Lavington Pellet Limited Partnership
Dryers 1 & 2, CF-12 Total Particulate Testing
PA-107369

Aug 9-17, 2023
Lavington, BC

Our Job Number: ME2324-074

Report Author: Matt McCall
McCall Environmental

Table Of Contents

Introduction & Cover Letter Page 2

Summary Tables & Discussion Page 3-4

Detailed Test Data

- Dryer 1 South Stack Page 6-11
- Dryer 1 North Stack Page 12-17
- Dryer 2 South Stack Page 18-23
- Dryer 2 North Stack Page 24-29
- CF-12 Stack Page 30-35

Testing Methodology Page 36-41

Calibrations Page 42-52

Sample Site Diagram Page 53-56

Field Data Sheets Page 57-71

Lab Results Page 72-80

Accreditations Page 81-83

Production Data Page 84

September 8, 2023

Lavington Pellet Limited Partnership
9900 School Road
Coldstream, B.C.,
V1B 3C7

Attention: **Brad Sampson**
Re: **Air Emission Testing of August 9-17, 2023**
Permit 107369, ME2234-074

As requested our firm provided a series of air emission tests at your facility in Lavington BC.

Testing Parameters

- Dryer 1- North and South Stacks
  - Total Particulate Testing (including Condensable Organics) State of Oregon Method 7
- Dryer 2- North and South Stacks
  - Total Particulate Testing (including Condensable Organics) State of Oregon Method 7
- CF 12
  - Total Particulate Testing (including Condensable Organics) State of Oregon Method 7

Key Personnel

- Report Generation: Matt McCall 250-542-5118
- Field Supervisor: Dan Lawrence 250-542-5118
- Plant Contact: Brad Sampson 250-542-1720

All testing procedures were conducted in accordance with acceptable methodologies as listed in the latest revision of the BC Field Sampling Manual. A copy of the method and/or Sampling Manual are digitally available upon request. All lab analysis for back half condensable organic fractions was analyzed by EXOVA Laboratories in Surrey BC. A copy of their report can be found in the Appendix of this report.

Results are summarized immediately following this cover letter. Please note that all results are expressed on a dry basis and reference conditions of 20 deg C, 1 atm pressure.

If you have any questions or concerns please don't hesitate to contact us at your earliest convenience.

Sincerely,

MCCALL ENVIRONMENTAL

Matt McCall Digitally signed by Matt McCall
Date: 2023.09.28 17:23:29 -06'00'

Matt McCall

Summary of Test Results

Dryer 1

Total Particulate **Dryer 1 Summary**

Parameter	Dryer 1 South	Dryer 1 North	Average/Total	Permit
Test Date	09-Aug-23	17-Aug-23	N/A	
Gas Temperature (ºC)	32.1	45.6	38.8	
% Moisture	3.06	3.30	3.18	
Velocity (m/sec)	11.04	11.60	11.32	
ACFM	79688	179366	259054	
Std. Dry Flow Rate (m^3/sec)	32.86	75.29	108.16	132.00
Tot Part. Dry Basis ref. Cond. (mg/m^3)	3.50	9.14	6.32	15.00
Front Half Particulate (mg/m^3)	1.66	7.44	4.55	
Back Half Condensibles (mg/m^3)	1.84	1.70	1.77	
Mass Emission Rate (kg/hr)	0.41	2.47	2.88	

*Volumetric flow rate and mass emission rates 'combined'. Concentrations/temperature/moisture 'averaged'

Results expressed on a dry basis and at reference conditions of 20 deg C and 29.92 inches Hg

Discussion:

The last time these sources were tested in July of 2022 combined volumetric flow rate was at 109.83 m^3/sec and had an average concentration of 10.11 mg/m^3. The plant was operating normally and field personnel did not notice anything abnormal around test testing site in relation to fly-ash or visible opacity.

Variations in test results from the 2022 year to the 2023 year in excess of 20% are negligible and can be attributed to any number of variables such as differences in production rates, material, fibre moisture, meteorological conditions, or slight differences in operating conditions, or degrees of error in testing. It should be noted that in comparing 2022 to 2023 all parameters are in compliance.

These sources are somewhat turbulent in nature but are considered as being ‘non-cyclonic’ and are tested with standard testing methodologies.

Dryer 2

Total Particulate **Dryer 2 Summary**

Parameter	Dryer 2 South	Dryer 2 North	Average/Total	Permit
Test Date	09-Aug-23	17-Aug-23	N/A	
Gas Temperature (°C)	33.6	47.8	40.7	
% Moisture	1.69	2.94	2.31	
Velocity (m/sec)	9.01	12.07	10.54	
ACFM	65032	186667	251699	
Std. Dry Flow Rate (m^3/sec)	27.07	78.12	105.19	132.00
Tot Part. Dry Basis ref. Cond. (mg/m^3)	6.19	3.89	5.04	15.00
Front Half Particulate (mg/m^3)	4.36	1.98	3.17	
Back Half Condensibles (mg/m^3)	1.83	1.91	1.87	
Mass Emission Rate (kg/hr)	0.60	1.09	1.69	

*Volumetric flow rate and mass emission rates 'combined'. Concentrations/temperature/moisture 'averaged'

Results expressed on a dry basis and at reference conditions of 20 deg C and 29.92 inches Hg

Discussion:

The last time these sources were tested was in July of 2022. At that time the combined volumetric flow rate was measured at 117.74 m^3/sec and had an averaged concentration of 10.17 mg/m^3. The plant was operating normally and field personnel did not notice anything abnormal around test testing site in relation to fly-ash or visible opacity.

Variations in test results from the 2022 year to the 2023 year in excess of 20% are negligible and can be attributed to any number of variables such as differences in production rates, material, fibre moisture, meteorological conditions, or slight differences in operating conditions, or degrees of error in testing. It should be noted that in comparing 2022 to 2023 all parameters are in compliance.

These sources are somewhat turbulent in nature but are considered as being ‘non-cyclonic’ and are tested with standard testing methodologies.

CF-12 Cyclofilter

August 10, 2023

Particulate Results

Parameter	Test 1	Test 2	Test 3	Average	Permit
Start Time	9:04	10:17	11:29	N/A	
Stop Time	10:07	11:20	12:32	N/A	
Gas Temperature (ºC)	48.5	54.1	55.8	52.8	
% Moisture	3.8	1.8	3.1	2.9	
Velocity (m/sec)	19.05	18.95	19.12	19.04	
ACFM	73618	73222	73901	73580	
Std. Dry Flow Rate (m^3/sec)	28.62	28.55	28.29	28.48	34.00
Oxygen in % (dry basis)	21.00	21.00	21.00	21.00	
Carbon Dioxide % (dry basis)	0.00	0.00	0.00	0.00	
Tot Part. Dry Basis ref. Cond. (mg/m^3)	2.28	2.97	4.03	3.09	10.00
Front Half Filterable Particulate (mg/m^3)	0.38	1.11	1.28	0.93	
Back Half Cond. Organics (mg/m3)	1.90	1.86	2.75	2.17	
Mass Emission Rate (kg/hr)	0.23	0.31	0.41	0.32	

Results expressed on a dry basis and at reference conditions of 20 deg C and 29.92 inches Hg

Discussion:

The last time these sources were tested was in July of 2022. At that time the volumetric flow rate was measured at 28.60 m^3/sec and had an averaged concentration of 6.13 mg/m^3. The plant was operating normally and field personnel did not notice anything abnormal around test testing site in relation to fly-ash or visible opacity.

Variations in test results from the 2022 year to the 2023 year in excess of 20% are negligible and can be attributed to any number of variables such as differences in production rates, material, fibre moisture, meteorological conditions, or slight differences in operating conditions, or degrees of error in testing. It should be noted that in comparing 2022 to 2023 all parameters are in compliance.

This source is non-cyclonic and tested with standard testing methodologies.

Drax- Lavington Pellet Limited Partnership **09-Aug-23**
Dryer 1 South Stack **Permit Number: 107369**
Lavington, BC

AVERAGE OF AIR EMISSION TESTS 1 TO 3

Gas Temperature:	90 ^{o} F	32 ^{o} C
Moisture Content (by volume):	3.06 %	
Average Stack Gas Velocity:	36.2 ft/sec	11.0 m/sec
Total Actual Gas Flow Rate:	79688 ACFM	
Dry Gas flow Rate at Reference Conditions:	69629 SCFM	32.9 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	0.002 gr/ft^3	3.5 mg/m^3
Front Half Particulate	0.001 gr/ft^3	1.7 mg/m^3
Back Half Condensibles	0.001 gr/ft^3	1.8 mg/m^3
Mass Emission Rate	0.91 lbs/hr	0.41 kg/hr

SUMMARY OF AIR EMISSION TESTS

TEST 1:

Gas Temperature:	85 ^{o} F	29 ^{o} C
Moisture Content (by volume):	2.8 %	
Average Stack Gas Velocity:	35.9 ft/sec	10.9 m/sec
Total Actual Gas Flow Rate:	79016 ACFM	
Dry Gas flow Rate at Reference Conditions:	69848 SCFM	33.0 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.001 gr/ft^3	3.3 mg/m^3
Front Half Particulate	.001 gr/ft^3	1.5 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.9 mg/m^3
Mass Emission Rate	0.87 lbs/hr	0.40 kg/hr

TEST 2:

Gas Temperature:	91 ^{o} F	33 ^{o} C
Moisture Content (by volume):	3.0 %	
Average Stack Gas Velocity:	36.3 ft/sec	11.1 m/sec
Total Actual Gas Flow Rate:	79902 ACFM	
Dry Gas flow Rate at Reference Conditions:	69633 SCFM	32.9 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.001 gr/ft^3	2.9 mg/m^3
Front Half Particulate	.000 gr/ft^3	1.1 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.8 mg/m^3
Mass Emission Rate	0.76 lbs/hr	0.35 kg/hr

TEST 3:

Gas Temperature:	93 ^{o} F	34 ^{o} C
Moisture Content (by volume):	3.4 %	
Average Stack Gas Velocity:	36.4 ft/sec	11.1 m/sec
Total Actual Gas Flow Rate:	80147 ACFM	
Dry Gas flow Rate at Reference Conditions:	69406 SCFM	32.8 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.002 gr/ft^3	4.2 mg/m^3
Front Half Particulate	.001 gr/ft^3	2.4 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.8 mg/m^3
Mass Emission Rate	1.10 lbs/hr	0.50 kg/hr

DATA FOR TESTS 1 TO 3

Client:	**Drax- Lavington Pellet Limited Partnership**		
Plant Location:	**Lavington, BC**		
Process:	**Dryer 1 South Stack**		
Permit Number:	**107369**		
Job Number:	**ME2324-074**		
Pollution Control Permit:	**15.0**	**mg/m3**	33 m3/sec
Number of Tests:	**3**	**tests**	
Minutes per Point:	**2.5**	**minutes**	

	TEST 1	TEST 2	TEST 3
Filter Number:	13	14	15
Date of Test:	09-Aug-23	09-Aug-23	09-Aug-23
Start Time:	10:39	11:50	13:00
Stop Time:	11:42	12:53	14:04
On-line Sampling Time:	60	60	60
Testing Personnel:	CB/BH	CB/BH	CB/BH
Sampler Model:	1013	1013	1013
Barometric Pressure("Hg):	28.10	28.10	28.10
Static Pressure("H_2O):	-0.31	-0.31	-0.31
%CO_2:	0.0	0.0	0.0
%O_2:	21.0	21.0	21.0
%CO:	0.0	0.0	0.0
%N_2:	79.0	79.0	79.0
Diameter of Nozzle(inches):	0.250	0.250	0.250
Meter Factor:	1.006	1.006	1.006
Type-S Pitot Tube Coefficient:	0.84158	0.84158	0.84158
Cross Sectional Area of Stack(ft^2):	36.67	36.67	36.67
Impinger Condensate(g):	20	21	23
Weight of Moisture in Silica Gel(g):	3.3	4.5	5.5
Weight of Filter Particulate(g):	0.0007	0.0006	0.0003
Weight of Probe Washings(g):	0.0009	0.0006	0.0023
Weight of Impinger Content Organic(g):	0.0020	0.0020	0.0020
Total Weight of Particulate(g):	0.0036	0.0032	0.0046

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Sampling Data for - *TEST 1*
Drax- Lavington Pellet Limited Partnership
Dryer 1 South Stack
Lavington, BC

09-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER TEMP IN (^oF)	DRY GAS METER TEMP OUT (^oF)	STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
A-12	0.39	1.61	66	65	100	0.00	0.94
A-11	0.38	1.64	67	68	76	1.63	0.95
A-10	0.36	1.55	67	64	76	3.29	0.96
A-9	0.34	1.47	66	68	76	4.92	0.95
A-8	0.33	1.42	69	66	78	6.50	0.96
A-7	0.34	1.47	71	68	79	8.07	0.94
A-6	0.34	1.47	74	69	81	9.63	0.98
A-5	0.33	1.43	75	71	81	11.26	0.98
A-4	0.32	1.39	78	72	82	12.88	1.01
A-3	0.30	1.31	79	78	83	14.52	0.91
A-2	0.28	1.22	83	75	84	15.96	1.01
A-1	0.26	1.13	82	78	85	17.51	1.00
B-12	0.38	1.66	83	78	84	18.99	0.98
B-11	0.36	1.57	85	80	86	20.73	1.00
B-10	0.35	1.52	87	81	89	22.47	0.98
B-9	0.37	1.61	87	83	88	24.16	0.96
B-8	0.39	1.70	88	83	89	25.85	1.02
B-7	0.41	1.79	89	85	89	27.71	0.99
B-6	0.41	1.80	89	85	88	29.56	1.02
B-5	0.43	1.89	90	88	88	31.46	0.95
B-4	0.45	1.97	91	87	89	33.29	0.99
B-3	0.45	1.99	93	89	88	35.23	0.98
B-2	0.44	1.94	95	90	89	37.17	1.00
B-1	0.43	1.90	93	92	88	39.12	0.98
						41.02	

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Sampling Data for - *TEST 2*

Drax- Lavington Pellet Limited Partnership

Dryer 1 South Stack

Lavington, BC

09-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER		STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
			TEMP IN (^oF)	TEMP OUT (^oF)			
A-12	0.40	1.84	95	93	94	0.00	0.98
A-11	0.38	1.75	90	94	97	1.82	0.92
A-10	0.38	1.75	88	89	91	3.47	1.01
A-9	0.36	1.66	89	90	91	5.28	0.99
A-8	0.34	1.57	89	89	90	7.02	1.01
A-7	0.33	1.71	89	90	90	8.74	1.04
A-6	0.33	1.51	90	90	93	10.49	1.07
A-5	0.35	1.57	91	93	90	12.29	0.93
A-4	0.32	1.48	91	93	90	13.89	0.99
A-3	0.32	1.48	93	91	91	15.53	0.99
A-2	0.30	1.39	91	93	90	17.17	0.99
A-1	0.27	1.25	93	93	92	18.77	1.04
B-12	0.38	1.76	94	94	90	20.35	0.97
B-11	0.36	1.67	95	94	90	22.11	0.98
B-10	0.35	1.63	96	96	90	23.85	1.01
B-9	0.37	1.72	96	95	92	25.62	0.99
B-8	0.37	1.73	97	97	91	27.40	1.01
B-7	0.39	1.72	96	97	93	29.21	0.92
B-6	0.41	1.91	97	97	91	30.91	0.98
B-5	0.43	2.10	98	97	91	32.77	1.03
B-4	0.43	2.01	98	98	91	34.77	0.93
B-3	0.45	2.24	100	98	92	36.58	1.03
B-2	0.45	2.29	100	98	92	38.62	1.04
B-1	0.45	2.29	100	98	92	40.69	1.01
						42.70	

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Sampling Data for - *TEST 3*

Drax- Lavington Pellet Limited Partnership

Dryer 1 South Stack

Lavington, BC

09-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER		STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
			TEMP IN (^oF)	TEMP OUT (^oF)			
A-12	0.39	1.80	99	99	96	0.00	1.04
A-11	0.39	1.81	95	97	93	1.91	1.00
A-10	0.38	1.76	94	96	92	3.75	0.98
A-9	0.36	1.67	95	95	91	5.52	0.94
A-8	0.34	1.57	95	96	95	7.17	1.07
A-7	0.34	1.58	96	95	90	9.00	1.02
A-6	0.33	1.54	95	96	90	10.75	1.02
A-5	0.33	1.54	96	95	89	12.48	1.00
A-4	0.34	1.58	96	96	91	14.18	0.98
A-3	0.32	1.50	97	98	90	15.87	1.03
A-2	0.3	1.37	97	97	102	17.59	0.98
A-1	0.27	1.23	99	98	104	19.16	1.05
B-12	0.38	1.77	97	97	92	20.76	0.99
B-11	0.36	1.68	98	100	93	22.56	0.94
B-10	0.36	1.66	98	98	99	24.23	1.01
B-9	0.35	1.63	97	100	92	26.00	0.96
B-8	0.38	1.77	98	98	93	27.69	1.00
B-7	0.41	1.91	97	98	91	29.51	0.94
B-6	0.41	1.92	98	98	91	31.29	0.99
B-5	0.43	2.01	98	100	91	33.16	0.96
B-4	0.43	2.01	97	97	91	35.03	0.99
B-3	0.45	2.10	97	97	90	36.94	0.98
B-2	0.45	2.10	97	97	90	38.87	0.99
B-1	0.43	2.01	100	101	93	40.82	0.99
						42.75	

Drax- Lavington Pellet Limited Partnership
Dryer 1 South Stack
Drax- Lavington Pellet Limited Partnership

Data for ***TEST 1*** **OVERALL ISOKINETICS - TEST 1 0.977**

Delta P:	**0.367**	**"H_2O**	**Us avg:**	**35.91**	**ft/sec**
Delta H:	**1.602**		**ACFM:**	**79016**	**ft^3/min**
Tm avg:	**539.4**	**^oR**	**SDCFM:**	**69848**	**ft^3/min**
Ts avg:	**544.8**	**^oR**	**Vm std:**	**38.10**	**ft^3**
Bwo:	**0.028**		**Vm corr:**	**41.27**	**ft^3**
Md:	**28.84**		**Vm:**	**41.02**	**ft^3**
Ms:	**28.54**		**MF:**	**1.0060**	
Pb:	**28.10**	**"Hg**	**PCON:**	**3.34**	**mg/m^3**
Pm:	**28.22**	**"Hg**	**ERAT:**	**0.40**	**kg/hr**
Ps:	**28.08**	**"Hg**			

Data for ***TEST 2*** **OVERALL ISOKINETICS - TEST 2 0.995**

Delta P:	**0.370**	**"H_2O**	**Us avg:**	**36.32**	**ft/sec**
Delta H:	**1.751**		**ACFM:**	**79902**	**ft^3/min**
Tm avg:	**554.0**	**^oR**	**SDCFM:**	**69633**	**ft^3/min**
Ts avg:	**551.4**	**^oR**	**Vm std:**	**38.62**	**ft^3**
Bwo:	**0.030**		**Vm corr:**	**42.96**	**ft^3**
Md:	**28.84**		**Vm:**	**42.70**	**ft^3**
Ms:	**28.51**		**MF:**	**1.0060**	
Pb:	**28.10**	**"Hg**	**PCON:**	**2.93**	**mg/m^3**
Pm:	**28.23**	**"Hg**	**ERAT:**	**0.35**	**kg/hr**
Ps:	**28.08**	**"Hg**			

