITROGEN	+/- 0.8%	Dec 18, 2023
SRM	45-V-55	CAL018121	48.79 PPM NITRIC OXIDE/NITROGEN	+/- 0.7%	Jan 30, 2028
GMIS	401423838102	CC505581	4.348 PPM NITROGEN DIOXIDE/NITROGEN	+/- 2.1	Feb 18, 2023
PRM	12386	D685025	9.91 PPM NITROGEN DIOXIDE/AIR	+/- 2.0%	Feb 20, 2020

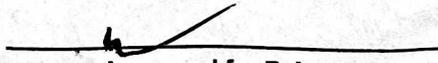
The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT

Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
Nicolet 6700 AHR0801333 NO	FTIR	Jan 13, 2021
Nicolet 6700 AHR0801333 NO2	FTIR	Jan 13, 2021

Triad Data Available Upon Request




 Approved for Release

DocNumber: 311402



Praxair Distribution, Inc., Waco, Georgia
 One Steel Road East
 Morrisville PA 19067
 Tel: 1-800-638-6360
 Fax: 1-215-736-5237
 PGVP ID: F32020

CERTIFICATE OF ANALYSIS / EPA PROTOCOL GAS

Customer & Order Information

CHEROKEE INSTRUMENTS INC
 100 LOGAN COURT
 ANGIER NC 27501

Certificate Issuance Date: 08/11/2020
 Praxair Order Number: 21002346
 Part Number: NI NO90ME-AS
 Customer PO Number: 20083

Fill Date: 07/30/2020
 Lot Number: 304513212005
 Cylinder Style & Outlet: AS CGA 660
 Cylinder Pressure and Volume: 2000 psig 140 ft3

Certified Concentration

ProSpec EZ Cert

Expiration Date:	08/10/2028	NIST Traceable
Cylinder Number:	CC108548	Expanded Uncertainty
90.7 ppm	Nitric oxide	± 0.9 %
Balance	Nitrogen	



For Reference Only: NOx 90.9 ppm

Certification Information: Certification Date: 08/10/2020 Term: 96 Months Expiration Date: 08/10/2028

This cylinder was certified according to the 2012 EPA Traceability Protocol, Document #EPA-600/R-12/531, using Procedure G1.
 Do Not Use this Standard if Pressure is less than 100 PSIG.

Analytical Data:

(R=Reference Standard, Z=Zero Gas, C=Gas Candidate)

1. Component: Nitric oxide
 Requested Concentration: 90 ppm
 Certified Concentration: 90.7 ppm
 Instrument Used: MKS Multigas 2031
 Analytical Method: FTIR
 Last Multipoint Calibration: 07/23/2020

Reference Standard: Type / Cylinder #: GMIS / CC75981
 Concentration / Uncertainty: 92.88 ppm ±0.835%
 Expiration Date: 06/06/2027
Traceable to: SRM # / Sample # / Cylinder #: 1684B / 44-U-36 / FF55513
 SRM Concentration / Uncertainty: 98.95 PPM / 0.798%
 SRM Expiration Date: 09/14/2025

First Analysis Data:				Date
Z: -0.13	R: 93.1	C: 90.9	Conc: 90.6	08/03/2020
R: 93.2	Z: -0.12	C: 90.9	Conc: 90.6	
Z: -0.04	C: 90.9	R: 93.2	Conc: 90.6	
UOM: ppm				Mean Test Assay: 90.6 ppm

Second Analysis Data:				Date
Z: -0.08	R: 92.9	C: 90.9	Conc: 90.9	08/10/2020
R: 93	Z: -0.08	C: 91	Conc: 91	
Z: 0.03	C: 90.9	R: 92.8	Conc: 90.9	
UOM: ppm				Mean Test Assay: 90.9 ppm

Analyzed By

Megha Patel
 Megha Patel

Certified By

Remzy Jemal
 Remzy Jemal

Information contained herein has been prepared at your request by qualified experts within Praxair Distribution, Inc. While we believe that the information is accurate within the limits of the analytical methods employed and is complete to the extent of the specific analyses performed, we make no warranty or representation as to the suitability of the use of the information for any purpose. The information is offered with the understanding that any use of the information is at the sole discretion and risk of the user. In no event shall the liability of Praxair Distribution, Inc., arising out of the use of the information contained herein exceed the fee established for providing such information.

CERTIFICATE OF ANALYSIS

Grade of Product: EPA Protocol

Part Number:	E02NI99E15W0030	Reference Number:	122-401632774-1
Cylinder Number:	CC504109	Cylinder Volume:	144.0 CF
Laboratory:	124 - Durham (SAP) - NC	Cylinder Pressure:	2015 PSIG
PGVP Number:	B22019	Valve Outlet:	660
Gas Code:	NO2,BALN	Certification Date:	Nov 04, 2019

Expiration Date: Nov 04, 2022

Certification performed in accordance with "EPA Traceability Protocol for Assay and Certification of Gaseous Calibration Standards (May 2012)" document EPA 600/R-12/531, using the assay procedures listed. Analytical Methodology does not require correction for analytical interference. This cylinder has a total analytical uncertainty as stated below with a confidence level of 95%. There are no significant impurities which affect the use of this calibration mixture. All concentrations are on a mole/mole basis unless otherwise noted.

