

**Lavington Pellet Limited Partnership
Coldstream, B.C.
Dryers 1 & 2 Total Particulate
June 24-25, 2021
Permit 107369**

Our Job Number: ME2021-219

Report Author: Matt McCall
McCall Environmental

Table Of Contents

Introduction & Cover Letter	Page 2
Summary Tables	Page 3
Detailed Testing Data	
- Dryer 1 South Stack Total Particulate	Page 5
- Dryer 1 North Stack Total Particulate	Page 11
- Dryer 2 South Stack Total Particulate	Page 17
- Dryer 2 North Stack Total Particulate	Page 23
Testing Methodology	Page 29
Calibration Data	Page 35
Lab Results	Page 39
Accreditations	Page 43
Site Diagram	Page 45
Field Data Sheets	Page 47
Production Data	Page 59



August 3, 2021

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

Attention: **Jamie Colliss**
Re: **Air Emission Testing of June 24-25, 2021**
 Permit 107369, ME2021-219

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
 - o Total Particulate Testing (including Condensable Organics) State of Oregon Method 7
- Dryer 2- North and South Stacks
 - o 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: Jamie Colliss 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

Summary of Test Results

Dryer 1 June 24, 2021

Total Particulate

Dryer 1 Summary

Parameter	Dryer 1 South	Dryer 1 North	Average/Total	Permit
Test Date	24-Jun-21	24-Jun-21	N/A	
Gas Temperature (°C)	38.9	42.9	40.9	
% Moisture	3.35	3.15	3.25	
Velocity (m/sec)	10.55	13.57	12.06	
ACFM	76180	209791	285970	
Std. Dry Flow Rate (m ³ /sec)	30.82	83.93	114.75	132.00
Tot Part. Dry Basis ref. Cond. (mg/m ³)	7.45	12.16	9.80	15.00
Front Half Particulate (mg/m ³)	3.67	3.87	3.77	
Back Half Condensibles (mg/m ³)	3.78	8.29	6.03	
Mass Emission Rate (kg/hr)	0.83	3.67	4.50	

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

Discussion:

The last time these sources were tested in July of 2020 combined volumetric flow rate was at 121.02 m³/sec and had an average concentration of 7.68 mg/m³. These sources are somewhat turbulent in nature but are considered as being 'non-cyclonic'.

Dryer 2 June 25, 2021

Total Particulate

Dryer 2 Summary

Parameter	Dryer 2 South	Dryer 2 North	Average/Total	Permit
Test Date	25-Jun-21	25-Jun-21	N/A	
Gas Temperature (°C)	39.4	42.0	40.7	
% Moisture	2.44	3.71	3.07	
Velocity (m/sec)	10.11	12.76	11.43	
ACFM	72957	197281	270238	
Std. Dry Flow Rate (m ³ /sec)	29.84	78.97	108.82	132.00
Tot Part. Dry Basis ref. Cond. (mg/m ³)	5.83	10.19	8.01	15.00
Front Half Particulate (mg/m ³)	4.16	5.97	5.07	
Back Half Condensibles (mg/m ³)	1.67	4.22	2.95	
Mass Emission Rate (kg/hr)	0.63	2.90	3.53	

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

Discussion:

The last time these sources were tested was in July of 2020. At that time the combined volumetric flow rate was measured at 115.21 m³/sec and had an averaged concentration of 10.35 mg/m³. These sources are somewhat turbulent in nature but are considered as being 'non-cyclonic'.

Pinnacle Pellet Lavington
Dryer 1 South Stack
Lavington, BC

24-Jun-21

Permit Number: 107369

AVERAGE OF AIR EMISSION TESTS 1 TO 3

Gas Temperature:	102 ° F	39 ° C
Moisture Content (by volume):	3.35 %	
Average Stack Gas Velocity:	34.6 ft/sec	10.6 m/sec
Total Actual Gas Flow Rate:	76180 ACFM	
Dry Gas flow Rate at Reference Conditions:	65303 SCFM	30.8 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	0.003 gr/ft ³	7.4 mg/m ³
Front Half Particulate	0.002 gr/ft ³	3.7 mg/m ³
Back Half Condensibles	0.002 gr/ft ³	3.8 mg/m ³
Mass Emission Rate	1.82 lbs/hr	0.83 kg/hr

SUMMARY OF AIR EMISSION TESTS

TEST 1:

Gas Temperature:	98 ° F	36 ° C
Moisture Content (by volume):	3.2 %	
Average Stack Gas Velocity:	34.4 ft/sec	10.5 m/sec
Total Actual Gas Flow Rate:	75793 ACFM	
Dry Gas flow Rate at Reference Conditions:	65547 SCFM	30.9 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.002 gr/ft ³	5.7 mg/m ³
Front Half Particulate	.001 gr/ft ³	1.7 mg/m ³
Back Half Condensibles	.002 gr/ft ³	4.0 mg/m ³
Mass Emission Rate	1.40 lbs/hr	0.64 kg/hr

TEST 2:

Gas Temperature:	104 ° F	40 ° C
Moisture Content (by volume):	3.4 %	
Average Stack Gas Velocity:	34.9 ft/sec	10.6 m/sec
Total Actual Gas Flow Rate:	76795 ACFM	
Dry Gas flow Rate at Reference Conditions:	65513 SCFM	30.9 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.004 gr/ft ³	9.8 mg/m ³
Front Half Particulate	.003 gr/ft ³	5.7 mg/m ³
Back Half Condensibles	.002 gr/ft ³	4.0 mg/m ³
Mass Emission Rate	2.40 lbs/hr	1.09 kg/hr

TEST 3:

Gas Temperature:	104 ° F	40 ° C
Moisture Content (by volume):	3.4 %	
Average Stack Gas Velocity:	34.5 ft/sec	10.5 m/sec
Total Actual Gas Flow Rate:	75951 ACFM	
Dry Gas flow Rate at Reference Conditions:	64848 SCFM	30.6 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.003 gr/ft ³	6.8 mg/m ³
Front Half Particulate	.002 gr/ft ³	3.6 mg/m ³
Back Half Condensibles	.001 gr/ft ³	3.3 mg/m ³
Mass Emission Rate	1.66 lbs/hr	0.75 kg/hr

DATA FOR TESTS 1 TO 3

Client: Pinnacle Pellet Lavington
Plant Location: Lavington, BC
Process: Dryer 1 South Stack
Permit Number: 107369
Job Number: ME2021-219
Pollution Control Permit: 15.0 mg/m3 33 m3/sec
Number of Tests: 3 tests
Minutes per Point: 2.5 minutes

Filter Number:
Date of Test:
Start Time:
Stop Time:
On-line Sampling Time:
Testing Personnel:
Sampler Model:
Barometric Pressure("Hg):
Static Pressure("H₂O):
%CO₂:
%O₂:
%CO:
%N₂:
Diameter of Nozzle(inches):
Meter Factor:
Type-S Pitot Tube Coefficient:
Cross Sectional Area of Stack(ft²):
Impinger Condensate(g):
Weight of Moisture in Silica Gel(g):
Weight of Filter Particulate(g):
Weight of Probe Washings(g):
Weight of Impinger Content Organic(g):
Total Weight of Particulate(g):

TEST 1	TEST 2	TEST 3
28	29	30
24-Jun-21	24-Jun-21	24-Jun-21
13:30	14:47	16:08
14:35	15:53	17:12
60	60	60
DL/KS	DL/KS	DL/KS
MU-1013	MU-1013	MU-1013
28.25	28.25	28.25
-0.10	-0.10	-0.10
0.0	0.0	0.0
21.0	21.0	21.0
0.0	0.0	0.0
79.0	79.0	79.0
0.275	0.275	0.275
0.991	0.991	0.991
0.84295	0.84295	0.84295
36.67	36.67	36.67
27	28	27
4.2	5.0	5.2
0.0001	..0002	0.0002
0.0020	0.0071	0.0042
0.0050	0.0050	0.0040
0.0071	0.0121	0.0084