Data for ***TEST 3*** **OVERALL ISOKINETICS - TEST 3 0.994**

Delta P:	**0.371**	**"H_2O**	**Us avg:**	**36.43**	**ft/sec**
Delta H:	**1.730**		**ACFM:**	**80147**	**ft^3/min**
Tm avg:	**557.2**	**^oR**	**SDCFM:**	**69406**	**ft^3/min**
Ts avg:	**552.9**	**^oR**	**Vm std:**	**38.45**	**ft^3**
Bwo:	**0.034**		**Vm corr:**	**43.01**	**ft^3**
Md:	**28.84**		**Vm:**	**42.75**	**ft^3**
Ms:	**28.47**		**MF:**	**1.0060**	
Pb:	**28.10**	**"Hg**	**PCON:**	**4.23**	**mg/m^3**
Pm:	**28.23**	**"Hg**	**ERAT:**	**0.50**	**kg/hr**
Ps:	**28.08**	**"Hg**			

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Drax- Lavington Pellet Limited Partnership **17-Aug-23**
Dryer 1 North Stack **Permit Number: 107369**
Lavington, BC

AVERAGE OF AIR EMISSION TESTS 1 TO 3

Gas Temperature:	114 ^{o} F	46 ^{o} C
Moisture Content (by volume):	3.30 %	
Average Stack Gas Velocity:	38.1 ft/sec	11.6 m/sec
Total Actual Gas Flow Rate:	179366 ACFM	
Dry Gas flow Rate at Reference Conditions:	159541 SCFM	75.3 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	0.004 gr/ft^3	9.1 mg/m^3
Front Half Particulate	0.003 gr/ft^3	7.4 mg/m^3
Back Half Condensibles	0.001 gr/ft^3	1.7 mg/m^3
Mass Emission Rate	5.44 lbs/hr	2.47 kg/hr

SUMMARY OF AIR EMISSION TESTS

TEST 1:

Gas Temperature:	107 ^{o} F	42 ^{o} C
Moisture Content (by volume):	3.5 %	
Average Stack Gas Velocity:	38.4 ft/sec	11.7 m/sec
Total Actual Gas Flow Rate:	180987 ACFM	
Dry Gas flow Rate at Reference Conditions:	162659 SCFM	76.8 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.003 gr/ft^3	7.1 mg/m^3
Front Half Particulate	.002 gr/ft^3	5.4 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.7 mg/m^3
Mass Emission Rate	4.34 lbs/hr	1.97 kg/hr

TEST 2:

Gas Temperature:	114 ^{o} F	46 ^{o} C
Moisture Content (by volume):	3.0 %	
Average Stack Gas Velocity:	37.9 ft/sec	11.6 m/sec
Total Actual Gas Flow Rate:	178635 ACFM	
Dry Gas flow Rate at Reference Conditions:	159389 SCFM	75.2 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.003 gr/ft^3	7.3 mg/m^3
Front Half Particulate	.002 gr/ft^3	5.6 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.7 mg/m^3
Mass Emission Rate	4.37 lbs/hr	1.98 kg/hr

TEST 3:

Gas Temperature:	121 ^{o} F	49 ^{o} C
Moisture Content (by volume):	3.5 %	
Average Stack Gas Velocity:	37.9 ft/sec	11.5 m/sec
Total Actual Gas Flow Rate:	178476 ACFM	
Dry Gas flow Rate at Reference Conditions:	156576 SCFM	73.9 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.006 gr/ft^3	13.0 mg/m^3
Front Half Particulate	.005 gr/ft^3	11.2 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.7 mg/m^3
Mass Emission Rate	7.61 lbs/hr	3.45 kg/hr

DATA FOR TESTS 1 TO 3

Client:	**Drax- Lavington Pellet Limited Partnership**	
Plant Location:	**Lavington, BC**	
Process:	**Dryer 1 North Stack**	
Permit Number:	**107369**	
Job Number:	**ME2324-074**	
Pollution Control Permit:	**15.0 mg/m3**	99 m3/sec
Number of Tests:	**3 tests**	
Minutes per Point:	**2.5 minutes**	

	TEST 1	TEST 2	TEST 3
Filter Number:	E39	E40	E41
Date of Test:	17-Aug-23	17-Aug-23	17-Aug-23
Start Time:	9:43	10:57	12:05
Stop Time:	10:45	12:02	13:10
On-line Sampling Time:	60	60	60
Testing Personnel:	NA/BH	NA/BH	NA/BH
Sampler Model:	980	1021	1021
Barometric Pressure("Hg):	29.94	29.94	29.94
Static Pressure("H_2O):	-0.30	-0.30	-0.30
%CO_2:	0.0	0.0	0.0
%O_2:	21.0	21.0	21.0
%CO:	0.0	0.0	0.0
%N_2:	79.0	79.0	79.0
Diameter of Nozzle(inches):	0.250	0.250	0.250
Meter Factor:	0.9903	0.9903	0.9903
Type-S Pitot Tube Coefficient:	0.83829	0.83829	0.83829
Cross Sectional Area of Stack(ft^2):	78.54	78.54	78.54
Impinger Condensate(g):	28	22	27
Weight of Moisture in Silica Gel(g):	4.3	5.1	4.0
Weight of Filter Particulate(g):	0.0042	0.0012	0.0020
Weight of Probe Washings(g):	0.0023	0.0055	0.0109
Weight of Impinger Content Organic(g):	0.0020	0.0020	0.0020
Total Weight of Particulate(g):	0.0085	0.0087	0.0149

MCCALL ENVIRONMENTAL

Sampling Data for - *TEST 1*
Drax- Lavington Pellet Limited Partnership
Dryer 1 North Stack
Lavington, BC

17-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER TEMP IN (^oF)	DRY GAS METER TEMP OUT (^oF)	STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
A-12	0.40	1.32	73	73	111	29.74	1.06
A-11	0.35	1.17	81	73	110	31.57	1.00
A-10	0.45	1.51	85	74	110	33.20	0.98
A-9	0.40	1.34	89	74	111	35.01	1.04
A-8	0.40	1.35	90	74	109	36.83	0.99
A-7	0.50	1.69	92	75	109	38.57	0.98
A-6	0.50	1.70	94	76	108	40.49	0.98
A-5	0.55	1.88	97	78	108	42.42	0.98
A-4	0.50	1.72	98	79	106	44.45	1.00
A-3	0.55	1.90	100	80	105	46.43	1.00
A-2	0.65	2.25	102	81	105	48.51	0.98
A-1	0.55	1.90	103	82	106	50.74	0.99
B-12	0.35	1.21	104	83	106	52.82	0.99
B-11	0.35	1.21	105	83	106	54.48	1.02
B-10	0.40	1.39	105	84	106	56.20	0.99
B-9	0.45	1.57	106	85	105	57.97	0.96
B-8	0.45	1.57	107	85	106	59.81	0.97
B-7	0.50	1.74	107	85	106	61.67	0.98
B-6	0.40	1.39	108	86	106	63.65	0.96
B-5	0.40	1.40	108	86	105	65.39	0.97
B-4	0.35	1.22	109	86	105	67.14	0.99
B-3	0.30	1.05	110	86	106	68.82	1.01
B-2	0.35	1.22	110	86	106	70.40	1.03
B-1	0.35	1.22	111	87	107	72.14	1.04
						73.90	

MCCALL ENVIRONMENTAL

Sampling Data for - *TEST 2*

Drax- Lavington Pellet Limited Partnership

Dryer 1 North Stack

Lavington, BC

17-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER		STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
			TEMP IN (^oF)	TEMP OUT (^oF)			
A-12	0.40	1.88	80	80	106	85.26	0.99
A-11	0.40	1.88	85	80	108	87.00	0.98
A-10	0.40	1.89	90	79	109	88.73	0.98
A-9	0.45	2.13	92	80	110	90.46	0.96
A-8	0.40	1.89	93	86	112	92.26	0.99
A-7	0.35	1.65	94	84	114	94.01	0.97
A-6	0.45	2.12	95	84	114	95.62	0.98
A-5	0.55	2.60	97	85	115	97.46	1.03
A-4	0.55	2.62	100	86	116	99.60	1.06
A-3	0.50	2.40	101	89	113	101.82	0.99
A-2	0.55	2.64	102	92	113	103.80	1.05
A-1	0.50	2.39	103	92	114	106.01	1.06
B-12	0.35	1.68	105	94	114	108.13	1.07
B-11	0.40	1.92	106	96	116	109.93	1.08
B-10	0.45	2.17	107	98	115	111.89	1.02
B-9	0.45	2.17	108	99	115	113.86	1.03
B-8	0.40	1.93	109	100	116	115.85	1.06
B-7	0.40	1.93	110	101	117	117.77	0.96
B-6	0.35	1.20	110	102	116	119.51	1.02
B-5	0.35	1.69	111	103	118	121.25	1.00
B-4	0.30	1.45	111	104	119	122.95	0.98
B-3	0.30	1.46	111	105	117	124.50	1.00
B-2	0.40	1.94	112	106	118	126.08	0.98
B-1	0.40	1.95	114	107	117	127.87	1.01
						129.72	

MCCALL ENVIRONMENTAL

Sampling Data for - *TEST 3*

Drax- Lavington Pellet Limited Partnership

Dryer 1 North Stack

Lavington, BC

17-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER		STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
			TEMP IN (^oF)	TEMP OUT (^oF)			
A-12	0.45	2.16	101	103	116	30.39	1.05
A-11	0.4	1.93	107	105	119	32.39	1.00
A-10	0.35	1.69	110	105	121	34.20	1.00
A-9	0.4	1.92	111	105	124	35.89	0.98
A-8	0.45	2.16	113	106	125	37.66	1.01
A-7	0.45	2.16	114	106	125	39.60	1.01
A-6	0.55	2.65	115	107	124	41.55	1.00
A-5	0.55	2.66	116	107	123	43.68	1.02
A-4	0.5	2.42	117	108	123	45.86	1.01
A-3	0.55	2.67	118	108	123	47.92	1.01
A-2	0.45	2.18	118	109	123	50.09	0.99
A-1	0.4	1.94	118	110	123	52.01	0.99
B-12	0.40	1.95	118	110	122	53.82	0.98
B-11	0.40	1.94	118	110	124	55.61	1.02
B-10	0.45	2.20	121	111	122	57.47	0.99
B-9	0.35	1.71	121	112	121	59.40	0.99
B-8	0.35	1.71	119	112	120	61.11	0.98
B-7	0.40	1.95	119	112	121	62.80	1.01
B-6	0.40	1.96	120	113	120	64.66	0.94
B-5	0.35	1.72	121	113	118	66.39	1.09
B-4	0.35	1.73	120	114	117	68.27	0.98
B-3	0.30	1.48	120	114	116	69.96	0.93
B-2	0.30	1.48	119	114	116	71.46	0.92
B-1	0.35	1.23	120	116	116	72.93	0.96
						74.60	

Drax- Lavington Pellet Limited Partnership
Dryer 1 North Stack
Drax- Lavington Pellet Limited Partnership

Data for ***TEST 1*** **OVERALL ISOKINETICS - TEST 1 0.996**

Delta P:	**0.431**	**"H_2O**	**Us avg:**	**38.41**	**ft/sec**
Delta H:	**1.497**		**ACFM:**	**180987**	**ft^3/min**
Tm avg:	**550.3**	**^oR**	**SDCFM:**	**162659**	**ft^3/min**
Ts avg:	**567.0**	**^oR**	**Vm std:**	**42.14**	**ft^3**
Bwo:	**0.035**		**Vm corr:**	**43.73**	**ft^3**
Md:	**28.84**		**Vm:**	**44.16**	**ft^3**
Ms:	**28.46**		**MF:**	**0.9903**	
Pb:	**29.94**	**"Hg**	**PCON:**	**7.12**	**mg/m^3**
Pm:	**30.05**	**"Hg**	**ERAT:**	**1.97**	**kg/hr**
Ps:	**29.92**	**"Hg**			

Data for ***TEST 2*** **OVERALL ISOKINETICS - TEST 2 1.010**

Delta P:	**0.416**	**"H_2O**	**Us avg:**	**37.91**	**ft/sec**
Delta H:	**1.983**		**ACFM:**	**178635**	**ft^3/min**
Tm avg:	**557.5**	**^oR**	**SDCFM:**	**159389**	**ft^3/min**
Ts avg:	**574.3**	**^oR**	**Vm std:**	**41.93**	**ft^3**
Bwo:	**0.030**		**Vm corr:**	**44.03**	**ft^3**
Md:	**28.84**		**Vm:**	**44.46**	**ft^3**
Ms:	**28.52**		**MF:**	**0.9903**	
Pb:	**29.94**	**"Hg**	**PCON:**	**7.33**	**mg/m^3**
Pm:	**30.09**	**"Hg**	**ERAT:**	**1.98**	**kg/hr**
Ps:	**29.92**	**"Hg**			

Data for ***TEST 3*** **OVERALL ISOKINETICS - TEST 3 0.994**

Delta P:	**0.410**	**"H_2O**	**Us avg:**	**37.87**	**ft/sec**
Delta H:	**1.983**		**ACFM:**	**178476**	**ft^3/min**
Tm avg:	**573.0**	**^oR**	**SDCFM:**	**156576**	**ft^3/min**
Ts avg:	**580.9**	**^oR**	**Vm std:**	**40.57**	**ft^3**
Bwo:	**0.035**		**Vm corr:**	**43.78**	**ft^3**
Md:	**28.84**		**Vm:**	**44.21**	**ft^3**
Ms:	**28.46**		**MF:**	**0.9903**	
Pb:	**29.94**	**"Hg**	**PCON:**	**12.97**	**mg/m^3**
Pm:	**30.09**	**"Hg**	**ERAT:**	**3.45**	**kg/hr**
Ps:	**29.92**	**"Hg**			

MCCALL ENVIRONMENTAL

Drax- Lavington Pellet Limited Partnership **09-Aug-23**
Dryer 2 South Stack **Permit Number: 107369**
Lavington, BC

AVERAGE OF AIR EMISSION TESTS 1 TO 3

Gas Temperature:	92 ^{o} F	34 ^{o} C
Moisture Content (by volume):	1.69 %	
Average Stack Gas Velocity:	29.6 ft/sec	9.0 m/sec
Total Actual Gas Flow Rate:	65032 ACFM	
Dry Gas flow Rate at Reference Conditions:	57358 SCFM	27.1 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	0.003 gr/ft^3	6.2 mg/m^3
Front Half Particulate	0.002 gr/ft^3	4.4 mg/m^3
Back Half Condensibles	0.001 gr/ft^3	1.8 mg/m^3
Mass Emission Rate	1.33 lbs/hr	0.60 kg/hr

SUMMARY OF AIR EMISSION TESTS

TEST 1:

Gas Temperature:	91 ^{o} F	33 ^{o} C
Moisture Content (by volume):	1.7 %	
Average Stack Gas Velocity:	29.6 ft/sec	9.0 m/sec
Total Actual Gas Flow Rate:	65201 ACFM	
Dry Gas flow Rate at Reference Conditions:	57660 SCFM	27.2 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.001 gr/ft^3	2.2 mg/m^3
Front Half Particulate	.000 gr/ft^3	.4 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.9 mg/m^3
Mass Emission Rate	0.49 lbs/hr	0.22 kg/hr

TEST 2:

Gas Temperature:	93 ^{o} F	34 ^{o} C
Moisture Content (by volume):	1.7 %	
Average Stack Gas Velocity:	29.4 ft/sec	9.0 m/sec
Total Actual Gas Flow Rate:	64739 ACFM	
Dry Gas flow Rate at Reference Conditions:	57057 SCFM	26.9 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.002 gr/ft^3	3.8 mg/m^3
Front Half Particulate	.001 gr/ft^3	2.0 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.8 mg/m^3
Mass Emission Rate	0.81 lbs/hr	0.37 kg/hr

TEST 3:

Gas Temperature:	93 ^{o} F	34 ^{o} C
Moisture Content (by volume):	1.7 %	
Average Stack Gas Velocity:	29.6 ft/sec	9.0 m/sec
Total Actual Gas Flow Rate:	65156 ACFM	
Dry Gas flow Rate at Reference Conditions:	57357 SCFM	27.1 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.005 gr/ft^3	12.5 mg/m^3
Front Half Particulate	.005 gr/ft^3	10.7 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.8 mg/m^3
Mass Emission Rate	2.69 lbs/hr	1.22 kg/hr

DATA FOR TESTS 1 TO 3

Client:	**Drax- Lavington Pellet Limited Partnership**		
Plant Location:	**Lavington, BC**		
Process:	**Dryer 2 South Stack**		
Permit Number:	**107369**		
Job Number:	**ME2324-074**		
Pollution Control Permit:	**15.0**	**mg/m3**	33 m3/sec
Number of Tests:	**3**	**tests**	
Minutes per Point:	**2.5**	**minutes**	

	TEST 1	TEST 2	TEST 3
Filter Number:	16	17	18
Date of Test:	09-Aug-23	09-Aug-23	09-Aug-23
Start Time:	15:00	16:14	17:24
Stop Time:	16:03	17:17	18:27
On-line Sampling Time:	60	60	60
Testing Personnel:	CB/BH	CB/BH	CB/BH
Sampler Model:	1013	1013	1013
Barometric Pressure("Hg):	28.10	28.10	28.10
Static Pressure("H_2O):	-0.23	-0.23	-0.23
%CO_2:	0.0	0.0	0.0
%O_2:	21.0	21.0	21.0
%CO:	0.0	0.0	0.0
%N_2:	79.0	79.0	79.0
Diameter of Nozzle(inches):	0.275	0.275	0.275
Meter Factor:	1.006	1.006	1.006
Type-S Pitot Tube Coefficient:	0.84158	0.84158	0.84158
Cross Sectional Area of Stack(ft^2):	36.67	36.67	36.67
Impinger Condensate(g):	11	9	11
Weight of Moisture in Silica Gel(g):	2.5	5.1	3.6
Weight of Filter Particulate(g):	0.0003	0.0002	0.0009
Weight of Probe Washings(g):	0.0001	0.0020	0.0109
Weight of Impinger Content Organic(g):	0.0020	0.0020	0.0020
Total Weight of Particulate(g):	0.0024	0.0042	0.0138

MCCALL ENVIRONMENTAL

Sampling Data for - *TEST 1*
Drax- Lavington Pellet Limited Partnership
Dryer 2 South Stack
Lavington, BC

09-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER TEMP IN (^oF)	DRY GAS METER TEMP OUT (^oF)	STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
A-12	0.21	1.35	83	84	94	0.00	0.96
A-11	0.23	1.48	79	85	89	1.55	0.94
A-10	0.24	1.53	80	82	95	3.14	0.96
A-9	0.25	1.62	80	80	85	4.79	0.92
A-8	0.27	1.75	81	82	86	6.41	0.99
A-7	0.25	1.63	84	84	85	8.23	0.95
A-6	0.25	1.62	84	84	90	9.92	0.99
A-5	0.24	1.56	87	86	88	11.68	0.96
A-4	0.25	1.61	86	86	91	13.35	0.95
A-3	0.23	1.50	89	89	89	15.04	0.97
A-2	0.22	1.43	89	88	90	16.71	0.99
A-1	0.21	1.37	90	89	90	18.37	1.02
B-12	0.26	1.69	91	90	94	20.04	0.95
B-11	0.25	1.64	92	91	90	21.76	0.96
B-10	0.26	1.69	93	92	96	23.49	0.99
B-9	0.28	1.84	95	94	92	25.29	0.91
B-8	0.28	1.86	97	93	94	27.02	0.94
B-7	0.29	1.91	96	95	91	28.80	0.95
B-6	0.27	1.76	96	94	95	30.64	0.97
B-5	0.27	1.78	96	96	92	32.46	1.00
B-4	0.26	1.70	97	96	95	34.33	0.98
B-3	0.25	1.65	99	98	91	36.13	1.01
B-2	0.23	1.52	98	97	93	37.97	1.01
B-1	0.21	1.39	99	98	92	39.72	1.02
						41.42	