Do Not Use This Cylinder below 100 psig, i.e. 0.7 megapascals.

ANALYTICAL RESULTS					
Component	Requested Concentration	Actual Concentration	Protocol Method	Total Relative Uncertainty	Assay Dates
NITROGEN DIOXIDE	50.00 PPM	49.49 PPM	G1	+/- 1.9% NIST Traceable	10/28/2019, 11/04/2019
NITROGEN	Balance				

CALIBRATION STANDARDS					
Type	Lot ID	Cylinder No	Concentration	Uncertainty	Expiration Date
GMIS	415201406	CC345246	49.66 PPM NITROGEN DIOXIDE/NITROGEN	+/- 1.8%	Aug 28, 2022
PRM	12388	D685030	59.5 PPM NITROGEN DIOXIDE/AIR	+/- 1.7%	Feb 20, 2020

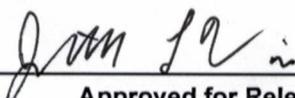
The SRM, PRM or RGM noted above is only in reference to the GMIS used in the assay and not part of the analysis.

ANALYTICAL EQUIPMENT		
Instrument/Make/Model	Analytical Principle	Last Multipoint Calibration
MKS FTIR NO2 018176583	FTIR	Oct 18, 2019

Triad Data Available Upon Request

PERMANENT NOTES: OXYGEN ADDED TO MAINTAIN STABILITY.





Approved for Release

CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Part Number:	X02NI99C15A1268	Reference Number:	122-402014929-1
Cylinder Number:	CC48732	Cylinder Volume:	144.4 CF
Laboratory:	124 - Durham (SAP) - NC	Cylinder Pressure:	2015 PSIG
Analysis Date:	Jan 22, 2021	Valve Outlet:	350
Lot Number:	122-402014929-1		

Expiration Date: Jan 22, 2024

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
ETHYLENE	100.0 PPM	99.34 PPM	+/- 2%
NITROGEN	Balance		




Approved for Release

CERTIFIED HYDROCARBON

Customer: *RALEIGH, NC* AIR CONTROL TECHNIQUES PC

Reference Number: 126-401936006-1
Part Number: X02NI99C15A06R7
SAP Empty Part: MT-15ASG350
Cylinder Number: ALM050963
Expiration Date: Nov 09, 2021
Final Pressure: 2015 PSIG
Final Volume: 144.4 CF

Component	Mole %	CAS Number
ALPHA PINENE:	23.77 PPM	80-56-8
NITROGEN:	Balance	7727-37-9

Notes:
PO # 2101 0100



CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Part Number:	X02NI99C15AU117	Reference Number:	160-401858328-1
Cylinder Number:	CC716051	Cylinder Volume:	144.4 Cubic Feet
Laboratory:	124 - Plumsteadville - PA	Cylinder Pressure:	2015 PSIG
Analysis Date:	Jul 28, 2020	Valve Outlet:	350
Lot Number:	160-401858328-1		

Expiration Date: Jul 28, 2021

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
ACETALDEHYDE	25.00 PPM	27.70 PPM	+/- 5%
NITROGEN	Balance		



CERTIFICATE OF ANALYSIS

Grade of Product: CERTIFIED STANDARD-SPEC

Customer:	AIR CONTROL TECHNIQUES, PC	Reference Number:	160-401199695-1
Part Number:	X03NI99C15A0244	Cylinder Volume:	144.4 Cubic Feet
Cylinder Number:	CC358734	Cylinder Pressure:	2015 PSIG
Laboratory:	124 - Plumsteadville - PA	Valve Outlet:	350SS
Analysis Date:	May 22, 2018		
Lot Number:	160-401199695-1		

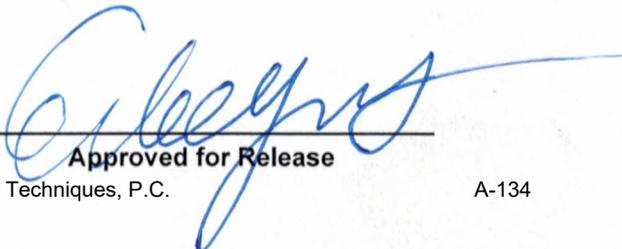
Expiration Date: May 22, 2022

Product composition verified by direct comparison to calibration standards traceable to N.I.S.T. weights and/or N.I.S.T. Gas Mixture reference materials.

ANALYTICAL RESULTS

Component	Req Conc	Actual Concentration (Mole %)	Analytical Uncertainty
SULFUR HEXAFLUORIDE	3.000 PPM	3.002 PPM	+/- 5%
METHANOL	80.00 PPM	80.40 PPM	+/- 2%
NITROGEN	Balance		




Approved for Release

**APEX INSTRUMENTS METHOD 5 PRE-TEST CONSOLE CALIBRATION
USING CALIBRATED CRITICAL ORIFICES
5-POINT ENGLISH UNITS**

Meter Console Information	
Console Model Number	C5000
Console Serial Number	1959
DGM Model Number	17485103
DGM Serial Number	17485103

Calibration Conditions			
Date	Time	11/09/20	10:17
Barometric Pressure		29.82	in Hg
Theoretical Critical Vacuum ¹		14.08	in Hg
Calibration Technician		JBG	

Factors/Conversions		
Std Temp	528	°R
Std Press	29.92	in Hg
K ₁	17.647	oR/in Hg

¹For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

²The Critical Orifice Coefficient, 'K', must be entered in English units, (ft³°R^{1/2})/(in.Hg*min).