Sampling Data for - *TEST 1*

24-Jun-21

Pinnacle Pellet Lavington

Dryer 1 South Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
A-12	0.34	2.59	90	91	100	0.00	1.03
A-11	0.33	2.19	85	90	96	2.12	1.00
A-10	0.35	2.31	84	86	94	4.15	1.02
A-9	0.36	2.39	86	88	93	6.28	1.00
A-8	0.34	2.26	89	89	94	8.40	0.99
A-7	0.33	2.21	90	90	91	10.45	0.97
A-6	0.32	2.14	92	92	93	12.45	0.99
A-5	0.32	2.14	92	92	94	14.46	1.00
A-4	0.30	2.00	96	95	97	16.49	1.01
A-3	0.30	2.00	95	95	99	18.47	0.96
A-2	0.31	2.07	98	97	99	20.35	0.99
A-1	0.30	2.00	98	97	99	22.33	0.98
B-12	0.36	2.42	100	100	99	24.26	1.00
B-11	0.35	2.35	101	99	101	26.43	0.97
B-10	0.33	2.22	102	102	99	28.49	0.99
B-9	0.34	2.28	101	101	100	30.55	0.98
B-8	0.34	2.29	103	103	98	32.62	0.98
B-7	0.33	2.23	103	103	98	34.69	1.00
B-6	0.32	2.16	104	104	100	36.78	0.99
B-5	0.32	2.17	105	105	98	38.81	0.98
B-4	0.33	2.24	107	106	99	40.84	1.01
B-3	0.34	2.31	107	107	100	42.95	0.97
B-2	0.33	2.24	109	108	100	45.02	0.99
B-1	0.33	2.24	109	109	102	47.10	1.00
						49.20	

Sampling Data for - *TEST 2*

24-Jun-21

Pinnacle Pellet Lavington

Dryer 1 South Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
B-12	0.35	2.35	112	112	111	0.00	0.99
B-11	0.35	2.35	103	108	104	2.14	1.01
B-10	0.37	2.48	103	104	103	4.30	0.98
B-9	0.34	2.28	104	105	103	6.46	0.98
B-8	0.32	2.15	105	105	100	8.54	1.03
B-7	0.33	2.23	105	105	100	10.65	0.92
B-6	0.33	2.22	106	106	104	12.58	0.99
B-5	0.32	2.15	107	107	103	14.64	0.98
B-4	0.33	2.22	107	107	103	16.65	0.99
B-3	0.32	2.16	108	108	103	18.72	0.99
B-2	0.33	2.23	109	109	104	20.76	1.00
B-1	0.30	2.06	109	109	102	22.85	0.99
A-12	0.36	2.45	110	110	105	24.83	0.95
A-11	0.35	2.36	110	110	104	26.92	0.99
A-10	0.36	2.44	111	111	104	29.07	1.00
A-9	0.34	2.30	112	113	105	31.26	1.01
A-8	0.34	2.31	113	113	105	33.41	0.99
A-7	0.33	2.23	112	112	105	35.52	1.00
A-6	0.34	2.30	113	113	107	37.62	1.00
A-5	0.32	2.17	113	113	105	39.75	1.00
A-4	0.33	2.25	114	114	104	41.82	0.98
A-3	0.32	2.18	114	114	104	43.90	0.98
A-2	0.33	2.24	115	115	106	45.94	0.98
A-1	0.32	2.17	114	115	106	48.02	0.99
						50.07	

Sampling Data for - TEST 3

24-Jun-21

Pinnacle Pellet Lavington

Dryer 1 South Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
A-12	0.33	2.36	114	117	109	0.00	1.00
A-11	0.35	2.37	115	118	110	2.11	0.97
A-10	0.36	2.44	115	118	110	4.22	0.97
A-9	0.34	2.31	114	117	107	6.36	1.02
A-8	0.34	2.31	114	116	104	8.55	0.97
A-7	0.33	2.24	116	116	104	10.63	0.98
A-6	0.32	2.18	116	117	105	12.72	0.98
A-5	0.32	2.19	115	114	103	14.76	0.99
A-4	0.32	2.19	114	113	102	16.82	1.00
A-3	0.3	2.05	114	113	102	18.90	0.97
A-2	0.31	2.12	113	113	104	20.86	1.02
A-1	0.31	2.12	114	115	103	22.95	1.04
B-12	0.36	2.47	114	116	102	25.09	0.96
B-11	0.35	2.40	115	117	102	27.21	0.99
B-10	0.35	2.40	115	116	101	29.37	0.96
B-9	0.33	2.26	116	115	102	31.48	0.98
B-8	0.34	2.33	116	116	102	33.57	0.97
B-7	0.34	2.33	117	115	104	35.66	0.99
B-6	0.32	2.19	116	116	103	37.79	1.02
B-5	0.33	2.26	117	116	103	39.93	1.02
B-4	0.31	2.13	118	117	103	42.10	1.03
B-3	0.30	2.06	117	117	103	44.23	0.99
B-2	0.30	2.06	117	116	104	46.24	0.98
B-1	0.30	2.06	116	116	105	48.22	1.02
						50.28	