MCCALL ENVIRONMENTAL

Sampling Data for - *TEST 2*

Drax- Lavington Pellet Limited Partnership

Dryer 2 South Stack

Lavington, BC

09-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER		STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
			TEMP IN (^oF)	TEMP OUT (^oF)			
A-12	0.20	1.35	95	96	96	0.00	1.03
A-11	0.23	1.55	93	95	95	1.65	0.98
A-10	0.23	1.55	92	94	94	3.34	0.98
A-9	0.25	1.69	91	93	91	5.02	1.03
A-8	0.28	1.89	93	94	95	6.87	1.01
A-7	0.26	1.77	95	94	91	8.78	1.01
A-6	0.23	1.56	95	94	92	10.64	1.00
A-5	0.23	1.56	95	95	91	12.37	1.00
A-4	0.24	1.63	96	95	91	14.10	1.03
A-3	0.24	1.64	96	96	91	15.93	0.95
A-2	0.21	1.42	97	96	94	17.62	1.03
A-1	0.20	1.36	97	97	92	19.33	1.01
B-12	0.25	1.70	97	97	93	20.96	1.03
B-11	0.26	1.77	98	97	92	22.82	1.01
B-10	0.26	1.77	98	97	93	24.69	1.01
B-9	0.27	1.89	99	98	93	26.56	1.00
B-8	0.28	1.91	99	98	93	28.44	1.01
B-7	0.29	1.98	100	99	93	30.37	1.02
B-6	0.26	1.48	100	99	93	32.36	1.03
B-5	0.27	1.85	101	100	93	34.26	1.01
B-4	0.25	1.71	101	100	94	36.17	1.04
B-3	0.24	1.65	102	102	93	38.06	1.00
B-2	0.22	1.51	101	101	93	39.84	1.01
B-1	0.21	1.44	101	102	93	41.57	1.01
						43.25	

MCCALL ENVIRONMENTAL

Sampling Data for - *TEST 3*

Drax- Lavington Pellet Limited Partnership

Dryer 2 South Stack

Lavington, BC

09-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER		STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
			TEMP IN (^oF)	TEMP OUT (^oF)			
A-12	0.21	1.43	101	101	98	0.00	1.00
A-11	0.22	1.49	95	99	95	1.66	0.99
A-10	0.24	1.63	96	98	94	3.33	0.97
A-9	0.24	1.63	95	98	94	5.05	0.97
A-8	0.26	1.77	96	97	93	6.77	1.00
A-7	0.26	1.77	96	97	91	8.61	1.00
A-6	0.25	1.70	98	98	93	10.45	1.02
A-5	0.24	1.64	98	98	93	12.29	1.01
A-4	0.26	1.77	98	98	94	14.08	1.00
A-3	0.24	1.64	99	99	92	15.92	1.01
A-2	0.21	1.43	99	100	93	17.71	1.02
A-1	0.21	1.44	99	101	93	19.40	1.01
B-12	0.26	1.78	100	100	93	21.08	1.00
B-11	0.26	1.78	100	100	93	22.93	1.00
B-10	0.27	1.85	102	100	94	24.79	1.02
B-9	0.28	1.92	101	101	93	26.71	1.02
B-8	0.29	1.99	102	101	93	28.67	1.00
B-7	0.28	1.93	102	105	92	30.62	1.00
B-6	0.27	1.85	102	102	93	32.56	1.02
B-5	0.26	1.79	103	103	92	34.50	1.00
B-4	0.25	1.72	104	103	93	36.36	1.00
B-3	0.25	1.72	103	103	92	38.19	1.01
B-2	0.22	1.51	104	104	94	40.04	1.03
B-1	0.20	1.38	104	104	92	41.80	1.06
						43.54	

Drax- Lavington Pellet Limited Partnership
Dryer 2 South Stack
Drax- Lavington Pellet Limited Partnership

Data for ***TEST 1*** **OVERALL ISOKINETICS - TEST 1 0.970**

Delta P:	**0.248**	**"H_2O**	**Us avg:**	**29.63**	**ft/sec**
Delta H:	**1.620**		**ACFM:**	**65201**	**ft^3/min**
Tm avg:	**549.9**	**^oR**	**SDCFM:**	**57660**	**ft^3/min**
Ts avg:	**551.1**	**^oR**	**Vm std:**	**37.74**	**ft^3**
Bwo:	**0.017**		**Vm corr:**	**41.67**	**ft^3**
Md:	**28.84**		**Vm:**	**41.42**	**ft^3**
Ms:	**28.66**		**MF:**	**1.0060**	
Pb:	**28.10**	**"Hg**	**PCON:**	**2.25**	**mg/m^3**
Pm:	**28.22**	**"Hg**	**ERAT:**	**0.22**	**kg/hr**
Ps:	**28.08**	**"Hg**			

Data for ***TEST 2*** **OVERALL ISOKINETICS - TEST 2 1.010**

Delta P:	**0.244**	**"H_2O**	**Us avg:**	**29.42**	**ft/sec**
Delta H:	**1.651**		**ACFM:**	**64739**	**ft^3/min**
Tm avg:	**557.1**	**^oR**	**SDCFM:**	**57057**	**ft^3/min**
Ts avg:	**552.9**	**^oR**	**Vm std:**	**38.90**	**ft^3**
Bwo:	**0.017**		**Vm corr:**	**43.51**	**ft^3**
Md:	**28.84**		**Vm:**	**43.25**	**ft^3**
Ms:	**28.66**		**MF:**	**1.0060**	
Pb:	**28.10**	**"Hg**	**PCON:**	**3.81**	**mg/m^3**
Pm:	**28.22**	**"Hg**	**ERAT:**	**0.37**	**kg/hr**
Ps:	**28.08**	**"Hg**			

Data for ***TEST 3*** **OVERALL ISOKINETICS - TEST 3 1.006**

Delta P:	**0.246**	**"H_2O**	**Us avg:**	**29.61**	**ft/sec**
Delta H:	**1.690**		**ACFM:**	**65156**	**ft^3/min**
Tm avg:	**560.1**	**^oR**	**SDCFM:**	**57357**	**ft^3/min**
Ts avg:	**553.2**	**^oR**	**Vm std:**	**38.95**	**ft^3**
Bwo:	**0.017**		**Vm corr:**	**43.80**	**ft^3**
Md:	**28.84**		**Vm:**	**43.54**	**ft^3**
Ms:	**28.65**		**MF:**	**1.0060**	
Pb:	**28.10**	**"Hg**	**PCON:**	**12.51**	**mg/m^3**
Pm:	**28.22**	**"Hg**	**ERAT:**	**1.22**	**kg/hr**
Ps:	**28.08**	**"Hg**			

Drax- Lavington Pellet Limited Partnership **17-Aug-23**
Dryer 2 North Stack **Permit Number: 107369**
Lavington, BC

AVERAGE OF AIR EMISSION TESTS 1 TO 3

Gas Temperature:	118 ^{o} F	48 ^{o} C
Moisture Content (by volume):	2.94 %	
Average Stack Gas Velocity:	39.6 ft/sec	12.1 m/sec
Total Actual Gas Flow Rate:	186667 ACFM	
Dry Gas flow Rate at Reference Conditions:	165526 SCFM	78.1 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	0.002 gr/ft^3	3.9 mg/m^3
Front Half Particulate	0.001 gr/ft^3	2.0 mg/m^3
Back Half Condensibles	0.001 gr/ft^3	1.9 mg/m^3
Mass Emission Rate	2.40 lbs/hr	1.09 kg/hr

SUMMARY OF AIR EMISSION TESTS

TEST 1:

Gas Temperature:	121 ^{o} F	49 ^{o} C
Moisture Content (by volume):	4.1 %	
Average Stack Gas Velocity:	39.9 ft/sec	12.2 m/sec
Total Actual Gas Flow Rate:	188113 ACFM	
Dry Gas flow Rate at Reference Conditions:	163883 SCFM	77.3 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.002 gr/ft^3	5.4 mg/m^3
Front Half Particulate	.002 gr/ft^3	3.5 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.9 mg/m^3
Mass Emission Rate	3.32 lbs/hr	1.51 kg/hr

TEST 2:

Gas Temperature:	112 ^{o} F	45 ^{o} C
Moisture Content (by volume):	3.4 %	
Average Stack Gas Velocity:	39.2 ft/sec	12.0 m/sec
Total Actual Gas Flow Rate:	184918 ACFM	
Dry Gas flow Rate at Reference Conditions:	164690 SCFM	77.7 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.002 gr/ft^3	3.8 mg/m^3
Front Half Particulate	.001 gr/ft^3	1.9 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.9 mg/m^3
Mass Emission Rate	2.35 lbs/hr	1.07 kg/hr

TEST 3:

Gas Temperature:	120 ^{o} F	49 ^{o} C
Moisture Content (by volume):	1.2 %	
Average Stack Gas Velocity:	39.7 ft/sec	12.1 m/sec
Total Actual Gas Flow Rate:	186969 ACFM	
Dry Gas flow Rate at Reference Conditions:	168006 SCFM	79.3 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.001 gr/ft^3	2.4 mg/m^3
Front Half Particulate	.000 gr/ft^3	.6 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.9 mg/m^3
Mass Emission Rate	1.54 lbs/hr	0.70 kg/hr

DATA FOR TESTS 1 TO 3

Client:	**Drax- Lavington Pellet Limited Partnership**		
Plant Location:	**Lavington, BC**		
Process:	**Dryer 2 North Stack**		
Permit Number:	**107369**		
Job Number:	**ME2223-074**		
Pollution Control Permit:	**15.0**	**mg/m3**	99 m3/sec
Number of Tests:	**3**	**tests**	
Minutes per Point:	**2.5**	**minutes**	

	TEST 1	TEST 2	TEST 3
Filter Number:	E42	E43	E44
Date of Test:	17-Aug-23	17-Aug-23	17-Aug-23
Start Time:	14:28	15:34	16:38
Stop Time:	15:30	16:37	17:43
On-line Sampling Time:	60	60	60
Testing Personnel:	NA/BH	NA/BH	NA/BH
Sampler Model:	1021	1021	1021
Barometric Pressure("Hg):	29.94	29.94	29.94
Static Pressure("H_2O):	-0.25	-0.25	-0.25
%CO_2:	0.0	0.0	0.0
%O_2:	21.0	21.0	21.0
%CO:	0.0	0.0	0.0
%N_2:	79.0	79.0	79.0
Diameter of Nozzle(inches):	0.230	0.230	0.230
Meter Factor:	0.9952	0.9952	0.9952
Type-S Pitot Tube Coefficient:	0.83829	0.83829	0.83829
Cross Sectional Area of Stack(ft^2):	78.54	78.54	78.54
Impinger Condensate(g):	30	24	5
Weight of Moisture in Silica Gel(g):	3.5	4.1	4.9
Weight of Filter Particulate(g):	0.0015	0.0009	0.0003
Weight of Probe Washings(g):	0.0021	0.0011	0.0003
Weight of Impinger Content Organic(g):	0.0020	0.0020	0.0020
Total Weight of Particulate(g):	0.0056	0.0040	0.0026

MCCALL ENVIRONMENTAL

Sampling Data for - *TEST 1*
Drax- Lavington Pellet Limited Partnership
Dryer 2 North Stack
Lavington, BC

17-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER TEMP IN (^oF)	DRY GAS METER TEMP OUT (^oF)	STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
A-12	0.60	2.07	96	96	110	75.24	1.07
A-11	0.50	1.71	98	98	115	77.21	1.07
A-10	0.50	1.71	101	101	119	79.01	1.05
A-9	0.45	1.53	103	103	122	80.78	1.08
A-8	0.40	1.36	105	105	123	82.51	1.08
A-7	0.35	1.20	104	104	123	84.14	0.99
A-6	0.40	1.36	107	107	125	85.54	0.98
A-5	0.40	1.36	109	109	126	87.02	1.00
A-4	0.40	1.38	111	111	124	88.54	1.02
A-3	0.45	1.55	113	113	124	90.09	0.96
A-2	0.50	1.72	114	114	123	91.64	1.01
A-1	0.40	1.38	115	115	123	93.37	1.01
B-12	0.55	1.91	116	116	121	94.92	0.95
B-11	0.55	1.92	118	118	121	96.64	0.97
B-10	0.50	1.74	119	119	122	98.40	0.96
B-9	0.55	1.92	125	125	123	100.06	1.07
B-8	0.55	1.93	124	124	123	102.02	1.07
B-7	0.45	1.57	121	121	124	103.97	1.00
B-6	0.40	1.41	122	122	121	105.61	1.00
B-5	0.40	1.41	122	122	120	107.17	1.03
B-4	0.45	1.59	123	123	118	108.78	0.96
B-3	0.40	1.42	123	123	118	110.37	1.03
B-2	0.35	1.24	124	124	121	111.98	1.00
B-1	0.45	1.60	124	124	116	113.44	0.94
						115.00	

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Sampling Data for - *TEST 2*

Drax- Lavington Pellet Limited Partnership

Dryer 2 North Stack

Lavington, BC

17-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER TEMP IN (^oF)	DRY GAS METER TEMP OUT (^oF)	STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
A-12	0.60	2.12	116	117	117	15.22	1.00
A-11	0.60	2.14	123	120	115	17.12	1.02
A-10	0.55	1.97	126	120	115	19.08	1.07
A-9	0.45	1.62	127	120	114	21.05	1.07
A-8	0.40	1.44	127	120	114	22.84	0.97
A-7	0.40	1.43	126	120	114	24.38	1.09
A-6	0.35	1.26	128	121	113	26.10	1.02
A-5	0.35	1.27	133	121	110	27.62	1.00
A-4	0.40	1.45	127	121	108	29.11	1.02
A-3	0.40	1.46	132	122	108	30.73	1.01
A-2	0.50	1.83	133	123	108	32.35	1.02
A-1	0.45	1.64	130	123	108	34.17	1.02
B-12	0.55	2.00	130	123	109	35.90	0.98
B-11	0.55	2.00	132	124	110	37.73	1.08
B-10	0.50	1.82	133	124	110	39.76	1.03
B-9	0.50	1.82	132	125	111	41.61	1.00
B-8	0.55	1.99	133	125	114	43.40	1.02
B-7	0.40	1.45	134	125	113	45.31	1.01
B-6	0.40	1.45	133	125	113	46.93	1.00
B-5	0.45	1.63	132	126	113	48.52	1.01
B-4	0.40	1.45	133	126	115	50.23	1.02
B-3	0.40	1.45	132	126	115	51.85	0.99
B-2	0.35	1.27	133	126	116	53.43	1.02
B-1	0.30	1.09	134	127	116	54.95	1.04
						56.39	

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Sampling Data for - *TEST 3*

Drax- Lavington Pellet Limited Partnership

Dryer 2 North Stack

Lavington, BC

17-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER		STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
			TEMP IN (^oF)	TEMP OUT (^oF)			
A-12	0.60	2.14	121	123	117	56.64	1.05
A-11	0.55	1.98	129	126	117	58.69	1.06
A-10	0.55	1.98	131	126	119	60.70	0.97
A-9	0.50	1.79	132	126	120	62.53	1.01
A-8	0.45	1.61	133	126	122	64.36	1.02
A-7	0.45	1.60	132	126	124	66.11	1.01
A-6	0.40	1.43	133	127	124	67.84	0.95
A-5	0.35	1.25	133	128	123	69.37	1.06
A-4	0.35	1.26	133	128	121	70.98	0.97
A-3	0.40	1.43	133	128	121	72.45	0.90
A-2	0.40	1.44	133	129	119	73.91	0.98
A-1	0.50	1.80	134	129	119	75.51	1.01
B-12	0.55	1.99	135	130	118	77.35	1.01
B-11	0.50	1.81	137	130	118	79.28	1.01
B-10	0.50	1.81	137	131	119	81.13	1.01
B-9	0.50	1.81	137	131	119	82.98	1.00
B-8	0.45	1.63	138	131	119	84.80	1.01
B-7	0.45	1.63	137	132	120	86.55	1.00
B-6	0.40	1.45	138	132	120	88.28	1.02
B-5	0.40	1.44	137	132	122	89.94	1.13
B-4	0.45	1.63	138	133	122	91.78	1.06
B-3	0.50	1.80	137	133	123	93.62	1.04
B-2	0.40	1.45	138	134	122	95.51	0.98
B-1	0.35	1.27	138	134	122	97.11	1.03
						98.68	

Drax- Lavington Pellet Limited Partnership
Dryer 2 North Stack
Drax- Lavington Pellet Limited Partnership

Data for ***TEST 1*** **OVERALL ISOKINETICS - TEST 1 1.012**

Delta P:	**0.454**	**"H_2O**	**Us avg:**	**39.92**	**ft/sec**
Delta H:	**1.583**		**ACFM:**	**188113**	**ft^3/min**
Tm avg:	**574.0**	**^oR**	**SDCFM:**	**163883**	**ft^3/min**
Ts avg:	**581.0**	**^oR**	**Vm std:**	**36.56**	**ft^3**
Bwo:	**0.041**		**Vm corr:**	**39.57**	**ft^3**
Md:	**28.84**		**Vm:**	**39.76**	**ft^3**
Ms:	**28.39**		**MF:**	**0.9952**	
Pb:	**29.94**	**"Hg**	**PCON:**	**5.41**	**mg/m^3**
Pm:	**30.06**	**"Hg**	**ERAT:**	**1.51**	**kg/hr**
Ps:	**29.92**	**"Hg**			

Data for ***TEST 2*** **OVERALL ISOKINETICS - TEST 2 1.021**

Delta P:	**0.446**	**"H_2O**	**Us avg:**	**39.24**	**ft/sec**
Delta H:	**1.627**		**ACFM:**	**184918**	**ft^3/min**
Tm avg:	**586.4**	**^oR**	**SDCFM:**	**164690**	**ft^3/min**
Ts avg:	**572.5**	**^oR**	**Vm std:**	**37.06**	**ft^3**
Bwo:	**0.034**		**Vm corr:**	**40.97**	**ft^3**
Md:	**28.84**		**Vm:**	**41.17**	**ft^3**
Ms:	**28.47**		**MF:**	**0.9952**	
Pb:	**29.94**	**"Hg**	**PCON:**	**3.81**	**mg/m^3**
Pm:	**30.06**	**"Hg**	**ERAT:**	**1.07**	**kg/hr**
Ps:	**29.92**	**"Hg**			

Data for ***TEST 3*** **OVERALL ISOKINETICS - TEST 3 1.013**

Delta P:	**0.454**	**"H_2O**	**Us avg:**	**39.68**	**ft/sec**
Delta H:	**1.643**		**ACFM:**	**186969**	**ft^3/min**
Tm avg:	**591.9**	**^oR**	**SDCFM:**	**168006**	**ft^3/min**
Ts avg:	**580.4**	**^oR**	**Vm std:**	**37.50**	**ft^3**
Bwo:	**0.012**		**Vm corr:**	**41.84**	**ft^3**
Md:	**28.84**		**Vm:**	**42.04**	**ft^3**
Ms:	**28.71**		**MF:**	**0.9952**	
Pb:	**29.94**	**"Hg**	**PCON:**	**2.45**	**mg/m^3**
Pm:	**30.06**	**"Hg**	**ERAT:**	**0.70**	**kg/hr**
Ps:	**29.92**	**"Hg**			