Calibration Data										
Run Time	Metering Console					Critical Orifice				
Elapsed	DGM Orifice ΔH	Volume Initial	Volume Final	Outlet Temp Initial	Outlet Temp Final	Serial Number	Coefficient	Amb Temp Initial	Amb Temp Final	Actual Vacuum
(θ)	(P _m)	(V _m)	(V _{mf})	(t _m)	(t _{mf})		K'	(t _{amb})	(t _{amb})	
min	in H ₂ O	cubic feet	cubic feet	°F	°F		see above ²	°F	°F	in Hg
22.50	0.31	589.600	596.614	62	62	FO 40	0.2380	68	68	25.0
15.00	0.69	596.614	603.478	62	63	FO 48	0.3488	68	69	23.5
10.00	1.25	603.478	609.533	63	64	FO 55	0.4594	69	69	22.0
9.00	2.05	609.533	616.587	64	65	FO 63	0.5906	69	69	20.0
7.00	3.80	616.587	624.022	65	65	FO 73	0.8063	69	69	17.0

Results								
Standardized Data				Dry Gas Meter				
Dry Gas Meter		Critical Orifice		Calibration Factor		Flowrate	ΔH @	
(V _{m(std)})	(Q _{m(std)})	(V _{cr(std)})	(Q _{cr(std)})	Value	Variation	Std & Corr	0.75 SCFM	Variation
(cubic feet)	(cfm)	(cubic feet)	(cfm)	(Y)	(ΔY)	(Q _{m(std)(corr)})	(ΔH@)	(ΔΔH@)
						(cfm)	(in H ₂ O)	
7.076	0.315	6.949	0.309	0.9821	0.006	0.309	1.847	-0.106
6.925	0.462	6.787	0.452	0.9800	0.004	0.452	1.918	-0.035
6.105	0.611	5.956	0.596	0.9756	0.000	0.596	2.006	0.053
7.113	0.790	6.892	0.766	0.9688	-0.007	0.766	1.995	0.042
7.522	1.075	7.318	1.045	0.9728	-0.003	1.045	1.999	0.046
				0.9759	Y Average		1.953	ΔH@ Average

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature: Jonas Gilbert Date: 11/9/20

**METHOD 5 POST-TEST CONSOLE CALIBRATION USING CALIBRATED CRITICAL ORIFICES
3-POINT ENGLISH UNITS**

Meter Console Information	
Console Model Number	C5000
Console Serial Number	1959
DGM Model Number	17485103
DGM Serial Number	17485103

Calibration Conditions			
Date	13-May-21	Time:	14:40
Barometric Pressure	29.8		in Hg
Theoretical Critical Vacuum ¹	14.1		in Hg
Calibration Technician	DLS		

Factors/Conversions		
Std Temp	528	°R
Std Press	29.92	in Hg
K ₁	17.647	oR/in Hg

¹For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

²The Critical Orifice Coefficient, K', must be entered in English units, (ft³*oR^{1/2})/(in.Hg*min).

Calibration Data										
Run Time	Metering Console					Critical Orifice				
Elapsed	DGM Orifice ΔH	Volume Initial	Volume Final	Outlet Temp Initial	Outlet Temp Final	Serial Number	Coefficient	Amb Temp Initial	Amb Temp Final	Actual Vacuum
(⊖)	(P _m)	(V _{mi})	(V _{mf})	(t _{mi})	(t _{mf})		K'	(t _{amb})	(t _{amb})	in. Hg
min	in H ₂ O	cubic feet	cubic feet	°F	°F	FO		°F	°F	
9.0	1.10	511.550	517.048	70	70	FO-55	0.4594	69	69	19.00
10.0	1.10	517.048	523.148	70	70	FO-55	0.4594	69	69	19.00
9.0	1.10	523.148	528.644	70	71	FO-55	0.4594	69	69	19.00

Results								
Standardized Data				Dry Gas Meter				
Dry Gas Meter		Critical Orifice		Calibration Factor		Flowrate	0.3488	
(V _{m(std)})	(Q _{m(std)})	(V _{cr(std)})	(Q _{cr(std)})	Value	Variation	Std & Corr	0.75 SCFM	Variation
(V _{m(std)})	(Q _{m(std)})	(V _{cr(std)})	(Q _{cr(std)})	(Y)	(ΔY)	(Q _{m(std)(corr)})	(ΔH@)	(ΔΔH@)
cubic feet	cfm	cubic feet	cfm			cfm	in H ₂ O	
5.470	0.608	5.477	0.609	1.001	-0.001	0.609	1.668	0.001
6.069	0.607	6.085	0.609	1.003	0.001	0.609	1.668	0.001
5.463	0.607	5.477	0.609	1.002	0.000	0.609	1.667	-0.001
Pretest Gamma	0.9759	% Deviation	2.7	1.002	Y Average		1.668	ΔH@ Average

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature Danny Speer

Date 5/13/2021

**APEX INSTRUMENTS METHOD 5 PRE-TEST CONSOLE CALIBRATION
USING CALIBRATED CRITICAL ORIFICES
5-POINT ENGLISH UNITS**

Meter Console Information	
Console Model Number	C5000
Console Serial Number	1992
DGM Model Number	17465140
DGM Serial Number	17465140

Calibration Conditions			
Date	Time	10/30/20	1600
Barometric Pressure		29.38	in Hg
Theoretical Critical Vacuum ¹		13.87	in Hg
Calibration Technician		TTB	

Factors/Conversions		
Std Temp	528	°R
Std Press	29.92	in Hg
K ₁	17.647	oR/in Hg

¹For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

²The Critical Orifice Coefficient, K', must be entered in English units, (ft³*°R^{1/2})/(in.Hg*min).