Pinnacle Pellet Lavington
Dryer 1 South Stack
Pinnacle Pellet Lavington

Data for **TEST 1**

OVERALL ISOKINETICS - TEST 1 0.991

Delta P:	0.330 "H ₂ O	Us avg:	34.45 ft/sec
Delta H:	2.227	ACFM:	75793 ft ³ /min
Tm avg:	557.8 °R	SDCFM:	65547 ft ³ /min
Ts avg:	557.6 °R	Vm std:	43.83 ft ³
Bwo:	0.032	Vm corr:	48.76 ft ³
Md:	28.84	Vm:	49.20 ft ³
Ms:	28.49	MF:	0.9910
Pb:	28.25 "Hg	PCON:	5.72 mg/m ³
Pm:	28.41 "Hg	ERAT:	0.64 kg/hr
Ps:	28.24 "Hg		

Data for **TEST 2**

OVERALL ISOKINETICS - TEST 2 0.988

Delta P:	0.334 "H ₂ O	Us avg:	34.90 ft/sec
Delta H:	2.262	ACFM:	76795 ft ³ /min
Tm avg:	569.7 °R	SDCFM:	65513 ft ³ /min
Ts avg:	564.2 °R	Vm std:	43.67 ft ³
Bwo:	0.034	Vm corr:	49.62 ft ³
Md:	28.84	Vm:	50.07 ft ³
Ms:	28.47	MF:	0.9910
Pb:	28.25 "Hg	PCON:	9.78 mg/m ³
Pm:	28.42 "Hg	ERAT:	1.09 kg/hr
Ps:	28.24 "Hg		

Data for **TEST 3**

OVERALL ISOKINETICS - TEST 3 0.992

Delta P:	0.327 "H ₂ O	Us avg:	34.52 ft/sec
Delta H:	2.243	ACFM:	75951 ft ³ /min
Tm avg:	575.6 °R	SDCFM:	64848 ft ³ /min
Ts avg:	564.0 °R	Vm std:	43.41 ft ³
Bwo:	0.034	Vm corr:	49.83 ft ³
Md:	28.84	Vm:	50.28 ft ³
Ms:	28.47	MF:	0.9910
Pb:	28.25 "Hg	PCON:	6.83 mg/m ³
Pm:	28.42 "Hg	ERAT:	0.75 kg/hr
Ps:	28.24 "Hg		

Pinnacle Pellet Lavington
Dryer 1 North Stack
Lavington, BC

24-Jun-21

Permit Number: 107369

AVERAGE OF AIR EMISSION TESTS 1 TO 3

Gas Temperature:	109 ° F	43 ° C
Moisture Content (by volume):	3.15 %	
Average Stack Gas Velocity:	44.5 ft/sec	13.6 m/sec
Total Actual Gas Flow Rate:	209791 ACFM	
Dry Gas flow Rate at Reference Conditions:	177839 SCFM	83.9 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	0.005 gr/ft ³	12.2 mg/m ³
Front Half Particulate	0.002 gr/ft ³	3.9 mg/m ³
Back Half Condensibles	0.004 gr/ft ³	8.3 mg/m ³
Mass Emission Rate	8.10 lbs/hr	3.67 kg/hr

SUMMARY OF AIR EMISSION TESTS

TEST 1:

Gas Temperature:	107 ° F	41 ° C
Moisture Content (by volume):	3.2 %	
Average Stack Gas Velocity:	44.3 ft/sec	13.5 m/sec
Total Actual Gas Flow Rate:	208796 ACFM	
Dry Gas flow Rate at Reference Conditions:	177754 SCFM	83.9 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.007 gr/ft ³	16.7 mg/m ³
Front Half Particulate	.003 gr/ft ³	6.6 mg/m ³
Back Half Condensibles	.004 gr/ft ³	10.2 mg/m ³
Mass Emission Rate	11.15 lbs/hr	5.06 kg/hr

TEST 2:

Gas Temperature:	110 ° F	43 ° C
Moisture Content (by volume):	2.8 %	
Average Stack Gas Velocity:	44.6 ft/sec	13.6 m/sec
Total Actual Gas Flow Rate:	210185 ACFM	
Dry Gas flow Rate at Reference Conditions:	178617 SCFM	84.3 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.005 gr/ft ³	10.3 mg/m ³
Front Half Particulate	.001 gr/ft ³	2.9 mg/m ³
Back Half Condensibles	.003 gr/ft ³	7.4 mg/m ³
Mass Emission Rate	6.89 lbs/hr	3.13 kg/hr

TEST 3:

Gas Temperature:	111 ° F	44 ° C
Moisture Content (by volume):	3.5 %	
Average Stack Gas Velocity:	44.6 ft/sec	13.6 m/sec
Total Actual Gas Flow Rate:	210391 ACFM	
Dry Gas flow Rate at Reference Conditions:	177145 SCFM	83.6 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.004 gr/ft ³	9.4 mg/m ³
Front Half Particulate	.001 gr/ft ³	2.1 mg/m ³
Back Half Condensibles	.003 gr/ft ³	7.3 mg/m ³
Mass Emission Rate	6.26 lbs/hr	2.84 kg/hr

DATA FOR TESTS 1 TO 3

Client: Pinnacle Pellet Lavington
Plant Location: Lavington, BC
Process: Dryer 1 North Stack
Permit Number: 107369
Job Number: ME2021-219
Pollution Control Permit: 15.0 mg/m3 99 m3/sec
Number of Tests: 3 tests
Minutes per Point: 2.5 minutes

Filter Number:
Date of Test:
Start Time:
Stop Time:
On-line Sampling Time:
Testing Personnel:
Sampler Model:
Barometric Pressure("Hg):
Static Pressure("H₂O):
%CO₂:
%O₂:
%CO:
%N₂:
Diameter of Nozzle(inches):
Meter Factor:
Type-S Pitot Tube Coefficient:
Cross Sectional Area of Stack(ft²):
Impinger Condensate(g):
Weight of Moisture in Silica Gel(g):
Weight of Filter Particulate(g):
Weight of Probe Washings(g):
Weight of Impinger Content Organic(g):
Total Weight of Particulate(g):

TEST 1	TEST 2	TEST 3
25	26	27
24-Jun-21	24-Jun-21	24-Jun-21
9:20	10:31	11:45
10:25	11:36	12:48
60	60	60
DL/KS	DL/KS	DL/KS
MU-1013	MU-1013	MU-1013
28.25	28.25	28.25
-0.30	-0.30	-0.30
0.0	0.0	0.0
21.0	21.0	21.0
0.0	0.0	0.0
79.0	79.0	79.0
0.230	0.230	0.230
0.991	0.991	0.991
0.84295	0.84295	0.84295
78.54	78.54	78.54
24	20	26
2.5	3.1	3.9
0.0069	0.0030	0.0020
0.0002	0.0002	0.0003
0.0110	0.0080	0.0080
0.0181	0.0112	0.0103

Sampling Data for - *TEST 1*

24-Jun-21

Pinnacle Pellet Lavington

Dryer 1 North Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
A-12	0.55	1.65	75	75	114	0.00	0.99
A-11	0.50	1.50	66	64	103	1.75	0.96
A-10	0.52	1.57	67	65	102	3.35	0.96
A-9	0.50	1.51	67	65	100	5.00	1.00
A-8	0.54	1.63	71	66	102	6.68	0.98
A-7	0.58	1.76	72	68	101	8.40	0.95
A-6	0.60	1.82	77	71	104	10.13	0.96
A-5	0.62	1.89	76	71	103	11.92	0.98
A-4	0.70	2.14	79	75	105	13.77	0.99
A-3	0.72	2.20	80	76	106	15.76	0.96
A-2	0.75	2.30	84	79	107	17.72	0.99
A-1	0.77	2.38	85	80	103	19.80	0.93
B-12	0.55	1.69	87	82	108	21.78	0.95
B-11	0.50	1.54	87	83	107	23.50	1.05
B-10	0.48	1.48	88	86	110	25.31	1.00
B-9	0.42	1.30	90	88	109	27.00	0.98
B-8	0.40	1.24	92	89	110	28.56	0.95
B-7	0.40	1.24	90	89	109	30.05	0.97
B-6	0.42	1.31	92	92	110	31.56	0.99
B-5	0.43	1.34	92	92	110	33.15	0.96
B-4	0.45	1.41	93	93	109	34.70	1.00
B-3	0.52	1.63	93	93	109	36.36	0.97
B-2	0.55	1.73	96	95	110	38.09	0.98
B-1	0.53	1.67	95	95	108	39.90	0.99
						41.69	