Drax- Lavington Pellet Limited Partnership **10-Aug-23**
CF-12 Baghouse Stack **Permit Number: 107369**
Lavington BC

AVERAGE OF AIR EMISSION TESTS 1 TO 3

Gas Temperature:	127 ^{o} F	53 ^{o} C
Moisture Content (by volume):	2.93 %	
Average Stack Gas Velocity:	62.5 ft/sec	19.04 m/sec
Total Actual Gas Flow Rate:	73580 ACFM	
Dry Gas flow Rate at Reference Conditions:	60356 SCFM	28.48 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	0.001 gr/ft^3	3.1 mg/m^3
Front Half Particulate	0.000 gr/ft^3	0.9 mg/m^3
Back Half Condensibles	0.001 gr/ft^3	2.2 mg/m^3
Mass Emission Rate	0.70 lbs/hr	0.32 kg/hr

SUMMARY OF AIR EMISSION TESTS

TEST 1:

Gas Temperature:	119 ^{o} F	49 ^{o} C
Moisture Content (by volume):	3.8 %	
Average Stack Gas Velocity:	62.5 ft/sec	19.1 m/sec
Total Actual Gas Flow Rate:	73618 ACFM	
Dry Gas flow Rate at Reference Conditions:	60636 SCFM	28.6 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.001 gr/ft^3	2.3 mg/m^3
Front Half Particulate	.000 gr/ft^3	.4 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.9 mg/m^3
Mass Emission Rate	0.52 lbs/hr	0.23 kg/hr

TEST 2:

Gas Temperature:	129 ^{o} F	54 ^{o} C
Moisture Content (by volume):	1.8 %	
Average Stack Gas Velocity:	62.2 ft/sec	18.9 m/sec
Total Actual Gas Flow Rate:	73222 ACFM	
Dry Gas flow Rate at Reference Conditions:	60493 SCFM	28.5 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.001 gr/ft^3	3.0 mg/m^3
Front Half Particulate	.000 gr/ft^3	1.1 mg/m^3
Back Half Condensibles	.001 gr/ft^3	1.9 mg/m^3
Mass Emission Rate	0.67 lbs/hr	0.31 kg/hr

TEST 3:

Gas Temperature:	132 ^{o} F	56 ^{o} C
Moisture Content (by volume):	3.1 %	
Average Stack Gas Velocity:	62.7 ft/sec	19.1 m/sec
Total Actual Gas Flow Rate:	73901 ACFM	
Dry Gas flow Rate at Reference Conditions:	59940 SCFM	28.3 m^3/sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.002 gr/ft^3	4.0 mg/m^3
Front Half Particulate	.001 gr/ft^3	1.3 mg/m^3
Back Half Condensibles	.001 gr/ft^3	2.7 mg/m^3
Mass Emission Rate	0.91 lbs/hr	0.41 kg/hr

DATA FOR TESTS 1 TO 3

Client:	**Drax- Lavington Pellet Limited Partnership**		
Plant Location:	**Lavington BC**		
Process:	**CF-12 Baghouse Stack**		
Permit Number:	**107369**		
Job Number:	**ME2324-074**		
Pollution Control Permit:	**10.0**	**mg/m3**	34 **m3/sec**
Number of Tests:	**3**	**tests**	
Minutes per Point:	**2.5**	**minutes**	

	TEST 1	TEST 2	TEST 3
Filter Number:	19	20	21
Date of Test:	10-Aug-23	10-Aug-23	10-Aug-23
Start Time:	9:04	10:17	11:29
Stop Time:	10:07	11:20	12:32
On-line Sampling Time:	60	60	60
Testing Personnel:	CB/BH	CB/BH	CB/BH
Sampler Model:	1013	1013	1013
Barometric Pressure("Hg):	28.15	28.15	28.15
Static Pressure("H_2O):	-0.55	-0.55	-0.55
%CO_2:	0.0	0.0	0.0
%O_2:	21.0	21.0	21.0
%CO:	0.0	0.0	0.0
%N_2:	79.0	79.0	79.0
Diameter of Nozzle(inches):	0.195	0.195	0.195
Meter Factor:	1.006	1.006	1.006
Type-S Pitot Tube Coefficient:	0.84158	0.84158	0.84158
Cross Sectional Area of Stack(ft^2):	19.63	19.63	19.63
Impinger Condensate(g):	28	11	22
Weight of Moisture in Silica Gel(g):	3.3	4.1	4.5
Weight of Filter Particulate(g):	0.0002	0.0010	0.0012
Weight of Probe Washings(g):	0.0002	0.0002	0.0002
Weight of Impinger Content Organic(g):	0.0020	0.0020	0.0030
Total Weight of Particulate(g):	0.0024	0.0032	0.0044

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Sampling Data for - *TEST 1*
Drax- Lavington Pellet Limited Partnership
CF-12 Baghouse Stack
Lavington BC

10-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER		STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
			TEMP IN (^oF)	TEMP OUT (^oF)			
A-12	1.00	1.48	57	57	108	0.00	0.98
A-11	1.00	1.46	60	58	116	1.60	0.93
A-10	1.10	1.60	57	56	116	3.12	0.95
A-9	1.15	1.69	61	60	115	4.74	0.95
A-8	1.20	1.77	60	59	113	6.41	0.94
A-7	1.15	1.69	61	60	115	8.10	0.94
A-6	1.00	1.47	63	62	116	9.75	1.02
A-5	1.10	1.63	70	65	118	11.43	0.97
A-4	1.05	1.55	70	66	119	13.11	0.93
A-3	1.05	1.56	76	70	123	14.68	1.03
A-2	0.85	1.26	77	69	122	16.44	0.99
A-1	0.80	1.19	78	73	122	17.96	1.00
B-12	0.90	1.33	77	73	127	19.46	0.98
B-11	1.05	1.57	81	75	123	21.00	0.92
B-10	1.10	1.64	80	76	125	22.58	0.95
B-9	1.10	1.66	83	78	121	24.25	0.95
B-8	1.10	1.66	80	78	121	25.94	0.98
B-7	1.15	1.74	84	80	123	27.67	0.93
B-6	1.10	1.66	85	81	123	29.36	0.97
B-5	1.15	1.75	87	83	120	31.09	0.94
B-4	1.05	1.60	85	84	119	32.81	1.00
B-3	1.00	1.53	90	85	119	34.55	0.99
B-2	1.00	1.53	87	89	119	36.25	0.99
B-1	0.90	1.38	90	88	121	37.95	1.00
						39.57	

MCCALL ENVIRONMENTAL

Sampling Data for - *TEST 2*
Drax- Lavington Pellet Limited Partnership
CF-12 Baghouse Stack
Lavington BC

10-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER		STACK GAS TEMP (^{o} F)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
			TEMP IN (^{o} F)	TEMP OUT (^{o} F)			
A-12	0.95	1.45	88	88	133	0.00	1.01
A-11	0.95	1.45	83	84	129	1.69	0.98
A-10	1.05	1.60	82	84	127	3.33	0.97
A-9	1.15	1.25	83	83	128	5.03	0.98
A-8	1.20	1.83	84	84	129	6.83	0.99
A-7	1.10	1.68	86	85	128	8.69	0.98
A-6	1.05	1.61	86	85	129	10.46	1.00
A-5	1.05	1.61	87	87	129	12.22	1.00
A-4	1.00	1.54	88	87	127	13.98	0.99
A-3	1.05	1.62	89	88	128	15.70	1.00
A-2	0.90	1.39	89	88	128	17.47	1.00
A-1	0.80	1.23	90	89	128	19.11	1.00
B-12	0.85	1.32	92	89	127	20.67	0.97
B-11	1.00	1.55	92	90	128	22.23	1.00
B-10	1.05	1.63	92	91	128	23.97	0.99
B-9	1.10	1.20	93	92	129	25.74	0.99
B-8	1.10	1.20	93	92	131	27.55	1.01
B-7	1.20	1.86	94	93	129	29.40	0.98
B-6	1.15	1.29	97	93	130	31.28	0.99
B-5	1.00	1.55	95	95	131	33.13	1.01
B-4	1.05	1.62	96	94	135	34.89	0.99
B-3	1.05	1.63	95	95	131	36.66	0.99
B-2	0.90	1.39	96	95	132	38.44	0.99
B-1	0.85	1.32	96	96	132	40.09	0.98
						41.67	

MCCALL ENVIRONMENTAL

Sampling Data for - *TEST 3*
Drax- Lavington Pellet Limited Partnership
CF-12 Baghouse Stack
Lavington BC

10-Aug-23

SAMPLE POINT	VELOCITY HEAD ("H_2O)	ORIFICE PRESSURE ("H_2O)	DRY GAS METER		STACK GAS TEMP (^oF)	GAS SAMPLE VOLUME (ft^3)	ISOKINETICS
			TEMP IN (^oF)	TEMP OUT (^oF)			
A-12	0.95	1.50	96	95	140	0.00	0.96
A-11	1.00	1.57	89	91	137	1.60	0.94
A-10	1.05	1.65	88	91	135	3.21	1.04
A-9	1.15	1.82	88	90	132	5.03	1.02
A-8	1.15	1.82	89	90	131	6.90	1.01
A-7	1.15	1.83	90	91	129	8.76	1.01
A-6	1.05	1.67	92	92	131	10.62	1.03
A-5	1.00	1.59	92	92	133	12.43	1.03
A-4	1.05	1.68	93	93	131	14.20	1.01
A-3	1.00	1.59	93	93	132	15.99	1.02
A-2	0.90	1.44	94	94	132	17.74	1.05
A-1	0.80	1.28	94	94	129	19.45	1.01
B-12	0.95	1.52	95	95	132	21.01	1.02
B-11	1.05	1.68	95	95	133	22.73	1.01
B-10	1.10	1.76	95	96	133	24.52	1.02
B-9	1.05	1.69	96	96	131	26.37	1.02
B-8	1.10	1.77	98	97	132	28.18	1.02
B-7	1.15	1.85	97	97	132	30.04	1.02
B-6	1.20	1.93	98	98	131	31.93	1.01
B-5	1.10	1.77	98	98	131	33.85	1.03
B-4	1.05	1.69	100	99	132	35.72	1.04
B-3	1.00	1.61	101	99	134	37.58	0.98
B-2	0.90	1.46	104	101	133	39.29	1.02
B-1	0.85	1.38	105	100	132	40.98	1.00
						42.60	

Drax- Lavington Pellet Limited Partnership
CF-12 Baghouse Stack
Drax- Lavington Pellet Limited Partnership

Data for ***TEST 1*** **OVERALL ISOKINETICS - TEST 1 0.969**

Delta P:	**1.041**	**"H_2O**	**Us avg:**	**62.50**	**ft/sec**
Delta H:	**1.558**		**ACFM:**	**73618**	**ft^3/min**
Tm avg:	**533.4**	**^oR**	**SDCFM:**	**60636**	**ft^3/min**
Ts avg:	**579.3**	**^oR**	**Vm std:**	**37.22**	**ft^3**
Bwo:	**0.038**		**Vm corr:**	**39.81**	**ft^3**
Md:	**28.84**		**Vm:**	**39.57**	**ft^3**
Ms:	**28.43**		**MF:**	**1.0060**	
Pb:	**28.15**	**"Hg**	**PCON:**	**2.28**	**mg/m^3**
Pm:	**28.26**	**"Hg**	**ERAT:**	**0.23**	**kg/hr**
Ps:	**28.11**	**"Hg**			

Data for ***TEST 2*** **OVERALL ISOKINETICS - TEST 2 0.992**

Delta P:	**1.020**	**"H_2O**	**Us avg:**	**62.17**	**ft/sec**
Delta H:	**1.493**		**ACFM:**	**73222**	**ft^3/min**
Tm avg:	**549.9**	**^oR**	**SDCFM:**	**60493**	**ft^3/min**
Ts avg:	**589.4**	**^oR**	**Vm std:**	**38.02**	**ft^3**
Bwo:	**0.018**		**Vm corr:**	**41.92**	**ft^3**
Md:	**28.84**		**Vm:**	**41.67**	**ft^3**
Ms:	**28.64**		**MF:**	**1.0060**	
Pb:	**28.15**	**"Hg**	**PCON:**	**2.97**	**mg/m^3**
Pm:	**28.26**	**"Hg**	**ERAT:**	**0.31**	**kg/hr**
Ps:	**28.11**	**"Hg**			

Data for ***TEST 3*** **OVERALL ISOKINETICS - TEST 3 1.014**

Delta P:	**1.029**	**"H_2O**	**Us avg:**	**62.75**	**ft/sec**
Delta H:	**1.648**		**ACFM:**	**73901**	**ft^3/min**
Tm avg:	**554.9**	**^oR**	**SDCFM:**	**59940**	**ft^3/min**
Ts avg:	**592.4**	**^oR**	**Vm std:**	**38.53**	**ft^3**
Bwo:	**0.031**		**Vm corr:**	**42.86**	**ft^3**
Md:	**28.84**		**Vm:**	**42.60**	**ft^3**
Ms:	**28.50**		**MF:**	**1.0060**	
Pb:	**28.15**	**"Hg**	**PCON:**	**4.03**	**mg/m^3**
Pm:	**28.27**	**"Hg**	**ERAT:**	**0.41**	**kg/hr**
Ps:	**28.11**	**"Hg**			

Air Emission Monitoring Procedure
State Of Oregon Method 7

Particulate Sampling (Napp-Baldwin Model 31 Sampler)

Particulate sampling and gas velocity measurements were conducted using a Napp-Baldwin Model 31 stack sampler in accordance with the methods specified in State of Oregon Method 7 (See Figure 1). The State of Oregon Method 7 sampling train is a modified Method 5 sample train with the addition of a non heated filter in-between the third and fourth impinger.

The air discharge was sampled isokinetically at the centroid of a series of equal area segments across the duct or stack. The stack gas velocity and temperature were recorded during the sample collection period with a calibrated pitot tube and thermocouple mounted on the sampling probe. The sample was delivered from the probe to a cyclone and a filter holder containing a 110mm Type A glass fiber filter. The gas sample was then drawn in through a series of four glass impingers which condensed and absorbed the water from the gas. A leakless vacuum pump carried the sampled gas through a dry gas test meter where the volume, temperature, and pressure were measured; and finally through a flow indicating orifice which allowed for the rapid adjustment to isokinetic sampling rates.

At the end of each test, the probe interior, cyclone and connecting tubing from the probe to the filter housing were rinsed with distilled water and acetone. These washings were evaporated to dryness and the resulting solids were weighed. The weight of the cyclone flask and the filter was used together with the weight of solids in the washings to calculate the filterable particulate concentration. The moisture content of the stack gas was determined from the quantity of water condensed in the impingers and absorbed in the silica gel.

Condensable Organics are collected in the impinger train and a rinsing procedure is employed utilizing solvents such as Hexane or Methylene Chloride in between tests. The rinsings and condensate are forwarded to a laboratory accredited to perform the analysis in accordance with the method and a copy of that report is included in the Appendix of any report issued.

O_2, CO_2, CO (where applicable)

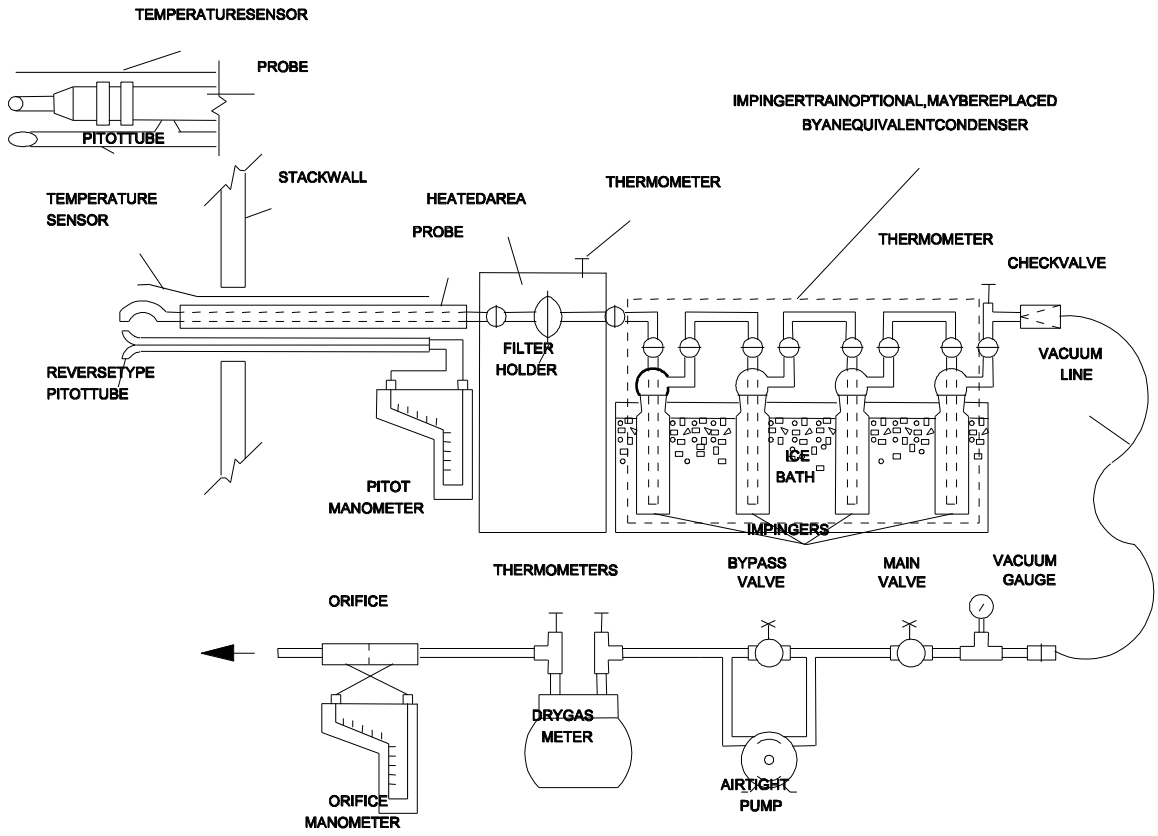
O_2, CO_2, and CO were found using either Fuji Analytical Analyzer by means of infrared and paramagnetic technology (EPA 3A) or by fyrite (EPA Method 3).

NOx (where applicable)

NOx was found using and API Model 252 NOx analyzer that utilizes chemiluminescent technology. Stack gas was Samples were taken over a minimum period of three hours.

VOC's (where applicable)

Hydrocarbons were measured in accordance with EPA method 25A. Samples were drawn in one hour test runs using a total hydrocarbon analyzer that utilizes Flame Ionization Technology.



Modified EPA Method 5 Diagram (State of Oregon Method 7)- Figure 1

GENERAL CALCULATIONS

Carry out calculations, retaining at least one extra decimal figure beyond that of the acquired data. Round off figures after the final calculation. Other forms of the equations may be used as long as they give equivalent results.

Nomenclature.