Calibration Data										
Run Time	Metering Console					Critical Orifice				
Elapsed	DGM Orifice ΔH	Volume Initial	Volume Final	Outlet Temp Initial	Outlet Temp Final	Serial Number	Coefficient	Amb Temp Initial	Amb Temp Final	Actual Vacuum
(t)	(P _m)	(V _{mi})	(V _{mf})	(t _{mi})	(t _{mf})		K'	(t _{amb})	(t _{amb})	
min	in H ₂ O	cubic feet	cubic feet	°F	°F		see above ²	°F	°F	in Hg
17.00	0.32	309.000	314.292	68	68	FO 40	0.2380	68	70	23.0
14.00	0.68	315.000	321.402	68	68	FO 48	0.3488	68	70	22.0
10.00	1.20	322.000	328.062	69	69	FO 55	0.4594	70	70	21.0
7.00	2.05	329.000	334.488	69	70	FO 63	0.5906	70	70	19.0
10.00	3.70	335.000	345.663	70	72	FO 73	0.8063	70	70	16.0

Results								
Standardized Data				Dry Gas Meter				
Dry Gas Meter		Critical Orifice		Calibration Factor		Flowrate	ΔH @	
(V _{m(std)})	(Q _{m(std)})	(V _{cr(std)})	(Q _{cr(std)})	Value	Variation	Std & Corr	0.75 SCFM	Variation
cubic feet	cfm	cubic feet	cfm	(Y)	(ΔY)	(Q _{m(std)(corr)})	(ΔH@)	(ΔΔH@)
						cfm	in H ₂ O	
5.201	0.306	5.168	0.304	0.9938	0.009	0.304	1.917	-0.027
6.297	0.450	6.238	0.446	0.9906	0.006	0.446	1.900	-0.044
5.959	0.596	5.863	0.586	0.9838	-0.001	0.586	1.938	-0.006
5.401	0.772	5.276	0.754	0.9768	-0.008	0.754	2.010	0.065
10.508	1.051	10.290	1.029	0.9793	-0.006	1.029	1.956	0.012
				0.9848	Y Average		1.944	ΔH@ Average

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature: Todd T. Brozell

Date: 10/30/20

METHOD 5 POST-TEST CONSOLE CALIBRATION USING CALIBRATED CRITICAL ORIFICES
3-POINT ENGLISH UNITS

Meter Console Information	
Console Model Number	C5000
Console Serial Number	1992
DGM Model Number	17465140
DGM Serial Number	17465140

Calibration Conditions			
Date	13-May-21	Time:	10:50
Barometric Pressure	29.8		in Hg
Theoretical Critical Vacuum ¹	14.1		in Hg
Calibration Technician	DLS		

Factors/Conversions		
Std Temp	528	°R
Std Press	29.92	in Hg
K ₁	17.647	oR/in Hg

¹For valid test results, the Actual Vacuum should be 1 to 2 in. Hg greater than the Theoretical Critical Vacuum shown above.

²The Critical Orifice Coefficient, K', must be entered in English units, (ft³*oR^{1/2})/(in.Hg*min).

Calibration Data										
Run Time	Metering Console					Critical Orifice				
Elapsed	DGM Orifice ΔH	Volume Initial	Volume Final	Outlet Temp Initial	Outlet Temp Final	Serial Number	Coefficient	Amb Temp Initial	Amb Temp Final	Actual Vacuum
(⊖)	(P _m)	(V _{mi})	(V _{mf})	(t _{mi})	(t _{mf})		K'	(t _{amb})	(t _{amb})	in. Hg
min	in H ₂ O	cubic feet	cubic feet	°F	°F	FO		°F	°F	
10.5	1.10	237.230	243.547	61	62	FO-55	0.4594	63	64	19.00
9.0	1.10	243.547	249.181	62	63	FO-55	0.4594	64	65	19.00
10.0	1.10	249.181	255.323	63	64	FO-55	0.4594	65	66	19.00

"-1Min"

Results								
Standardized Data				Dry Gas Meter				
Dry Gas Meter		Critical Orifice		Calibration Factor		Flowrate	0.3488	
(V _{m(std)})	(Q _{m(std)})	(V _{cr(std)})	(Q _{cr(std)})	Value	Variation	Std & Corr	0.75 SCFM	Variation
(V _{m(std)})	(Q _{m(std)})	(V _{cr(std)})	(Q _{cr(std)})	(Y)	(ΔY)	(Q _{m(std)(corr)})	(ΔH@)	(ΔΔH@)
cubic feet	cfm	cubic feet	cfm			cfm	in H ₂ O	
6.390	0.609	6.415	0.611	1.004	0.019	0.611	1.683	0.001
5.688	0.632	5.495	0.611	0.966	-0.019	0.611	1.682	0.000
6.189	0.619	6.101	0.610	0.986	0.001	0.610	1.681	-0.001
Pretest Gamma	0.9850	% Deviation	0.0	0.985	Y Average		1.682	ΔH@ Average

Note: For Calibration Factor Y, the ratio of the reading of the calibration meter to the dry gas meter, acceptable tolerance of individual values from the average is +/-0.02.