A_n = Cross-sectional area of nozzle, m^2 (ft^2).
B_{ws} = Water vapor in the gas stream, proportion by volume.
C_a = Acetone blank residue concentration, mg/g.
c_s = Concentration of particulate matter in stack gas, dry basis, corrected to standard conditions, g/dscm (g/dscf).
I = Percent of isokinetic sampling.
L_a = Maximum acceptable leakage rate for either a pretest leak check or for a leak check following a component change; equal to 0.00057 m^3/min (0.02 cfm) or 4 percent of the average sampling rate, whichever is less.
L_i = Individual leakage rate observed during the leak check conducted prior to the "i^{th}" component change (i = l, 2, 3...n), m^3/min (cfm).
L_p = Leakage rate observed during the post-test leak check, m^3/min (cfm).
m_a = Mass of residue of acetone after evaporation, mg.
m_n = Total amount of particulate matter collected, mg.
M_w = Molecular weight of water, l8.0 g/g-mole (l8.0 lb/lb-mole).
P_{bar} = Barometric pressure at the sampling site, mm Hg (in. Hg).
P_s = Absolute stack gas pressure, mm Hg (in. Hg).
P_{std} = Standard absolute pressure, 760 mm Hg (29.92 in. Hg).
R = Ideal gas constant, 0.06236 [(mmHg)(m^3)]/[(°K)(g-mole)] {2l.85 [(in. Hg)(ft^3)]/[(°R)(lb-mole)]}.
T_m = Absolute average DGM temperature (see Figure 5-2), °K (°R).
T_s = Absolute average stack gas temperature (see Figure 5-2), °K (°R).
T_{std} = Standard absolute temperature, 293°K (528°R).
V_a = Volume of acetone blank, ml.
V_{aw} = Volume of acetone used in wash, ml.
V_{lc} = Total volume liquid collected in impingers and silica gel (see Figure 5-3), ml.
V_m = Volume of gas sample as measured by dry gas meter, dcm (dcf).
$V_{m(std)}$ = Volume of gas sample measured by the dry gas meter, corrected to standard conditions, dscm (dscf).
$V_{w(std)}$ = Volume of water vapor in the gas sample, corrected to standard conditions, scm (scf).
v_s = Stack gas velocity, calculated by Method 2, Equation 2-9, using data obtained from Method 5, m/sec (ft/sec).
W_a = Weight of residue in acetone wash, mg.
Y = Dry gas meter calibration factor.
ΔH = Average pressure differential across the orifice meter (see Figure 5-2), mm H_20 (in. H_20).
ρ_a = Density of acetone, mg/ml (see label on bottle).
ρ_w = Density of water, 0.9982 g/ml (0.00220l lb/ml).
θ = Total sampling time, min.
θ_l = Sampling time interval, from the beginning of a run until the first component change, min.
θ_i = Sampling time interval, between two successive component changes, beginning with the interval between the first and second changes, min.
θ_p = Sampling time interval, from the final (n^{th}) component change until the end of the sampling run, min.
l3.6 = Specific gravity of mercury.
60 = Sec/min.
l00 = Conversion to percent.

Average Dry Gas Meter Temperature and Average Orifice Pressure Drop.

Dry Gas Volume. Correct the sample volume measured by the dry gas meter to standard conditions (20°C, 760 mm Hg or 68°F, 29.92 in. Hg) by using Equation 5-l.

$$V_{m(std)} = V_m Y \left(\frac{T_{std}}{T_m}\right)\left[\frac{P_{bar} + \frac{\Delta H}{13.6}}{P_{std}}\right] \qquad \text{Eq. 5-1}$$

$$= K_1 V_m Y \frac{P_{bar} + \left(\frac{\Delta H}{13.6}\right)}{T_m}$$

where:

K_1 = 0.3858 °K/mm Hg for metric units,

= 17.64 °R/in. Hg for English units.

NOTE: Equation 5-l can be used as written unless leakage rate observed during any of the mandatory leak checks (i.e., the post-test leak check or leak checks conducted prior to component changes) exceeds L_a. If L_p or L_i exceeds L_a, Equation 5-l must be modified as follows:

(a) Case I. No component changes made during sampling run. In this case, replace V_m in Equation 5-l with the expression:

$$[V_m - (L_p - L_a)\,\theta]$$

(b) Case II. One or more component changes made during the sampling run. In this case, replace V_m in Equation 5-l by the expression:

$$\left[V_m - (L_1 - L_a)\theta_1 - \sum_{i=2}^{n}(L_i - L_a)\theta_i - (L_p - L_a)\theta_p\right]$$

and substitute only for those leakage rates (L_i or L_p) which exceed L_a.

Volume of Water Vapor.

$$V_{w(std)} = \frac{V_{lc}\,\rho_w\,R\,T_{std}}{M_w\,P_{std}} = K_2\,V_{lc} \qquad \text{Eq. 5-2}$$

where:

K_2 = 0.00133 m^3/ml for metric units,

= 0.04707 ft^3/ml for English units.

Moisture Content.

$$B_{ws} = \frac{V_{w(std)}}{V_{m(std)} + V_{w(std)}} \qquad \text{Eq. 5-3}$$

Acetone Blank Concentration.

$$C_a = \frac{m_a}{V_a \rho_a} \qquad \text{Eq. 5-4}$$

Acetone Wash Blank.

$$W_a = C_a V_{aw} \rho_a \qquad \text{Eq. 5-5}$$

Total Particulate Weight. Determine the total particulate matter catch from the sum of the weights obtained from Containers l and 2 less the acetone blank (see Figure 5-3).

Particulate Concentration.

$$C_s = (0.001\,g/mg)(m_n / V_{m(std)}) \qquad \text{Eq. 5-6}$$

Conversion Factors:

From	To	Multiply by
scf	m^3	0.02832
g/ft^3	gr/ft^3	l5.43
g/ft^3	lb/ft^3	2.205×10^{-3}
g/ft^3	g/m^3	35.3l

Isokinetic Variation.

Calculation from Raw Data.

$$I = \frac{100\,T_s\left[K_3 V_{1c} + (V_m Y / T_m)(P_{bar} + \Delta H/13.6)\right]}{60\theta\, v_s P_s A_n} \qquad \text{Eq. 5-7}$$

where:

K_3 =0.003454 [(mm Hg)(m^3)]/[(ml)(°K)] for metric units,

= 0.002669 [(in. Hg)(ft^3)]/[(ml)(°R)] for English units.

Calculation from Intermediate Values.

$$I = \frac{100\, T_s\, V_{m(std)}\, P_{std}}{60\, T_{std}\, v_s\, \theta\, A_n\, P_s\, (1 - B_{ws})} = \frac{K_4\, T_s\, V_{m(std)}}{P_s\, v_s\, A_n\, \theta (1 - B_{ws})} \qquad \text{Eq.5-8}$$

where:

K_4 = 4.320 for metric units,

= 0.09450 for English units.

Acceptable Results. If 90 percent ≤ I ≤ ll0 percent, the results are acceptable. If the PM results are low in comparison to the standard, and "I" is over 110 percent or less than 90 percent, the Administrator may opt to accept the results. Citation 4 in the Bibliography may be used to make acceptability judgments. If "I" is judged to unacceptable, reject the results, and repeat the test.

Average Stack Gas Velocity.

$$v_s = K_p\, C_p\, (\sqrt{\Delta p})_{avg} \sqrt{\frac{T_{s(avg)}}{P_s\, M_s}}$$

Average Stack Gas Dry Volumetric Flow Rate.

$$Q_{sd} = 3{,}600(1 - B_{ws})\, v_s\, A\, \frac{T_{std}}{T_{s(avg)}}\, \frac{P_s}{P_{std}}$$

where:

A	=	Cross-sectional area of stack, m^2 (ft^2).
B_{ws}	=	Water vapor in the gas stream (from Method 5 or Reference Method 4), proportion by volume.
C_p	=	Pitot tube coefficient, dimensionless.
K_p	=	Pitot tube constant,
M_d	=	Molecular weight of stack gas, dry basis (see Section 3.6), g/gmole (lb/lb-mole).
M_s	=	Molecular weight of stack gas, wet basis, g/g-mole (lb/lb-mole).

$$= M_d\,(1 - B_{ws}) + 18.0\, B_{ws} \qquad \text{Eq. 2-5}$$

P_{bar}	=	Barometric pressure at measurement site, mm Hg (in. Hg).
P_g	=	Stack static pressure, mm Hg (in. Hg).
P_s	=	Absolute stack pressure, mm Hg (in. Hg),

$$= P_{bar} + P_g$$

P_{std}	=	Standard absolute pressure, 760 mm Hg (29.92 in. Hg).
Q_{sd}	=	Dry volumetric stack gas flow rate corrected to standard conditions, dsm^3/hr (dscf/hr).
t_s	=	Stack temperature, °C (°F).
T_s	=	Absolute stack temperature, °K (°R).

Calibration Certificate for S-Type Pitot Tube

Date: Jan 5/23

Barometric Pressure ("Hg): 28.25

Pitot I.D.: **242**

Wind Tunnel Temperature (^{O}F): 71.0

Nozzle: 0.250

Wind Velocity (ft/sec)	*Ref.Pitot ("H_2O)*	*S-Type Pitot ("H_2O)*	*Pitot Factor*
13.07	0.03676	0.05091	0.84120
19.56	0.08230	0.11495	0.83765
42.21	0.38343	0.53104	0.84123
64.61	0.89820	1.20776	0.85375
84.98	1.55395	2.11982	0.84763
106.66	2.44808	3.49980	0.82799

Average= 0.84158

Note: The new pitot tip should be installed so that the serial number engraved is aligned directly into the gas stream.

Calibration Certificate for S-Type Pitot Tube

Date: 06-Jan-23 *Barometric Pressure ("Hg):* 30.05

Pitot I.D.: **140** *Wind Tunnel Temperature (^{O}F):* 70.0

Nozzle: 0.250

Wind Velocity (ft/sec)	*Ref.Pitot ("H_2O)*	*S-Type Pitot ("H_2O)*	*Pitot Factor*
13.96	0.04470	0.05733	0.87412
19.79	0.08982	0.12082	0.85361
42.36	0.41144	0.58576	0.82971
59.59	0.81441	1.17118	0.82555
80.40	1.48260	2.12088	0.82773
101.66	2.37016	3.46311	0.81901

Average= 0.83829

Note: The new pitot tip should be installed so that the serial number engraved is aligned directly into the gas stream.

Calibrating Technician Signature:

CALIBRATION CERTIFICATE
DRY GAS METER

DATE: 29-Jun-23

CONSOLE MANUF.: NAPP MODEL 31

CONSOLE I.D.: C-1021

PARAMETER SUMMARY	RUN #1	RUN #2	RUN #3
Ta = Ambient (WTM) Temperature (oF.)	75.2	75.2	75.2
P=Pres. Differential at WTM ("Hg)	0.0654	0.1214	0.1766
Pb= Atmospheric Pressure ("Hg)	27.90	27.90	27.90
Pv= Vapour Pressure Water at Temp. Ta ("Hg)	0.8749	0.8749	0.8749
H=Pres. Differential at Orifice	1.0	2.0	3.0
Ti= Dry Test Meter Inlet Temp. (oF.)	91.0	92.0	101.0
To= Dry Test Meter Outlet Temp. (oF.)	84.0	80.0	89.0
Ri= Initial Dry Test volume (ft3)	10.32	4.86	18.33
Rf= Final Dry Test Volume (ft3)	15.26	9.73	23.25
Vi= Initial Wet Test Volume (ft3)	0.0	0.0	0.0
Vf= Final Wet Test Volume (ft3)	5.000	5.000	5.000
Pw= Pb - (^P/13.59) "Hg	27.8346	27.7786	27.7234
Pd= Pb + (^H/13.59) "Hg	27.9736	28.0472	28.1208
Tw= Ta +460 (oR.)	535.2	535.2	535.2
Td= [(Ti + To)/2] + 460 (oR.)	547.5	546.0	555.0
Bw= Pv/Pb ("Hg)	0.0314	0.0314	0.0314
WET TEST METER FACTOR (WTMF)	0.9922	0.9922	0.9922
(Calculated Y Value)(WTMF)	0.9902	0.9970	0.9985

Y (MEAN)(WTMF) = 0.9952

MCCALL ENVIRONMENTAL

Calibrating Technician Signature:

ORIFICE METER CALIBRATION

DATE: 29-Jun-23

CONSOLE I.D. C-1021

	RUN 1	RUN 2	RUN 3
MD= mol. wt. dry air	28.967	28.967	28.967
Pb=bar. pressure "Hg	27.9	27.9	27.9
Y=gas meter factor	0.9902	0.9902	0.9970
Delta H=	0.5	1	1.5
Ri=int. gas meter vol.	26.9	29.1	32.2
Rf=final gas meter vol.	28.79	31.82	35.22
min. samp	5	5	5
Qm=Y(Rf-Ri)/^T(FT3/MIN)	0.3742956	0.5386688	0.602188
To=meter outlet Temp (oF)	93	95	0.96
Tm=meter out temp. (oR)	553	555	460.96
Pm=Pb + ^H	27.936792	27.973584	28.010375
SQRT(Tm/Pm*H/Md)	0.584531	0.8276004	0.9231367
Ko=orifice const.	0.6403349	0.6508803	0.6523281

Ko MEAN = 0.6478478

Ko*4*144= 373.16031

McCALL ENVIRONMENTAL LTD.

Calibrating Technician Signature:

ORIFICE METER CALIBRATION

DATE: 29-Jun-23

CONSOLE I.D. C-1021

	RUN 4	RUN 5	RUN 6
MD= mol. wt. dry air	28.967	28.967	28.967
Pb=bar. pressure "Hg	27.9	27.9	27.9
Y=gas meter factor	0.997	0.9985	0.9985
Delta H=	2	2.5	3
Ri=int. gas meter vol.	36.5	40.8	45.4
Rf=final gas meter vol.	40.34	45.14	50.18
min. samp	5	5	5
Qm=Y(Rf-Ri)/^T(FT3/MIN)	0.765696	0.866698	0.954566
To=meter outlet Temp (oF)	99	100	101
Tm=meter out temp. (oR)	559	560	561
Pm=Pb + ^H	28.047167	28.083959	28.120751
SQRT(Tm/Pm*H/Md)	1.1730719	1.3118467	1.4373974
Ko=orifice const.	0.6527272	0.6606702	0.6640933

Ko MEAN = 0.6591636

Ko*4*144= 379.67822

McCALL ENVIRONMENTAL LTD.

Calibrating Technician Signature:

CALIBRATION CERTIFICATE
DRY GAS METER

DATE: 30-Jun-23

CONSOLE MANUF.: NAPP MODEL 31

CONSOLE I.D.: C-980

PARAMETER SUMMARY	RUN #1	RUN #2	RUN #3
Ta = Ambient (WTM) Temperature (oF.)	73.0	73.0	73.0
P=Pres. Differential at WTM ("Hg)	0.0809	0.1508	0.2170
Pb= Atmospheric Pressure ("Hg)	28.05	28.05	28.05
Pv= Vapour Pressure Water at Temp. Ta ("Hg)	0.8181	0.8181	0.8181
H=Pres. Differential at Orifice	1.0	2.0	3.0
Ti= Dry Test Meter Inlet Temp. (oF.)	88.0	92.0	95.0
To= Dry Test Meter Outlet Temp. (oF.)	78.0	79.0	78.0
Ri= Initial Dry Test volume (ft3)	33.80	26.95	40.60
Rf= Final Dry Test Volume (ft3)	38.65	31.84	45.49
Vi= Initial Wet Test Volume (ft3)	0.0	0.0	0.0
Vf= Final Wet Test Volume (ft3)	5.000	5.000	5.000
Pw= Pb - (^P/13.59) "Hg	27.9691	27.8992	27.8330
Pd= Pb + (^H/13.59) "Hg	28.1236	28.1972	28.2708
Tw= Ta +460 (oR.)	533.0	533.0	533.0
Td= [(Ti + To)/2] + 460 (oR.)	543.0	545.5	546.5
Bw= Pv/Pb ("Hg)	0.0292	0.0292	0.0292
WET TEST METER FACTOR (WTMF)	0.9922	0.9922	0.9922
ated Y Value)(WTMF)	1.0061	0.9974	0.9942

Y (MEAN)(WTMF) = 0.9992

N.R. MCCALL & ASSOCIATES LTD.

Calibrating Technician Signature:

ORIFICE METER CALIBRATION

DATE: June 30 /2023

CONSOLE I.D. C-980

	RUN 1	RUN 2	RUN 3
MD= mol. wt. dry air	28.967	28.967	28.967
Pb=bar. pressure "Hg	28.05	28.05	28.05
Y=gas meter factor	1.0061	1.0061	0.9974
Delta H=	0.5	1	1.5
Ri=int. gas meter vol.	47.6	50.8	54.9
Rf=final gas meter vol.	49.78	53.9	58.69
min. samp	5	5	5
Qm=Y(Rf-Ri)/^T(FT3/MIN)	0.4386596	0.623782	0.7560292
To=meter outlet Temp (oF)	77	77	77
Tm=meter out temp. (oR)	537	537	537
Pm=Pb + ^H	28.086792	28.1235835	28.1603753
SQRT(Tm/Pm*H/Md)	0.5744726	0.81189535	0.99371488
Ko=orifice const.	0.7635866	0.76830345	0.76081099

Ko MEAN = 0.7642337

Ko*4*144= 440.19861

McCALL ENVIRONMENTAL LTD.

Calibrating Technician Signature:

ORIFICE METER CALIBRATION

DATE: June 30 /2023

CONSOLE I.D. C-980

	RUN 4	RUN 5	RUN 6
MD= mol. wt. dry air	28.967	28.967	28.967
Pb=bar. pressure "Hg	28.05	28.05	28.05
Y=gas meter factor	1.0017	0.9942	0.9942
Delta H=	2	2.5	3
Ri=int. gas meter vol.	59.4	64.4	69.9
Rf=final gas meter vol.	63.7	69.19	75.15
min. samp	5	5	5
Qm=Y(Rf-Ri)/^T(FT3/MIN)	0.861462	0.9524436	1.04391
Tm=meter out temp. (oF)	77	77	77
Tm=meter out temp. (oR.)	537	537	537
Pm=Pb + ^H	28.197167	28.233959	28.270751
SQRT(Tm/Pm*H/Md)	1.1466943	1.2812076	1.402579
Ko=orifice const.	0.7512569	0.7433952	0.7442789

Ko MEAN = 0.7463104

Ko*4*144= 429.87476

McCALL ENVIRONMENTAL LTD.

Calibrating Technician Signature:

CALIBRATION CERTIFICATE
DRY GAS METER

DATE: 01-Aug-23

CONSOLE MANUF.: NAPP/MILLENNIUM MODEL 32

CONSOLE I.D.: MU 1013

PARAMETER SUMMARY	RUN #1	RUN #2	RUN #3
Ta = Ambient (WTM) Temperature (oF.)	73.4	73.4	73.4
P=Pres. Differential at WTM ("Hg)	0.0706	0.1420	0.1987
Pb= Atmospheric Pressure ("Hg)	27.85	27.85	27.85
Pv= Vapour Pressure Water at Temp. Ta ("Hg)	0.8180	0.8180	0.8180
H=Pres. Differential at Orifice	1.0	2.0	3.0
Ti= Dry Test Meter Inlet Temp. (oF.)	71.0	70.0	72.0
To= Dry Test Meter Outlet Temp. (oF.)	71.0	70.0	72.0
Ri= Initial Dry Test volume (ft3)	0.00	0.00	0.00
Rf= Final Dry Test Volume (ft3)	4.76	4.69	4.70
Vi= Initial Wet Test Volume (ft3)	0.0	0.0	0.0
Vf= Final Wet Test Volume (ft3)	5.000	5.000	5.000
Pw= Pb - (^P/13.59) "Hg	27.7794	27.7080	27.6513
Pd= Pb + (^H/13.59) "Hg	27.9236	27.9972	28.0708
Tw= Ta +460 (oR.)	533.4	533.4	533.4
Td= [(Ti + To)/2] + 460 (oR.)	531.0	530.0	532.0
Bw= Pv/Pb ("Hg)	0.0294	0.0294	0.0294
WET TEST METER FACTOR (WTMF)	0.9922	0.9922	0.9922
ated Y Value)(WTMF)	1.0019	1.0096	1.0066

Y (MEAN)(WTMF) = 1.0060

N.R. MCCALL & ASSOCIATES LTD.