I certify that the above Dry Gas Meter was calibrated in accordance with USEPA Methods, CFR Title 40, Part 60, Appendix A-3, Method 5, 16.2.3

Signature Danny Speer

Date 5/13/2021



Type S Pitot Tube Inspection and Stack Thermocouple Calibration

GENERAL INFORMATION

Probe ID	8H	Personnel	EJG
Date	4/26/2020	Coefficient Value	0.84

PITOT TUBE INSPECTION

Pitot Tube assembly level? (yes/no)	yes
Pitot Tube obstruction? (yes/no)	no
Pitot Tube openings damaged? (yes/no)	yes

α_1	0	$\leq \pm 10^\circ$
α_2	1.5	$\leq \pm 10^\circ$
β_1	-2	$\leq \pm 5^\circ$
β_2	-1	$\leq \pm 5^\circ$
γ	0.017	
θ	0.052	
$z = A \tan(\gamma)$	0	$\leq \pm 1/8''$
$\omega = A \tan(\theta)$	1/16	$\leq \pm 1/32''$
D_t	0.3725	
$(3/16'' < D_t < 3/8'' \text{ Recommended})$		
A	0.957	
P_A		
P_B	1.28	
$(1.05 < P/D_t < 1.50 \text{ Recommended})$		

STACK THERMOCOUPLE CALIBRATION

Ref. Type	Hg Thermometer	Ref. ID	Hg-1
-----------	----------------	---------	------

Source	Ref., °F	Stack TC, °F	Abs. Diff., °F
Ice bath	29	32	3
Ambient	77	75	2
Hot water	210.9	214.2	3.3
Maximum Temp. Difference, °F			3.3



Type S Pitot Tube Inspection and Stack Thermocouple Calibration

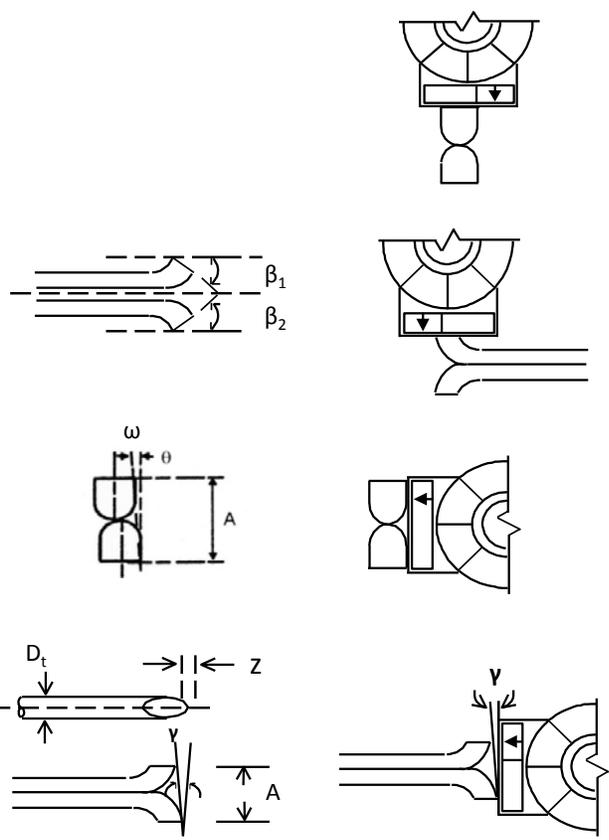
GENERAL INFORMATION

Probe ID
Date

Personnel
Coefficient Value

PITOT TUBE INSPECTION

Pitot Tube assembly level? (yes/no)
Pitot Tube obstruction? (yes/no)
Pitot Tube openings damaged? (yes/no)



α_1 $\leq \pm 10^\circ$
 α_2 $\leq \pm 10^\circ$
 β_1 $\leq \pm 5^\circ$
 β_2 $\leq \pm 5^\circ$
 γ radians
 θ radians
 $z = A \tan(\gamma)$ $\leq \pm \frac{1}{8}''$
 $\omega = A \tan(\theta)$ $\leq \pm \frac{1}{32}''$
 D_t
($\frac{3}{16}'' < D_t < \frac{3}{8}''$ Recommended)
 A
 P_A
 P_B
($1.05 < P/D_t < 1.50$ Recommended)

STACK THERMOCOUPLE CALIBRATION

Ref. Type Ref. ID

Source	Ref., °F	Stack TC, °F	Abs. Diff., °F
Ice bath	29	28	1
Ambient	70	72	2
Hot Plate	223	220	3
Maximum Temp. Difference, °F			3