Calibrating Technician Signature:

ORIFICE METER CALIBRATION

DATE: Aug 1/23

CONSOLE I.D. MU 1013

	RUN 1	RUN 2	RUN 3
MD= mol. wt. dry air	28.967	28.967	28.967
Pb=bar. pressure "Hg	27.85	27.85	27.85
Y=gas meter factor	1.0019	1.0019	1.0096
Delta H=	1	1	1.5
Ri=int. gas meter vol.	66.3	70	73
Rf=final gas meter vol.	69.04	72.75	76.35
min. samp	5	5	5
Qm=Y(Rf-Ri)/^T(FT3/MIN)	0.5490412	0.551045	0.676432
To=meter outlet Temp (oF)	74	74	75
Tm=meter out temp. (oR)	534	534	535
Pm=Pb + ^H	27.923584	27.9235835	27.9603753
SQRT(Tm/Pm*H/Md)	0.8125186	0.81251857	0.99540373
Ko=orifice const.	0.6757276	0.67819373	0.67955542

Ko MEAN = 0.6778256

Ko*4*144= 390.42753

McCALL ENVIRONMENTAL LTD.

Calibrating Technician Signature:

ORIFICE METER CALIBRATION

DATE: Aug 1/23

CONSOLE I.D. MU 1013

	RUN 4	RUN 5	RUN 6
MD= mol. wt. dry air	28.967	28.967	28.967
Pb=bar. pressure "Hg	27.85	27.85	27.85
Y=gas meter factor	1.0096	1.0066	1.0066
Delta H=	2	2.5	3
Ri=int. gas meter vol.	77	81	85.5
Rf=final gas meter vol.	80.83	85.26	90.18
min. samp	5	5	5
Qm=Y(Rf-Ri)/^T(FT3/MIN)	0.7733536	0.8576232	0.9421776
To=meter outlet Temp (oF)	75	75	76
Tm=meter out temp. (oR)	535	535	536
Pm=Pb + ^H	27.997167	28.0339588	28.0707506
SQRT(Tm/Pm*H/Md)	1.1486377	1.28337307	1.40625555
Ko=orifice const.	0.6732789	0.66825713	0.66999031

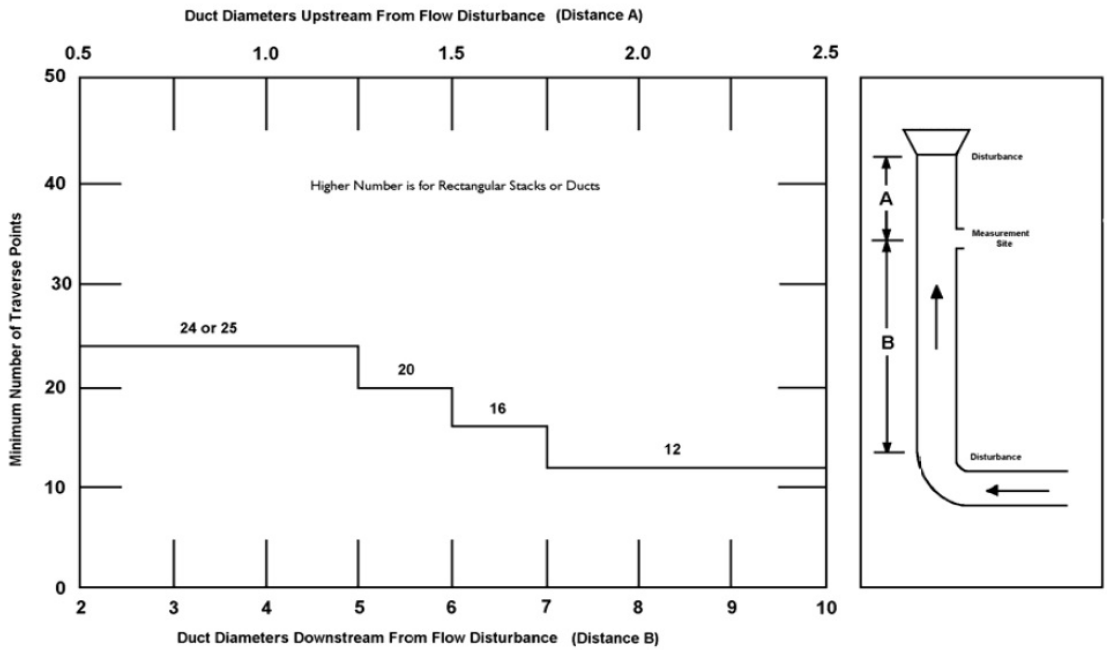
Ko MEAN = 0.6705088

Ko*4*144= 386.21306

McCALL ENVIRONMENTAL LTD.

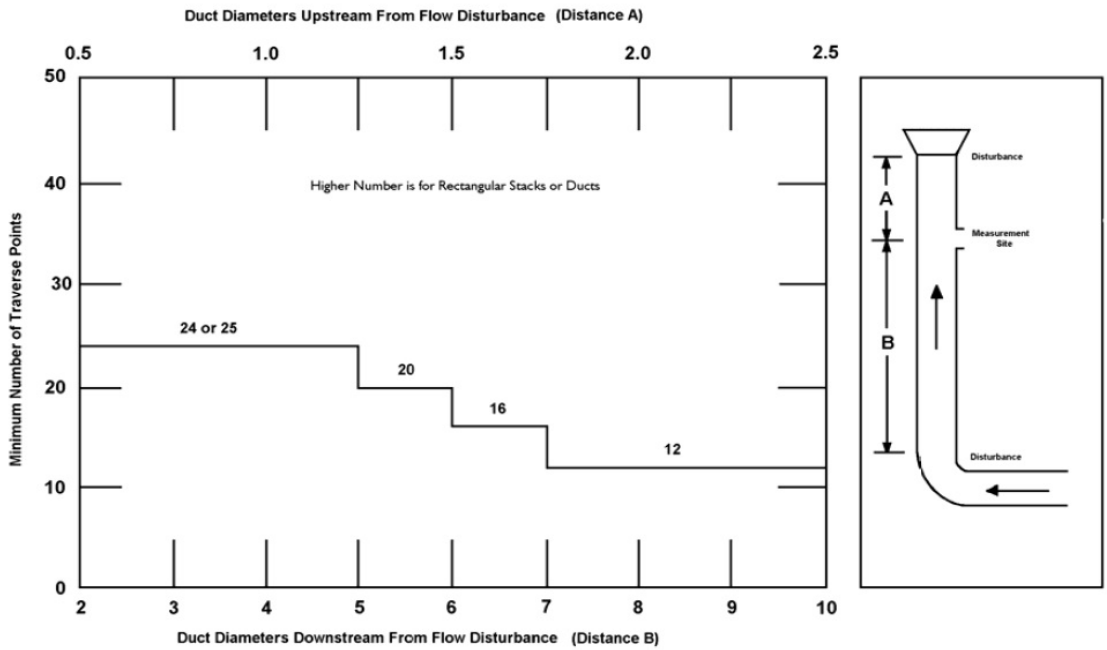
Calibrating Technician Signature:

Site Diagram & Sample Point Selection



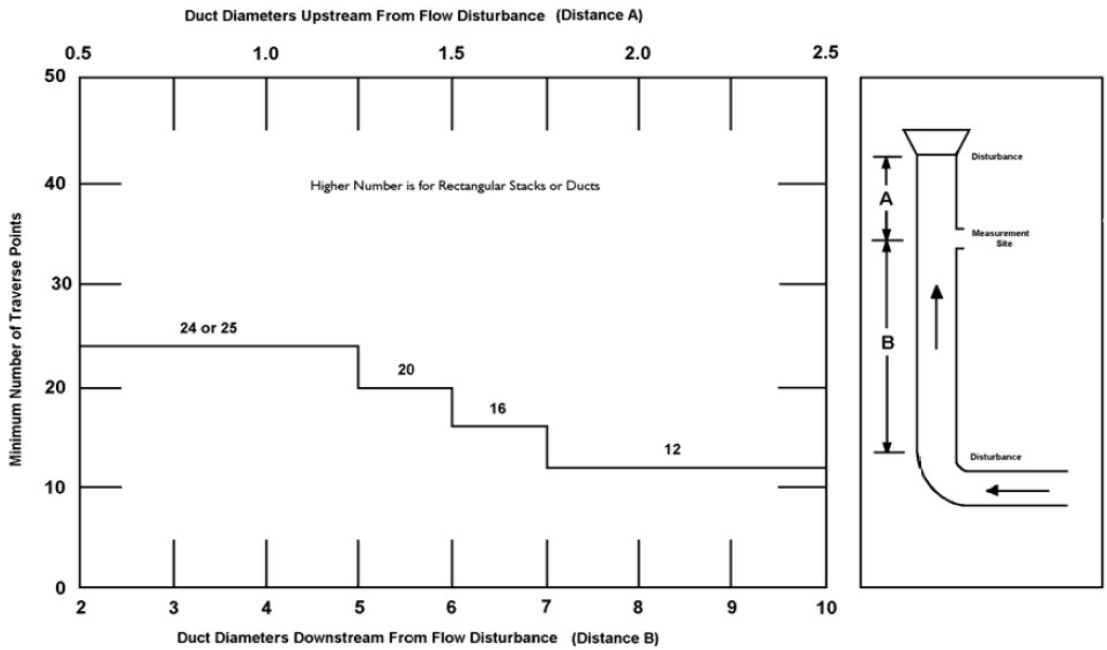
Client:	Pinnacle Pellet Lavington	Traverse Points (in):	
Source:	Dryers 1 & 2 North Stacks	PT-1	2.52
Pollution Abatement Equipment:		PT-2	8.04
Duct Diameters Up (A):	>2	PT-3	14.16
Duct Diameters Down (B):	2	PT-4	21.24
Area of Stack (ft):	78.54	PT-5	30
Stack Diameter (in):	120	PT-6	42.6
Zero (in):	4	PT-7	77.4
Number of Points:	24	PT-8	90
		PT-9	98.76
Cyclonic Angle:	5^{0}	PT-10	105.84
		PT-11	111.96
		PT-12	117.48

Site Diagram & Sample Point Selection



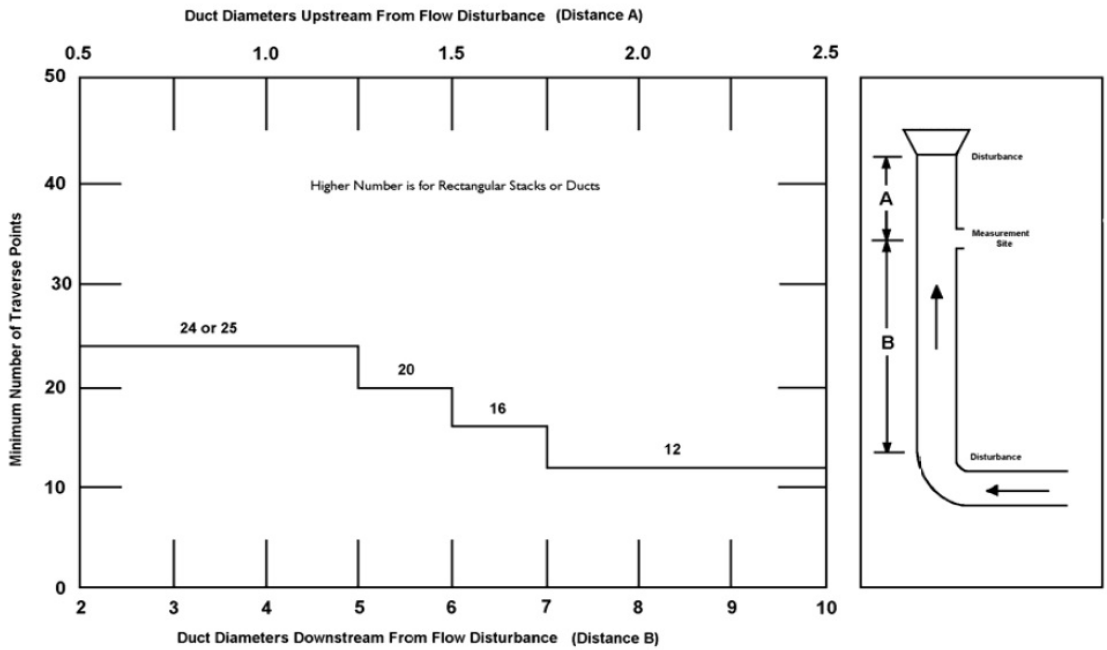
Client:	Pinnacle Pellet Lavington	Traverse Points (in):	
Source:	Dryers 1 & 2 South Stacks	PT-1	1.72
Pollution Abatement Equipment:		PT-2	5.49
Duct Diameters Up (A):	2	PT-3	9.68
Duct Diameters Down (B):	3	PT-4	14.52
Area of Stack (ft):	36.67	PT-5	20.5
Stack Diameter (in):	82	PT-6	29.1
Zero (in):	4	PT-7	52.89
Number of Points:	24	PT-8	61.5
		PT-9	67.49
Cyclonic Angle:	5^{0}	PT-10	72.32
		PT-11	76.51
		PT-12	80.28

Site Diagram & Sample Point Selection



Client:	Pinnacle Pellet Lavington	Traverse Points (in):	
Source:	Dryers 1 & 2 South Stacks	PT-1	1.72
Pollution Abatement Equipment:		PT-2	5.49
Duct Diameters Up (A):	2	PT-3	9.68
Duct Diameters Down (B):	3	PT-4	14.52
Area of Stack (ft):	36.67	PT-5	20.5
Stack Diameter (in):	82	PT-6	29.1
Zero (in):	4	PT-7	52.89
Number of Points:	24	PT-8	61.5
		PT-9	67.49
Cyclonic Angle:	5^{0}	PT-10	72.32
		PT-11	76.51
		PT-12	80.28

Site Diagram & Sample Point Selection



Client:	Pinnacle Pellet Lavington	Traverse Points (in):	
Source:	CF-12 Stack	PT-1	1.26
Pollution Abatement Equipment:		PT-2	4.02
Duct Diameters Up (A):	>2	PT-3	7.08
Duct Diameters Down (B):	7	PT-4	10.62
Area of Stack (ft):	19.63	PT-5	15
Stack Diameter (in):	60	PT-6	21.3
Zero (in):	4	PT-7	38.7
Number of Points:	12	PT-8	45
		PT-9	49.38
Cyclonic Angle:	5^{0}	PT-10	52.92
		PT-11	55.98
		PT-12	58.74

Client Name:	LKAX	BP	29.94
Laying Iron		DN	0.230
Process:	Dryer 2 North	CP	0.83829
Test Number:		MF	0.9952
Date:	Aug 17/23	Moist.	2 %
Start Time	228	PM	30.05
Finish Time	330	AS	
Starting Vol.	300	Ko	0.6478
Final Vol.	308	Pitot	140
Flask:	E42	Port	
Console:	1021	Static	-.25
Stack Diameter		PS	29.92

CO_2	O_2	CO	N_2
0	21		

Personnel: NA/BH

Leakage Rate @ 15 inches

Load:

Duct Diameters Up-Stream

Duct Diameters Downstream

Mean Yaw Angle

Start: .000 Finish: .003

Sample Points	Delta P	Delta H	Temp. In	Temp. Out	Stack Temp.	Gas Volume	Pump Vacuum	Box Temp.	~~Last~~ Imp. Temp.	Points
A-12	.60	2.07	96	96	110	75.24	3	270	ICED	
-11	.50	1.71	98	97	115	77.21				
-10	.50	1.71	101	97	119	79.01				
-9	.45	1.53	103	98	122	80.78				
-8	.40	1.36	105	99	123	82.51				
-7	.35	1.20	104	100	123	84.14				
-6	.40	1.36	107	101	125	85.54				
-5	.40	1.36	109	102	126	87.02				
-4	.40	1.38	111	112	124	88.54	3			
-3	.45	1.55	113	105	124	90.09				
-2	.50	1.72	114	106	123	91.64				
-1	.40	1.38	115	107	123	93.37				
B-12	.55	1.91	116	109	121	94.92				
-11	.55	1.92	118	110	121	96.64				
-10	.50	1.74	119	111	122	98.40	3			
-9	.55	1.92	125	113	123	100.06				
-8	.55	1.93	124	113	123	102.02				
-7	.45	1.57	121	115	124	103.97				
-6	.40	1.41	122	115	121	105.61				
-5	.40	1.41	122	116	120	107.17				
-4	.45	1.59	123	117	118	108.78	3			
-3	.40	1.42	123	118	118	110.37				
-2	.35	1.24	124	119	121	111.98				
-1	.45	1.60	124	119	116	113.44				
						115.00				

Client Name:	DRAX Lauriston
Process:	DRYER 2 NORTH
Test Number:	2
Date:	Aug 17/23
Start Time	334
Finish Time	437
Starting Vol.	300
Final Vol.	324
Flask:	G-43
Console:	1021
Stack Diameter	

BP	29.94
DN	0.230
CP	.83829
MF	.9952
Moist.	2%
PM	30.05
AS	
Ko	.6478
Pitot	140
Port	
Static	-.25
PS	29.92

CO_2	O_2	CO	N_2
0	21		

Personnel: NA BH

Leakage Rate @ 15 inches

Load:

Duct Diameters Up-Stream

Duct Diameters Downstream

Mean Yaw Angle

Start: .000 Finish: .002

Sample Points	Delta P	Delta H	Temp. In	Temp. Out	Stack Temp.	Gas Volume	Pump Vacuum	Box Temp.	Last Imp. Temp.	Points
A-12	.60	2.12	116	117	117	15.22	3	275	ICED	
-11	.60	2.14	123	120	115	17.12				
-10	.55	1.97	126	120	115	19.08				
-9	.45	1.62	127	120	114	21.05				
-8	.40	1.44	127	120	114	22.84				
-7	.40	1.43	126	120	114	24.38				
-6	.35	1.26	128	121	113	26.10				
-5	.35	1.27	133	121	110	27.62				
-4	.40	1.45	127	121	108	29.11				
-3	.40	1.46	132	122	108	30.73				
-2	.50	1.83	133	123	108	32.35				
-1	.45	1.64	130	123	108	34.17				
B-12	.55	2.00	130	123	109	35.90				
-11	.55	2.00	132	124	110	37.73				
-10	.50	1.82	133	124	110	39.26				
-9	.50	1.82	132	125	111	41.61				
-8	.55	1.99	133	125	114	43.40				
-7	.40	1.45	134	125	113	45.31				
-6	.40	1.45	133	125	113	46.93				
-5	.45	1.63	132	126	113	48.52				
-4	.40	1.45	133	126	115	50.23				
-3	.40	1.45	132	126	115	51.85				
-2	.35	1.27	133	126	116	53.43				
-1	.30	1.09	134	127	116	54.45				
						56.39				

Client Name:	DRAX Lavington
Process:	DRYER 2 North
Test Number:	3
Date:	Aug 17/23
Start Time	438
Finish Time	543
Starting Vol.	300
Final Vol.	305
Flask:	E44
Console:	1021
Stack Diameter	

BP	29.49
DN	0.230
CP	[illegible]
MF	.9952
Moist.	2%
PM	30.05
AS	
Ko	.6428
Pitot	140
Port	
Static	-.25
PS	29.92