APPENDIX G

FTIR Record

Job 2513
 ENVIWA WAYCROSS

FILENAME	TIME	Pcell	Tcell	SC	Bkg	NOTES
						RCO1 (Hammermill)
						RCO1 (MAY 3, 2021)
						Leak Check cell (DP = 0.000)
						Leak Check system (0.0 LPM)
			191	64		SNR Test # 1
SPC_00480 Bkg.LAB	1911		191	138	1	Background (H2O too high)
SPC_004807 Bkg.LAB	1936		191	138	2	Background (H2O = 500 mm)
SPC_004818 Bkg.LAB	2004		191	138	3	Background
SPC_004819 Bkg.Lab	2021		191	138	4	Background
SPC_004820 Bkg.Lab	2030	0.9955	191	138	5	Background
SPC_004841.LAB	2100	0.9558	191	62	5	Direct H2O4/SF6
SPC_004866.LAB	2126	0.9555	191	62	5	NATIVE
SPC_004881.LAD	2140	0.9563	191	62	5	SPIKE
	805					MAY 4, 2021 (RCO1)
	0753		191	61	5	SNR TEST # 2
SPC_004893 Bkg.LAB	0820	0.9967	191	138	6	Background
SPC_004900.LAB	0832	0.9959	191	61	6	CTS #1 (99.34 ETY) 98.8 ppm
SPC_004947.LAB	1001	0.9607	191	61	6	RUN 1 START 1001
SPC_005006.LAB	1059	0.9608	191	61	6	RUN 1 END 1101
SPC_005025.LAB	1118	0.9605	191	61	6	RUN 2 START 1118
SPC_005085.LAB	1218	0.9606	191	61	6	RUN 2 END 1218
SPC_005097.LAB	1230	0.9607	191	61	6	RUN 3 START 1230
SPC_005156.LAB	1330	0.9597	191	61	6	RUN 3 END 1330
SPC_005177.LAD	1353	0.9441	191	61	6	CTS #2 (99.34 ETY) 99.9
	0730		191	61	6	MAY 5, 2021 (RCO2)
						SNR TEST # 3
SPC_004805182 Bkg	0754	0.9	191	138	6	Background / CTS #3
SPC_005246.LAB	0930	0.9669	191	61	6	RUN 1 START 0930
SPC_005306.LAB	1030	0.9671	191	61	6	RUN 1 END 1030
SPC_005401.LAB	1205	0.9666	191	61	6	RUN 2 START 1205
SPC_005480.LAB	1305	0.9665	191	61	6	RUN 2 END 1305
SPC_005466.LAB	1318	0.9663	191	61	6	RUN 3 START 1318
SPC_005533.LAB	1418	0.9697	191	61	6	RUN 3 END 1418
SPC_005544.LAB	1437	0.9662	191	61	6	CTS #4 (99.34 ETY) 99.1
	0720		191	61	6	MAY 6, 2021 (RT02)
						SNR TEST # 4
SPC_005549 Bkg.LAB	0730	0.9974	191	61	7	BACKGROUND
SPC_005555.LAB	0739	0.9974	191	61	7	CTS #5 (99.34 ETY)
SPC_005990.LAB	1540	0.9477	191	61	7	RT02 RUN 1 START 1540
SPC_006051.LAB	1640	0.9489	191	61	7	RT02 RUN 1 END 1640
SPC_006077.LAB	1706	0.9465	191	61	7	RT02 RUN 2 START 1706
SPC_006137.LAB	1806	0.9463	191	61	7	RT02 RUN 2 END 1806
SPC_006150.LAB	1824	0.9460	191	61	7	RT02 RUN 3 START 1824
SPC_006219.LAB	1924	0.9472	191	61	7	RT02 RUN 3 END 1924

JOB 2513
ENVIVA WAYCROSS

FILENAME	TIME	Pcell	Tcell	SC	Bkg	NOTES
SPC.006222.LAB	1958	0.9933	191	61	7	MAY 6, 2021 RTO 2 (Cont)
SPC.006224 Bkg.LAB	2007	0.9939	191	139	8	CTS #6 (99.34 EY)
						Background
	0755		191	61	8	MAY 7, 2021 RTO 1
SPC.006229 Bkg.LAB	0802	0.9978	191	139	9	SNR #5
SPC.006233.LAB	0807	0.9981	191	61	9	BACKGROUND
SPC.006330.LAB	10.01	0.9520	191	61	9	CTS #7 (99.34 EY)
SPC.006391.LAB	1101	0.9521	191	61	7	RUN 1 (RTO) START 1001
SPC.006410.LAB	1120	0.9521	191	61	9	RUN 1 (RTO) END 1101
SPC.006470.LAB	1220	0.9523	191	61	9	RUN 2 (RTO) START 1120
SPC.006490.LAB	1240	0.9515	191	61	9	RUN 2 (RTO) END 1220
SPC.006550.LAB	1340	0.9518	191	61	9	RUN 3 (RTO) START 1240
SPC.006564.LAB	1418	0.9968	191	61	9	RUN 3 (RTO) END 1340
SPC.006580 Bkg.LAB	1435	0.9968	191	139	10	CTS #8 (99.34 EY)
						BACKGROUND