CO_2	O_2	CO	N_2
0	21		

Personnel: NA BH

Leakage Rate @ 15 inches

Load:

Duct Diameters Up-Stream

Duct Diameters Downstream

Mean Yaw Angle

Start: .002 Finish: .001

Sample Points	Delta P	Delta H	Temp. In	Temp. Out	Stack Temp.	Gas Volume	Pump Vacuum	Box Temp.	Last Imp. Temp.	Points
A-12	.60	2.14	121	123	117	56.64	1	273	FCD	
-11	.55	1.98	129	126	117	58.69				
-10	.55	1.98	131	126	119	60.70				
-9	.50	1.79	132	126	120	62.53				
-8	.45	1.61	133	126	122	64.36				
-7	.45	1.60	132	126	124	66.11				
-6	.40	1.43	133	127	124	67.84	1			
-5	.35	1.25	133	128	123	69.37				
-4	.35	1.26	133	128	121	70.98				
-3	.40	1.43	133	128	121	72.45				
-2	.40	1.44	133	129	119	73.91				
-1	.50	1.80	134	129	119	75.51				
B-12	.55	1.99	135	130	118	77.35	1			
-11	.50	1.81	137	130	118	79.28				
-10	.50	1.81	137	131	119	81.13				
-9	.50	1.81	137	131	119	82.98				
-8	.45	1.63	138	131	119	84.80				
-7	.45	1.63	137	132	120	86.55				
-6	.40	1.45	138	132	120	88.28	1			
-5	.40	1.44	137	132	122	89.44				
-4	.45	1.63	138	133	122	91.78				
-3	.50	1.80	137	133	123	93.62				
-2	.40	1.45	138	134	122	95.51				
-1	.35	1.27	138	134	122	97.11				
						98.68				

Client Name:	Drax Lavington
Process:	Dryer 1 North
Test Number:	1
Date:	Aug 17/23
Start Time	943
Finish Time	1045
Starting Vol.	300
Final Vol.	328
Flask:	E39
Console:	980
Stack Diameter	

BP	29.94
DN	0.250
CP	0.83829
MF	0.9992
Moist.	2%
PM	30.05
AS	
Ko	0.7642
Pitot	140
Port	
Static	-0.30
PS	29.92

CO_2	O_2	CO	N_2
0	21		

Personnel: NA/BH

Leakage Rate @ 15 inches

Load:

Duct Diameters Up-Stream

Duct Diameters Downstream

Mean Yaw Angle

Start: .002 Finish: .004

Sample Points	Delta P	Delta H	Temp. In	Temp. Out	Stack Temp.	Gas Volume	Pump Vacuum	Box Temp.	Last Imp. Temp.	Points
A-12	.40	1.32	73	73	111	29.74	3	270	ICED	
11	.35	1.17	81	73	110	31.57				
10	.45	1.51	85	74	110	33.20				
9	.40	1.34	89	74	111	35.01				
8	.40	1.35	90	74	109	36.83				
7	.50	1.69	92	75	109	38.57				
6	.50	1.70	94	76	108	40.49				
5	.55	1.88	97	78	108	42.42				
4	.50	1.72	98	79	106	44.45	3			
3	.55	1.90	100	80	105	46.43				
2	.65	2.25	102	81	105	48.51				
1	.55	1.90	103	82	106	50.74				
B-12	.35	1.21	104	83	106	52.82				
11	.35	1.21	105	83	106	54.48				
10	.40	1.39	105	84	106	56.20	4			
9	.45	1.57	106	85	105	57.97				
8	.45	1.57	107	85	106	59.81				
7	.50	1.74	107	85	106	61.67				
6	.40	1.39	108	86	106	63.65				
5	.40	1.40	108	86	105	65.39				
4	.35	1.22	109	86	105	67.14				
3	.30	1.05	110	86	106	68.82	4			
2	.35	1.22	110	86	106	70.40				
1	.35	1.22	111	87	107	72.14				
						73.90				

Client Name:	Drax Lavington
Process:	Dryer 1 North
Test Number:	2
Date:	Aug. 17/23
Start Time	1057
Finish Time	1202
Starting Vol.	300
Final Vol.	322
Flask:	E40
Console:	1021
Stack Diameter	

BP	29.94
DN	0.250
CP	0.83829
MF	0.9952
Moist.	2%
PM	30.05
AS	
Ko	0.6478
Pitot	140
Port	
Static	-0.30
PS	29.92

CO_2	O_2	CO	N_2
0	21		

Duct Diameters Up-Stream

Duct Diameters Downstream

Personnel: NA / BH

Mean Yaw Angle

Leakage Rate @ 15 inches

Start: .005 Finish: .002

Load:

* Switched console to 1021 *
- 980 was having temp problems

Sample Points	Delta P	Delta H	Temp. In	Temp. Out	Stack Temp.	Gas Volume	Pump Vacuum	Box Temp.	Last Imp. Temp.	Points
A-12	.40	1.88	80	80	106	85.26	1	270	ICE D	
11	.40	1.88	85	80	108	87.00				
10	.40	1.89	90	79	109	88.73				
9	.45	2.13	92	80	110	90.46				
8	.40	1.89	93	82	112	92.26				
7	.35	1.65	94	84	114	94.01				
6	.45	2.12	95	84	114	95.62	2			
5	.55	2.60	97	85	115	97.46				
4	.55	2.62	100	86	112	99.60				
3	.50	2.40	101	89	113	101.82				
2	.55	2.64	102	92	113	103.80				
1	.50	2.39	103	92	114	106.01				
B-12	.35	1.68	105	94	114	108.13				
11	.40	1.92	106	96	116	109.93				
10	.45	2.17	107	98	115	111.89	2			
9	.45	2.17	108	99	115	113.86				
8	.40	1.93	109	100	116	115.85				
7	.40	1.93	110	101	117	117.77				
6	.35	1.70	110	102	116	119.51				
5	.35	1.69	111	103	118	121.25				
4	.30	1.45	111	104	119	122.95				
3	.30	1.46	111	105	117	124.50				
2	.40	1.94	112	106	118	126.08	2			
1	.40	1.95	114	107	117	127.87				
						129.72				

Client Name:	Drax Lavington
Process:	Dryer 1 North
Test Number:	3
Date:	Aug. 17/23
Start Time	1205
Finish Time	110
Starting Vol.	300
Final Vol.	327
Flask:	E41
Console:	1021
Stack Diameter	

BP	29.94
DN	0.250
CP	0.83829
MF	0.9952
Moist.	2%
PM	30.05
AS	
Ko	0.6478
Pitot	140
Port	
Static	-0.30
PS	29.92

CO_2	O_2	CO	N_2
0	21		

Personnel: NA / BH

Leakage Rate @ 15 inches

Load:

Duct Diameters Up-Stream

Duct Diameters Downstream

Mean Yaw Angle

Start: .002 Finish: .004

Sample Points	Delta P	Delta H	Temp. In	Temp. Out	Stack Temp.	Gas Volume	Pump Vacuum	Box Temp.	Last Imp. Temp.	Points
A-12	.45	2.16	101	103	116	30.39	1	273	70	
11	.40	1.93	107	105	119	32.39				
10	.35	1.69	110	105	121	34.20				
9	.40	1.92	111	105	124	35.89				
8	.45	2.16	113	106	125	37.66				
7	.45	2.16	114	106	125	39.60				
6	.55	2.65	115	107	124	41.55				
5	.55	2.66	116	107	123	43.68	2			
4	.50	2.42	117	108	123	45.86				
3	.55	2.67	118	108	123	47.92				
2	.45	2.18	118	109	123	50.09				
1	.40	1.94	118	110	123	52.01				
B-12	.40	1.95	118	110	122	53.82				
11	.40	1.94	118	110	124	55.61				
10	.45	2.20	121	111	122	57.47	2			
9	.35	1.71	121	112	121	59.40				
8	.35	1.71	119	112	120	61.11				
7	.40	1.95	119	112	121	62.80				
6	.40	1.96	120	113	120	64.86				
5	.35	1.72	121	113	118	66.39				
4	.35	1.73	120	114	117	68.27				
3	.30	1.48	120	114	116	69.96	2			
2	.30	1.48	119	114	116	71.46				
1	.35	1.73	120	115	116	72.93				
						74.60				

Client: Dreat Lavington	Console: MU1013	Pb: 28.10 "Hg	Filter: 13	RAP %:			Date: Aug 4 2023		
Process: Dryer 1 South	Mf: 1.0060	Static: -.31 "H_2O	Silica: 13	+		%CO_2	%O_2	CO	
Test: 1	K_o: .6778	Ps: 28.08		+		0	21		
Personnel: CB BH	Pitot: 293	Pm: 28.21	Total Vol: 320 ml			0	21		
Start time: 10:39	C_p: .84158	Area: ft²	Start Vol: 300 ml			0	21		
Stop time: 11:42	Nozzle: .250	Bwo: 49.	Plant Type:				Mix:		
Permit #	up strm down strm		Pollution Abatement Equip:						
Location:	Start Leakage Rate@ 15 "Hg .006 ft3/min								
	Finish Leakage Rate@ 15 "Hg .004 ft3/min		Load:	Burner:			Fuel Type:		

SAMPLE POINT	DELTA P ("H_2O)	DELTA H ("H_2O)	GAS METER TEMP (°F) IN	GAS METER TEMP (°F) OUT	STACK 108 (°F)	VOLUME (ft³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MINPT= 2.5 ZERO=
AR	.39	1.61	66	65	100	0.00	244	Hot	Hot	3	
11	.38	1.64	67	68	76	1.63					
10	.36	1.55	67	64	76	3.29					
9	.34	1.47	66	68	76	4.92					
8	.33	1.42	69	66	78	6.50					
7	.34	1.47	71	68	79	8.07	248			3	
6	.34	1.47	74	69	81	9.63					
5	.33	1.43	75	71	81	11.26					
4	.32	1.39	78	72	82	12.88					
3	.30	1.31	79	78	83	14.52	260			3	
2	.28	1.22	83	75	84	15.96					
1	.26	1.13	82	78	85	17.51					
BR	.38	1.66	83	78	84	18.94					
11	.36	1.57	85	80	86	20.73					
10	.35	1.52	87	81	89	22.47	255			3	
9	.37	1.61	87	83	88	24.16					
8	.39	1.70	88	83	89	25.85					
7	.41	1.79	89	85	89	27.71					
6	.41	1.80	89	85	88	29.56					
5	.43	1.89	90	88	88	31.46	246			4	
4	.45	1.97	91	87	89	33.29					
3	.45	1.94	93	89	88	35.23					
2	.44	1.94	95	90	89	37.17					
1	.43	1.90	93	92	88	39.12					
						41.02					

15 mg/m³

Client: Dryer Lavington	Console: MU 1013	Pb: 28.10 "Hg	Filter: 14	RAP %:			Date: Aug 9, 2023			
Process: Dryer 1 South	Mf: 1.0060	Static: - "H_2O	Silica: 14	+		$\%CO_2$	$\%O_2$	CO		
Test: 2	K_o: .6778	Ps:		+		0	21			
Personnel: EB BM	Pitot:	Pm: 28.21	Total Vol: 321 ml			0	21			
Start time: 1150	C_p: .84158	Area: ft²	Start Vol: 300 ml			0	21			
Stop time: 1253	Nozzle: .240	Bwo: 1%	Plant Type:				Mix:			
Permitt #	up strm down strm		Pollution Abatement Equip:							
Location:	Start Leakage Rate@ 15 "Hg .004 ft3/min									
	Finish Leakage Rate@ 15 "Hg .003 ft3/min		Load:	Burner:			Fuel Type:			

SAMPLE POINT	DELTA P ("H_2O)	DELTA H ("H_2O)	GAS METER TEMP (°F) IN	GAS METER TEMP (°F) OUT	STACK (°F)	VOLUME (ft³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MINPT= 2.5 ZERO=
A12	.40	1.84	95	93	94	0.00	250	ICED	1407	4	
11	.38	1.75	90	94	92	1.82					
10	.38	1.75	88	89	91	3.47					
9	.36	1.66	89	90	91	5.28					
8	.34	1.57	89	89	90	7.02					
7	.33	1.71	89	90	90	8.74					
6	.33	1.51	90	90	93	10.49				4	
5	.34	1.57	91	93	90	12.29					
4	.32	1.48	91	93	90	13.89					
3	.32	1.48	93	91	91	15.53					
2	.30	1.39	91	93	90	17.17					
1	.27	1.24	93	93	92	18.77					
B12	.38	1.76	94	94	90	20.35				4	
11	.36	1.67	95	94	90	22.11					
10	.35	1.63	96	96	90	23.85					
9	.37	1.72	96	95	92	25.62					
8	.37	1.73	97	97	91	27.40					
7	.39	1.72	96	97	93	29.21					
6	.41	1.91	97	97	91	30.91				4	
5	.45	2.10	98	97	91	32.77					
4	.43	2.01	98	98	91	34.77					
3	.45	2.29	100	98	92	36.58					
2	.45	2.29	100	98	92	38.62					
1	.45	2.29	100	98	92	40.69					
						42.70					

Client: Drax Lavington	Console: MU1013	Pb: 28.10 "Hg	Filter: 15	RAP %:			Date: August 9 2023			
Process: Dryer 1 South	Mf: 1.0060	Static: -.31 "H_2O	Silica: 15	+		$\%CO_2$	$\%O_2$	CO		
Test: 3	K_o: .6778	Ps:		+		0	21			
Personnel: CB BH	Pitot:	Pm: 28.21	Total Vol: 323 ml			0	21			
Start time: 100	C_p: .84168	Area: ft²	Start Vol: 300 ml			0	21			
Stop time: 204	Nozzle: 2.40	Bwo: 1.9	Plant Type:				Mix:			
Permitt #	up strm down strm		Pollution Abatement Equip:							
Location: LAVINGTON	Start Leakage Rate@ 15 "Hg .005 ft3/min									
	Finish Leakage Rate@ 15 "Hg .004 ft3/min		Load:	Burner:			Fuel Type:			

SAMPLE POINT	DELTA P ("H_2O)	DELTA H ("H_2O)	GAS METER TEMP (°F) IN	GAS METER TEMP (°F) OUT	STACK (°F)	VOLUME (ft³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT= 2.5 ZERO=
A12	.39	1.80	99	99	96	0.00	250	70(-1)	HOT	4	
11	.39	1.81	95	97	93	1.91					
10	.38	1.76	94	96	92	3.75					
9	.36	1.67	95	95	91	5.52					
8	.34	1.57	95	96	95	7.17					
7	.34	1.58	96	95	90	9.00					
6	.33	1.54	95	96	90	10.75				4	
5	.33	1.54	96	95	89	12.48					
4	.34	1.58	96	96	91	14.18					
3	.32	1.50	97	98	90	15.87					
2	.30	1.37	97	97	102	17.59					
1	.27	1.23	99	98	104	19.16					
B12	.38	1.77	97	97	92	20.76				4	
11	.36	1.68	98	100	93	22.56					
10	.36	1.66	98	98	99	24.23					
9	.35	1.63	97	100	92	26.00					
8	.38	1.77	98	98	93	27.69					
7	.41	1.91	97	98	91	29.51					
6	.41	1.92	98	98	91	31.29				5	
5	.43	2.01	98	100	91	33.16					
4	.43	2.01	97	97	91	35.03					
3	.45	2.10	97	97	90	36.94					
2	.45	2.10	97	97	90	38.87					
1	.43	2.01	100	101	93	40.87					
						42.75					

6.83 feet

Client: Drax Lexington	Console: MU10F3	Pb: 28.10 "Hg	Filter: 16	RAP %:			Date: Aug 9/25			
Process: Dryer 2 South	Mf: 1.0060	Static: -.23 "H_2O	Silica: 16	+		%CO_2	%O_2	CO		
Test: 1	K_o: .6778	Ps: 28.08		+		0	21			
Personnel: CB BH	Pitot:	Pm: 28.21	Total Vol: 311 ml			0	21			
Start time: 300	C_p: .84158	Area: ft²	Start Vol: 300 ml			0	21			
Stop time: 403	Nozzle: .275	Bwo: 3%	Plant Type:				Mix:			
Permitt #	up strm down strm		Pollution Abatement Equip:							
Location:	Start Leakage Rate@ 15 "Hg .003 ft3/min									
	Finish Leakage Rate@ 15 "Hg .003 ft3/min		Load: Burner:				Fuel Type:			
SAMPLE POINT	DELTA P ("H_2O)	DELTA H ("H_2O)	GAS METER TEMP (°F) IN	GAS METER TEMP (°F) OUT	STACK (°F)	VOLUME (ft³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MINPT= 2.5 ZERO=
A12	.21	1.35	83	84	94	0.00	248	ICE	Hot	4	
11	.23	1.48	79	85	89	1.55					
10	.24	1.53	80	82	95	3.14					
9	.25	1.62	80	80	85	4.79					
8	.27	1.75	81	82	86	6.41					
7	.25	1.63	84	84	85	8.22					
6	.25	1.62	84	84	90	9.97				3	
5	.24	1.56	87	86	88	11.68					
4	.25	1.61	86	86	91	13.35					
3	.23	1.50	89	89	89	15.04					
2	.22	1.43	89	88	90	16.71					
1	.21	1.37	90	89	90	18.37					
B12	.26	1.69	91	90	94	20.04				3	
11	.25	1.64	92	91	90	21.76					
10	.26	1.69	93	92	96	23.49					
9	.28	1.84	95	94	92	25.29					
8	.28	1.83	97	93	94	27.02					
7	.29	1.91	95	95	91	28.80					
6	.27	1.76	96	94	95	30.64				3	
5	.27	1.78	95	96	92	32.46					
4	.26	1.70	97	96	95	34.33					
3	.25	1.65	99	98	91	36.13					
2	.23	1.52	98	97	93	37.97					
1	.21	1.39	99	98	92	39.72					
						41.42					

Client: Drax Lavington	Console: MV1013	Pb: 28.10 "Hg	Filter: 17	RAP %:			Date: Aug 9/23		
Process: Dryer 2 South	Mf: 1.0060	Static: -.23 "H_2O	Silica: 17	+		$\%CO_2$	$\%O_2$	CO	
Test: 2	K_o: .5778	Ps: 28.08		+		0	21		
Personnel: CB BH	Pitot:	Pm: 28.21	Total Vol: 304 ml			0	21		
Start time: 414	C_p: .84158	Area: ft²	Start Vol: 300 ml			0	21		
Stop time: 517	Nozzle: .275	Bwo: .01	Plant Type:				Mix:		
Permitt #	up strm down strm		Pollution Abatement Equip:						
Location:	Start Leakage Rate@ 15 "Hg .001 ft3/min								
	Finish Leakage Rate@ 15 "Hg .004 ft3/min		Load:	Burner:			Fuel Type:		

SAMPLE POINT	DELTA P ("H_2O)	DELTA H ("H_2O)	GAS METER TEMP (°F) IN	GAS METER TEMP (°F) OUT	STACK (°F)	VOLUME (ft³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT= 2.5 ZERO=
A12	.20	1.35	95	96	96	0.00	252	76(1)	1.09	5	
11	.23	1.55	93	95	95	1.65					
10	.23	1.55	92	94	94	3.34					
9	.25	1.69	91	93	91	5.02					
8	.28	1.89	93	94	95	6.87					
7	.26	1.77	95	94	91	8.78				5	
6	.23	1.56	95	94	92	10.64					
5	.23	1.56	95	95	91	12.37					
4	.24	1.63	96	95	91	14.10					
3	.24	1.64	96	96	91	15.93					
2	.21	1.42	97	96	94	17.62				5	
1	.20	1.36	97	97	92	19.33					
B12	.25	1.70	97	97	93	20.96					
11	.26	1.77	98	97	92	22.82					
10	.26	1.77	98	97	93	24.69				5	
9	.27	1.84	99	98	93	26.56					
8	.28	1.41	99	98	93	28.44					
7	.29	1.48	100	99	93	30.37					
6	.26	1.78	100	99	93	32.36					
5	.27	1.85	101	100	93	34.26				5	
4	.25	1.71	101	100	94	36.17					
3	.24	1.65	102	102	93	38.06					
2	.22	1.51	101	101	93	39.84					
1	.21	1.44	101	102	93	41.57					
						43.25					

Client:	Draf Lavington	Console:	MU 1013	Pb:	28.10 "Hg	Filter:	18	RAP %:		Date: Aug 9/23
Process:	Drier 2 South	Mf:	1.0060	Static:	-.23 "H_2O	Silica:	18	+	%CO_2	%O_2	CO
Test:	3	K_o:	.6778	Ps:	28.08			+	0	21	
Personnel:	CB BH	Pitot:		Pm:	28.21	Total Vol:	311 ml		0	21	
Start time:	5:24	C_P:	.84158	Area:	ft²	Start Vol:	300 ml		0	21	
Stop time:	6:27	Nozzle:	.275	Bwo:	.01	Plant Type:				Mix:	
Permitt #		up strm	down strm			Pollution Abatement Equip:					
Location:		Start Leakage Rate@	15 "Hg .001 ft3/min								
		Finish Leakage Rate@	15 "Hg .004 ft3/min			Load:	Burner:		Fuel Type:		

SAMPLE POINT	DELTA P ("H_2O)	DELTA H ("H_2O)	GAS METER TEMP (°F) IN	GAS METER TEMP (°F) OUT	STACK (°F)	VOLUME (ft³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT= 2.5 ZERO=
A12	.21	1.43	101	101	98	0.00	255	ICED	HOT	4	
11	.22	1.49	95	99	95	1.66					
10	.24	1.63	96	98	94	3.33					
9	.24	1.63	95	98	94	5.05					
8	.26	1.77	96	97	93	6.77					
7	.26	1.77	96	97	91	8.61				4	
6	.25	1.70	98	98	93	10.45					
5	.24	1.64	98	98	93	12.29					
4	.26	1.77	98	98	94	14.08					
3	.24	1.64	99	99	92	15.92					
2	.21	1.43	99	100	93	17.71				4	
1	.21	1.44	99	101	93	19.40					
B12	.26	1.78	100	100	93	21.08					
11	.26	1.78	100	100	93	22.93					
10	.27	1.85	102	100	94	24.79					
9	.28	1.92	101	101	93	26.71					
8	.29	1.99	102	101	93	28.67				5	
7	.28	1.93	102	105	92	30.62					
6	.27	1.85	102	102	93	32.56					
5	.26	1.79	103	103	92	34.50					
4	.25	1.72	104	103	93	36.36					
3	.25	1.72	103	103	92	38.19					
2	.22	1.51	104	104	94	40.04					
1	.20	1.38	104	104	92	41.80					
						43.54					

Client: Draxx Lavington	Console: MU-1013	Pb: 28.15 "Hg	Filter: 19	RAP %:			Date: Aug 10/25			
Process: CF-12	Mf: 1.0060	Static: -.55 "H_2O	Silica: 19	+		%CO_2	%O_2	CO		
Test: 1	K_o: .6778	Ps: 28.10		+		0	21			
Personnel: CB BH	Pitot:	Pm: 28.26	Total Vol: 328 ml							
Start time: 904	C_p: .84158	Area: ft²	Start Vol: 300 ml							
Stop time: 1007	Nozzle: .195	Bwo: 4%	Plant Type:				Mix:			
Permitt #	up strm down strm		Pollution Abatement Equip:							
Location:	Start Leakage Rate@ 15 "Hg .001 ft3/min									
	Finish Leakage Rate@ 15 "Hg .001 ft3/min		Load:	Burner:			Fuel Type:			
SAMPLE POINT	DELTA P ("H_2O)	DELTA H ("H_2O)	GAS METER TEMP (°F) IN	GAS METER TEMP (°F) OUT	STACK (°F)	VOLUME (ft³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT= ZERO=
A12	1.00	1.48	57	57	108	0.00	250	Ice	1.07	3	
11	1.00	1.46	60	58	116	1.60					
10	1.10	1.60	57	56	116	3.17					
9	1.15	1.69	61	60	115	4.74					
8	1.20	1.77	60	59	113	6.41					
7	1.15	1.69	61	60	115	8.10					
6	1.00	1.47	63	62	116	9.75				4	
5	1.10	1.63	70	65	118	11.43					
4	1.05	1.55	70	66	119	13.11					
3	1.05	1.56	75	70	123	14.68					
2	.85	1.26	77	69	122	16.44					
1	.80	1.19	78	73	122	17.96					
B12	.90	1.33	77	73	127	19.46				5	
11	1.05	1.57	81	75	123	21.00					
10	1.10	1.64	80	76	125	22.58					
9	1.10	1.66	83	78	121	24.25					
8	1.10	1.66	80	78	121	25.94					
7	1.15	1.74	84	80	123	27.67					
6	1.10	1.66	85	81	123	29.36				5	
5	1.15	1.75	87	83	120	31.09					
4	1.05	1.60	85	84	119	32.81					
3	1.00	1.53	90	85	119	34.55					
2	1.00	1.53	87	85	119	36.25					
1	.90	1.38	90	88	121	37.95					
						39.57					

34 m3/s

10 mg/m3

Client: Dreat Lavington	Console: MV1013	Pb: 28.15 "Hg	Filter: 20	RAP %:			Date: Aug 10/05			
Process: CF 17	Mf: 1.0060	Static: -.55 "H_2O	Silica: 20	+		$\%CO_2$	$\%O_2$	CO		
Test: 2	K_c: .6778	Ps: 28.10		+		0	21			
Personnel: CB BH	Pitot:	Pm: 28.26	Total Vol: 311 ml			0	21			
Start time: 1017	C_p: .84158	Area: ft²	Start Vol: 300 ml			0	21			
Stop time: 1120	Nozzle: .195	Bwo: 3%	Plant Type:				Mis:			
Permitt #	up strm down strm		Pollution Abatement Equip:							
Location:	Start Leakage Rate@ 15 "Hg .002 ft3/min									
	Finish Leakage Rate@ 15 "Hg .003 ft3/min		Load: Burner:				Fuel Type:			

SAMPLE POINT	DELTA P ("H_2O)	DELTA H ("H_2O)	GAS METER TEMP (°F) IN	GAS METER TEMP (°F) OUT	STACK (°F)	VOLUME (ft³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MINUTES 2.5 ZERO=
A12	.95	1.45	88	88	133	0.00	245	360	401	4	
11	.95	1.45	83	84	129	1.64					
10	1.05	1.60	82	84	127	3.33					
9	1.15	1.75	83	83	128	5.03					
8	1.20	1.83	84	84	129	6.83					
7	1.10	1.68	86	85	128	8.69				4	
6	1.05	1.61	86	85	129	10.46					
5	1.05	1.61	87	87	129	12.22					
4	1.00	1.54	88	87	127	13.98					
3	1.05	1.62	89	88	128	15.70					
2	.90	1.39	89	88	128	17.47				4	
1	.80	1.23	90	89	128	19.11					
B12	.85	1.32	92	89	127	20.67					
11	1.00	1.55	92	90	128	22.23					
10	1.05	1.63	92	91	128	23.97					
9	1.10	1.70	93	92	129	25.74					
8	1.10	1.70	93	92	131	27.55				4	
7	1.20	1.86	94	93	129	29.40					
6	1.15	1.79	97	93	130	31.28					
5	1.00	1.55	95	95	131	33.13					
4	1.05	1.62	96	94	135	34.89					
3	1.05	1.63	95	95	131	36.66				4	
2	.90	1.39	96	95	132	38.44					
1	.85	1.32	96	96	132	40.09					
						41.67					

Client:	Dron Lavington	Console:	MU 1013	Pb:	28.15 "Hg	Filter:	21	RAP %:		Date: Aug 10/23
Process:	CF 12	Mf:	1.0060	Static:	-.15 "H_2O	Silica:	21	+	$\%CO_2$	$\%O_2$	CO
Test:	3	K_o:	.6778	Ps:	28.10			+	0	21	
Personnel:	CB BH	Pitot:		Pm:	28.26	Total Vol:	322 ml		0	21	
Start time:	1129	C_p:	.84158	Area:	ft²	Start Vol:	300 ml		0	21	
Stop time:	1232	Nozzle:	.195	Bwo:	1%	Plant Type:				Mix:	
Permitt #		up strm	down strm			Pollution Abatement Equip:					
Location:		Start Leakage Rate@	15 "Hg .002 ft3/min								
		Finish Leakage Rate@	15 "Hg .005 ft3/min			Load:	Burner:			Fuel Type:	

SAMPLE POINT	DELTA P ("H_2O)	DELTA H ("H_2O)	GAS METER TEMP (°F) IN	GAS METER TEMP (°F) OUT	STACK (°F)	VOLUME (ft³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MINFT= 2.5 ZERO=
A12	.95	1.50	96	95	140	0.00	246	ICED	HOT	5	
11	1.00	1.57	89	91	137	1.60					
10	1.05	1.65	88	91	135	3.21					
9	1.15	1.82	88	90	132	5.03					
8	1.15	1.82	89	90	131	6.90					
7	1.15	1.83	90	91	129	8.76				6	
6	1.05	1.67	92	92	131	10.62					
5	1.00	1.59	92	92	133	12.43					
4	1.05	1.68	93	93	131	14.20					
3	1.00	1.59	93	93	132	15.99					
2	.90	1.44	94	94	132	17.74				5	
1	.80	1.28	94	94	129	19.45					
B12	.95	1.52	95	95	132	21.01					
11	1.05	1.68	95	95	133	22.73					
10	1.10	1.76	95	96	133	24.52					
9	1.05	1.69	96	96	131	26.37				6	
8	1.10	1.77	98	97	132	28.18					
7	1.15	1.85	97	97	132	30.04					
6	1.20	1.93	98	98	131	31.93					
5	1.10	1.77	98	98	131	33.85					
4	1.05	1.69	100	99	132	35.72				6	
3	1.00	1.61	101	99	134	37.58					
2	.90	1.46	104	101	133	39.29					
1	.85	1.38	105	100	132	40.98					
						42.60					

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Analytical Report

Bill To: McCall Environmental
6733 Buchanan Road
Coldstream, BC, Canada
V1B 3C5
Attn: Accounts Payable
Sampled By:
Company:

Project ID: PP Lavington
Project Name:
Project Location: Lavington
LSD:
P.O.:
Proj. Acct. code:

Lot ID: **1673177**
Control Number:
Date Received: Aug 21, 2023
Date Reported: Aug 28, 2023
Report Number: 2905536

	Reference Number	1673177-1	1673177-2	1673177-3
	Sample Date			
	Sample Time			
	Sample Location			
	Sample Description	Dryer North 1 Test 1 / 20.1 °C	Dryer North 1 Test 2 / 20.1 °C	Dryer North 1 Test 3 / 20.1 °C
	Matrix	Water	Water	Water

Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Aggregate Organic Constituents						
Oil and Grease	Total	mg/sample	<2	<2	<2	2
Volume	Sample volume	mL	327	319	316	
pH adjustment	required prior to O&G extraction		Yes	Yes	Yes	

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Analytical Report

Bill To:	McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID:	PP Lavington	Lot ID:	**1673177**
		Project Name:		Control Number:	
		Project Location:	Lavington	Date Received:	Aug 21, 2023
		LSD:		Date Reported:	Aug 28, 2023
Attn:	Accounts Payable	P.O.:		Report Number:	2905536
Sampled By:		Proj. Acct. code:			
Company:					

Reference Number		1673177-4	1673177-5	1673177-6
Sample Date				
Sample Time				
Sample Location				
Sample Description		Dryer North 1 Blank / 20.1 °C	Dryer North 2 Test 1 / 20.1 °C	Dryer North 2 Test 2 / 20.1 °C
Matrix		Water	Water	Water
Analyte	**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Aggregate Organic Constituents					
Oil and Grease Total	mg/sample	<2	<2	<2	2
Volume Sample volume	mL	299	306	316	
pH adjustment required prior to O&G extraction		Yes	Yes	Yes	

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Analytical Report

Bill To:	McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID:	PP Lavington	Lot ID:	**1673177**
		Project Name:		Control Number:	
		Project Location:	Lavington	Date Received:	Aug 21, 2023
		LSD:		Date Reported:	Aug 28, 2023
Attn:	Accounts Payable	P.O.:		Report Number:	2905536
Sampled By:		Proj. Acct. code:			
Company:					

Reference Number	1673177-7
Sample Date	
Sample Time	
Sample Location	
Sample Description	Dryer North 2 Test 3 / 20.1 °C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Oil and Grease	Total	mg/sample	<2			2
Volume	Sample volume	mL	298			
pH adjustment	required prior to O&G extraction		Yes			

Approved by:

Max Hewitt
Operations Manager

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Methodology and Notes

Bill To:	McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID:	PP Lavington	Lot ID:	**1673177**
		Project Name:		Control Number:	
		Project Location:	Lavington	Date Received:	Aug 21, 2023
		LSD:		Date Reported:	Aug 28, 2023
Attn:	Accounts Payable	P.O.:		Report Number:	2905536
Sampled By:		Proj. Acct. code:			
Company:					

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Oil and Grease in water (VAN)	BCELM	*	Oil & Grease in Water - Direct Hexane Extraction, Oil & Grease	Aug 22, 2023	Element Vancouver
Oil and Grease in water (VAN)	BCELM	*	Oil & Grease in Water - Direct Hexane Extraction, Oil & Grease	Aug 22, 2023	Element Vancouver

** Reference Method Modified*

References

BCELM	B.C. Environmental Laboratory Manual

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Analytical Report

Bill To:	McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID:	Pinnacle	Lot ID:	**1671899**
		Project Name:		Control Number:	C0089004
		Project Location:	Lavington, BC	Date Received:	Aug 15, 2023
		LSD:		Date Reported:	Aug 21, 2023
Attn:	Accounts Payable	P.O.:		Report Number:	2903753
Sampled By:	McCall Env.	Proj. Acct. code:			
Company:					

		Reference Number	1671899-1	1671899-2	1671899-3
		Sample Date	Aug 10, 2023	Aug 10, 2023	Aug 10, 2023
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Cyclofilter / CF-12 Test 1 / 21.8 °C	Cyclofilter / CF-12 Test 2 / 21.8 °C	Cyclofilter / CF-12 Test 3 / 21.8 °C
		Matrix	Water	Water	Water
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Aggregate Organic Constituents						
Oil and Grease	Total	mg/sample	2	2	3	2
Volume	Sample volume	mL	330	308	329	
pH adjustment	required prior to O&G extraction		Yes	Yes	Yes	

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Analytical Report

Bill To:	McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID:	Pinnacle	Lot ID:	**1671899**
		Project Name:		Control Number:	C0089004
		Project Location:	Lavington, BC	Date Received:	Aug 15, 2023
		LSD:		Date Reported:	Aug 21, 2023
Attn:	Accounts Payable	P.O.:		Report Number:	2903753
Sampled By:	McCall Env.	Proj. Acct. code:			
Company:					

		Reference Number	1671899-4	1671899-5	1671899-6
		Sample Date	Aug 09, 2023	Aug 09, 2023	Aug 09, 2023
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Dryer 1 South / Test 1 / 21.8 °C	Dryer 1 South / Test 2 / 21.8 °C	Dryer 1 South / Test 3 / 21.8 °C
		Matrix	Water	Water	Water
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Aggregate Organic Constituents						
Oil and Grease	Total	mg/sample	<2	<2	<2	2
Volume	Sample volume	mL	317	320	310	
pH adjustment	required prior to O&G extraction		Yes	Yes	Yes	

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Analytical Report

Bill To:	McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID:	Pinnacle	Lot ID:	**1671899**
		Project Name:		Control Number:	C0089004
		Project Location:	Lavington, BC	Date Received:	Aug 15, 2023
		LSD:		Date Reported:	Aug 21, 2023
Attn:	Accounts Payable	P.O.:		Report Number:	2903753
Sampled By:	McCall Env.	Proj. Acct. code:			
Company:					

		Reference Number	1671899-7	1671899-8	1671899-9
		Sample Date	Aug 09, 2023	Aug 09, 2023	Aug 09, 2023
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Dryer 2 South / Test 1 / 21.8 °C	Dryer 2 South / Test 2 / 21.8 °C	Dryer 2 South / Test 3 / 21.8 °C
		Matrix	Water	Water	Water
Analyte		**Units**	**Results**	**Results**	**Results**	Nominal Detection Limit
Aggregate Organic Constituents						
Oil and Grease	Total	mg/sample	<2	<2	<2	2
Volume	Sample volume	mL	405	404	398	
pH adjustment	required prior to O&G extraction		Yes	Yes	Yes	

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Analytical Report

Bill To:	McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID:	Pinnacle	Lot ID:	**1671899**
		Project Name:		Control Number:	C0089004
		Project Location:	Lavington, BC	Date Received:	Aug 15, 2023
		LSD:		Date Reported:	Aug 21, 2023
Attn:	Accounts Payable	P.O.:		Report Number:	2903753
Sampled By:	McCall Env.	Proj. Acct. code:			
Company:					

Reference Number	1671899-10
Sample Date	
Sample Time	
Sample Location	
Sample Description	Blank / Blank / 21.8 °C
Matrix	Water

Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Oil and Grease	Total	mg/sample	<2			2
Volume	Sample volume	mL	370			
pH adjustment	required prior to O&G extraction		Yes			

Approved by:

Max Hewitt
Operations Manager

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Methodology and Notes

Bill To:	McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID:	Pinnacle	Lot ID:	**1671899**
		Project Name:		Control Number:	C0089004
		Project Location:	Lavington, BC	Date Received:	Aug 15, 2023
		LSD:		Date Reported:	Aug 21, 2023
Attn:	Accounts Payable	P.O.:		Report Number:	2903753
Sampled By:	McCall Env.	Proj. Acct. code:			
Company:					

Method of Analysis

Method Name	Reference		Method	Date Analysis Started	Location
Oil and Grease in water (VAN)	BCELM	*	Oil & Grease in Water - Direct Hexane Extraction, Oil & Grease	Aug 16, 2023	Element Vancouver

** Reference Method Modified*

References

BCELM	B.C. Environmental Laboratory Manual

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This is to verify that

Matthew McCall

has successfully completed

a course of study in

Source Testing for Particulates

(35 hours)

Endorsed by
The B.C. Ministry of Environment

Dated at Burnaby, British Columbia, Canada
December 14, 1990

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June 23, 2017

Date

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Aug 9, 2023

Dryer exit gas temperature during stack test	32°C
Daily production rate during stack test	38.5 MT/hr
Average for the previous month	25.5 MT/hr
90th percentile production rate	40.4 MT/hr

Aug 10, 2023

Dryer exit gas temperature during stack test	34.7 °C
Daily production rate during stack test	36.9 MT/hr
Average for the previous month	25.5 MT/hr
90th percentile production rate	40.4 MT/hr

Aug 17, 2023

Dryer exit gas temperature during stack test	36.9 °C
Daily production rate during stack test	36.6 MT/hr
Average for the previous month	25.5 MT/hr
90th percentile production rate	40.4 MT/hr