SNR Report, 5/3/2021, 6:53 PM

Number of Scans = 64

Resolution = .5 cm-1 Single Sided

Pass 1

Range = 1000-1100 cm-1, RMS Noise=0.035441% (0.153912 mAU), SNR=2822

Range = 2100-2200 cm-1, RMS Noise=0.023844% (0.103552 mAU), SNR=4194

Range = 2900-3000 cm-1, RMS Noise=0.031680% (0.137587 mAU), SNR=3157

Pass 2

Range = 1000-1100 cm-1, RMS Noise=0.037466% (0.162716 mAU), SNR=2669

Range = 2100-2200 cm-1, RMS Noise=0.022429% (0.097405 mAU), SNR=4459

Range = 2900-3000 cm-1, RMS Noise=0.032862% (0.142716 mAU), SNR=3043

Pass 3

Range = 1000-1100 cm-1, RMS Noise=0.041060% (0.178318 mAU), SNR=2435

Range = 2100-2200 cm-1, RMS Noise=0.023722% (0.103025 mAU), SNR=4216

Range = 2900-3000 cm-1, RMS Noise=0.033737% (0.146518 mAU), SNR=2964

Pass 4

Range = 1000-1100 cm-1, RMS Noise=0.038292% (0.166297 mAU), SNR=2611

Range = 2100-2200 cm-1, RMS Noise=0.022479% (0.097625 mAU), SNR=4449

Range = 2900-3000 cm-1, RMS Noise=0.034037% (0.147817 mAU), SNR=2938

Pass 5

Range = 1000-1100 cm-1, RMS Noise=0.035137% (0.152603 mAU), SNR=2846

Range = 2100-2200 cm-1, RMS Noise=0.021921% (0.095203 mAU), SNR=4562

Range = 2900-3000 cm-1, RMS Noise=0.029744% (0.129179 mAU), SNR=3362

Mean Results

Range = 1000-1100 cm-1, RMS Noise=0.037479% (0.162769 mAU), SNR=2677

Range = 2100-2200 cm-1, RMS Noise=0.022879% (0.099362 mAU), SNR=4376

Range = 2900-3000 cm-1, RMS Noise=0.032412% (0.140764 mAU), SNR=3093

SNR Report, 5/4/2021, 8:05 AM

Number of Scans = 61

Resolution = .5 cm-1 Single Sided

Pass 1

Range = 1000-1100 cm-1, RMS Noise=0.035232% (0.153013 mAU), SNR=2838

Range = 2100-2200 cm-1, RMS Noise=0.022944% (0.099644 mAU), SNR=4358

Range = 2900-3000 cm-1, RMS Noise=0.034120% (0.148182 mAU), SNR=2931

Pass 2

Range = 1000-1100 cm-1, RMS Noise=0.035026% (0.152116 mAU), SNR=2855

Range = 2100-2200 cm-1, RMS Noise=0.020870% (0.090635 mAU), SNR=4792

Range = 2900-3000 cm-1, RMS Noise=0.034267% (0.148821 mAU), SNR=2918

Pass 3

Range = 1000-1100 cm-1, RMS Noise=0.035836% (0.155629 mAU), SNR=2791

Range = 2100-2200 cm-1, RMS Noise=0.023420% (0.101709 mAU), SNR=4270

Range = 2900-3000 cm-1, RMS Noise=0.034364% (0.149248 mAU), SNR=2910

Pass 4

Range = 1000-1100 cm-1, RMS Noise=0.037204% (0.161581 mAU), SNR=2688

Range = 2100-2200 cm-1, RMS Noise=0.023526% (0.102171 mAU), SNR=4251

Range = 2900-3000 cm-1, RMS Noise=0.032683% (0.141941 mAU), SNR=3060

Pass 5

Range = 1000-1100 cm-1, RMS Noise=0.035666% (0.154889 mAU), SNR=2804

Range = 2100-2200 cm-1, RMS Noise=0.021863% (0.094951 mAU), SNR=4574

Range = 2900-3000 cm-1, RMS Noise=0.036501% (0.158523 mAU), SNR=2740

Mean Results

Range = 1000-1100 cm-1, RMS Noise=0.035793% (0.155445 mAU), SNR=2795

Range = 2100-2200 cm-1, RMS Noise=0.022525% (0.097822 mAU), SNR=4449

Range = 2900-3000 cm-1, RMS Noise=0.034387% (0.149343 mAU), SNR=2912

SNR Report, 5/5/2021, 7:21 AM

Number of Scans = 61

Resolution = .5 cm-1 Single Sided

Pass 1

Range = 1000-1100 cm-1, RMS Noise=0.037092% (0.161088 mAU), SNR=2696

Range = 2100-2200 cm-1, RMS Noise=0.024395% (0.105949 mAU), SNR=4099

Range = 2900-3000 cm-1, RMS Noise=0.042254% (0.183507 mAU), SNR=2367

Pass 2

Range = 1000-1100 cm-1, RMS Noise=0.038277% (0.166226 mAU), SNR=2613

Range = 2100-2200 cm-1, RMS Noise=0.025355% (0.110116 mAU), SNR=3944

Range = 2900-3000 cm-1, RMS Noise=0.047712% (0.207207 mAU), SNR=2096

Pass 3

Range = 1000-1100 cm-1, RMS Noise=0.036223% (0.157321 mAU), SNR=2761

Range = 2100-2200 cm-1, RMS Noise=0.024600% (0.106836 mAU), SNR=4065

Range = 2900-3000 cm-1, RMS Noise=0.040421% (0.175537 mAU), SNR=2474

Pass 4

Range = 1000-1100 cm-1, RMS Noise=0.036749% (0.159597 mAU), SNR=2721

Range = 2100-2200 cm-1, RMS Noise=0.026650% (0.115742 mAU), SNR=3752

Range = 2900-3000 cm-1, RMS Noise=0.044217% (0.192033 mAU), SNR=2262

Pass 5

Range = 1000-1100 cm-1, RMS Noise=0.035312% (0.153365 mAU), SNR=2832

Range = 2100-2200 cm-1, RMS Noise=0.026365% (0.114500 mAU), SNR=3793

Range = 2900-3000 cm-1, RMS Noise=0.042746% (0.185652 mAU), SNR=2339

Mean Results

Range = 1000-1100 cm-1, RMS Noise=0.036731% (0.159519 mAU), SNR=2724

Range = 2100-2200 cm-1, RMS Noise=0.025473% (0.110628 mAU), SNR=3931

Range = 2900-3000 cm-1, RMS Noise=0.043470% (0.188787 mAU), SNR=2308

SNR Report, 5/6/2021, 7:15 AM

Number of Scans = 61

Resolution = .5 cm-1 Single Sided

Pass 1

Range = 1000-1100 cm-1, RMS Noise=0.038552% (0.167435 mAU), SNR=2594

Range = 2100-2200 cm-1, RMS Noise=0.021590% (0.093763 mAU), SNR=4632

Range = 2900-3000 cm-1, RMS Noise=0.034649% (0.150480 mAU), SNR=2886

Pass 2

Range = 1000-1100 cm-1, RMS Noise=0.033657% (0.146170 mAU), SNR=2971

Range = 2100-2200 cm-1, RMS Noise=0.021645% (0.094001 mAU), SNR=4620

Range = 2900-3000 cm-1, RMS Noise=0.032867% (0.142737 mAU), SNR=3043

Pass 3

Range = 1000-1100 cm-1, RMS Noise=0.030905% (0.134222 mAU), SNR=3236

Range = 2100-2200 cm-1, RMS Noise=0.022358% (0.097099 mAU), SNR=4473

Range = 2900-3000 cm-1, RMS Noise=0.037165% (0.161409 mAU), SNR=2691

Pass 4

Range = 1000-1100 cm-1, RMS Noise=0.034751% (0.150926 mAU), SNR=2878

Range = 2100-2200 cm-1, RMS Noise=0.022376% (0.097175 mAU), SNR=4469

Range = 2900-3000 cm-1, RMS Noise=0.034659% (0.150523 mAU), SNR=2885

Pass 5

Range = 1000-1100 cm-1, RMS Noise=0.035080% (0.152348 mAU), SNR=2851

Range = 2100-2200 cm-1, RMS Noise=0.021315% (0.092567 mAU), SNR=4692

Range = 2900-3000 cm-1, RMS Noise=0.032478% (0.141047 mAU), SNR=3079

Mean Results

Range = 1000-1100 cm-1, RMS Noise=0.034589% (0.150220 mAU), SNR=2906

Range = 2100-2200 cm-1, RMS Noise=0.021857% (0.094921 mAU), SNR=4577

Range = 2900-3000 cm-1, RMS Noise=0.034364% (0.149239 mAU), SNR=2917

SNR Report, 5/7/2021, 7:48 AM

Number of Scans = 61

Resolution = .5 cm-1 Single Sided

Pass 1

Range = 1000-1100 cm-1, RMS Noise=0.031990% (0.138933 mAU), SNR=3126

Range = 2100-2200 cm-1, RMS Noise=0.022666% (0.098436 mAU), SNR=4412

Range = 2900-3000 cm-1, RMS Noise=0.039266% (0.170533 mAU), SNR=2547

Pass 2

Range = 1000-1100 cm-1, RMS Noise=0.036159% (0.157035 mAU), SNR=2766

Range = 2100-2200 cm-1, RMS Noise=0.023152% (0.100550 mAU), SNR=4319

Range = 2900-3000 cm-1, RMS Noise=0.040389% (0.175410 mAU), SNR=2476

Pass 3

Range = 1000-1100 cm-1, RMS Noise=0.037154% (0.161356 mAU), SNR=2692

Range = 2100-2200 cm-1, RMS Noise=0.025249% (0.109656 mAU), SNR=3961

Range = 2900-3000 cm-1, RMS Noise=0.038115% (0.165527 mAU), SNR=2624

Pass 4

Range = 1000-1100 cm-1, RMS Noise=0.035411% (0.153788 mAU), SNR=2824

Range = 2100-2200 cm-1, RMS Noise=0.024528% (0.106522 mAU), SNR=4077

Range = 2900-3000 cm-1, RMS Noise=0.040311% (0.175067 mAU), SNR=2481

Pass 5

Range = 1000-1100 cm-1, RMS Noise=0.041471% (0.180102 mAU), SNR=2411

Range = 2100-2200 cm-1, RMS Noise=0.022005% (0.095568 mAU), SNR=4544

Range = 2900-3000 cm-1, RMS Noise=0.038702% (0.168080 mAU), SNR=2584

Mean Results

Range = 1000-1100 cm-1, RMS Noise=0.036437% (0.158243 mAU), SNR=2764

Range = 2100-2200 cm-1, RMS Noise=0.023520% (0.102146 mAU), SNR=4263

Range = 2900-3000 cm-1, RMS Noise=0.039356% (0.170924 mAU), SNR=2542