Sampling Data for - TEST 2

24-Jun-21

Pinnacle Pellet Lavington

Dryer 1 North Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
B-12	0.53	1.68	100	101	110	0.00	0.98
B-11	0.50	1.56	94	95	113	1.80	0.98
B-10	0.50	1.57	95	96	109	3.52	1.01
B-9	0.45	1.41	96	96	110	5.30	0.97
B-8	0.40	1.25	96	96	109	6.92	0.97
B-7	0.40	1.25	96	96	110	8.45	1.02
B-6	0.43	1.35	96	96	108	10.06	0.97
B-5	0.42	1.32	97	97	109	11.66	0.94
B-4	0.46	1.45	98	98	109	13.18	0.97
B-3	0.52	1.64	99	98	109	14.83	0.93
B-2	0.55	1.74	99	99	109	16.52	0.98
B-1	0.53	1.67	100	100	110	18.34	0.99
A-12	0.57	1.81	101	101	109	20.16	0.96
A-11	0.54	1.71	102	102	110	21.98	1.02
A-10	0.50	1.58	102	102	110	23.88	0.97
A-9	0.52	1.65	102	102	110	25.61	0.98
A-8	0.53	1.68	103	103	110	27.40	0.97
A-7	0.57	1.81	103	103	111	29.19	0.98
A-6	0.60	1.90	104	104	111	31.06	0.97
A-5	0.65	2.06	105	104	111	32.97	0.94
A-4	0.70	2.23	105	105	111	34.88	0.98
A-3	0.75	2.39	106	105	112	36.96	0.98
A-2	0.75	2.39	105	105	111	39.10	0.99
A-1	0.74	2.36	106	106	110	41.27	0.96
						43.37	

Sampling Data for - TEST 3

24-Jun-21

Pinnacle Pellet Lavington

Dryer 1 North Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
A-12	0.5	1.57	95	95	109	0.00	1.07
A-11	0.5	1.57	95	95	110	1.87	0.93
A-10	0.5	1.57	96	95	111	3.50	1.04
A-9	0.45	1.42	96	95	111	5.32	0.97
A-8	0.40	1.26	96	95	112	6.94	0.95
A-7	0.4	1.26	96	96	110	8.43	1.06
A-6	0.42	1.33	97	96	109	10.09	0.96
A-5	0.4	1.26	97	96	108	11.63	0.97
A-4	0.52	1.65	97	96	110	13.16	0.94
A-3	0.55	1.75	97	96	110	14.85	0.92
A-2	0.5	1.58	98	95	111	16.54	1.05
A-1	0.5	1.58	98	96	112	18.39	1.00
B-12	0.54	1.73	99	97	113	20.14	1.00
B-11	0.52	1.65	100	98	112	21.96	1.02
B-10	0.57	1.83	101	99	113	23.80	0.97
B-9	0.60	1.92	101	99	110	25.63	0.93
B-8	0.60	1.92	102	99	110	27.42	0.92
B-7	0.55	1.75	102	100	111	29.20	0.99
B-6	0.60	1.93	103	100	111	31.04	1.01
B-5	0.60	1.93	104	100	112	32.99	0.95
B-4	0.70	2.24	104	101	112	34.84	1.03
B-3	0.75	2.41	105	101	113	36.99	0.97
B-2	0.70	2.24	106	102	110	39.10	1.03
B-1	0.70	2.25	106	102	109	41.26	1.01
						43.39	



Pinnacle Pellet Lavington
Dryer 1 North Stack
Pinnacle Pellet Lavington

Data for **TEST 1**

OVERALL ISOKINETICS - TEST 1 0.976

Delta P:	0.537 "H ₂ O	Us avg:	44.31 ft/sec
Delta H:	1.664	ACFM:	208796 ft ³ /min
Tm avg:	541.8 °R	SDCFM:	177754 ft ³ /min
Ts avg:	566.6 °R	Vm std:	38.18 ft ³
Bwo:	0.032	Vm corr:	41.31 ft ³
Md:	28.84	Vm:	41.69 ft ³
Ms:	28.50	MF:	0.9910
Pb:	28.25 "Hg	PCON:	16.74 mg/m ³
Pm:	28.37 "Hg	ERAT:	5.06 kg/hr
Ps:	28.23 "Hg		

Data for **TEST 2**

OVERALL ISOKINETICS - TEST 2 0.975

Delta P:	0.542 "H ₂ O	Us avg:	44.60 ft/sec
Delta H:	1.728	ACFM:	210185 ft ³ /min
Tm avg:	560.4 °R	SDCFM:	178617 ft ³ /min
Ts avg:	570.0 °R	Vm std:	38.41 ft ³
Bwo:	0.028	Vm corr:	42.98 ft ³
Md:	28.84	Vm:	43.37 ft ³
Ms:	28.54	MF:	0.9910
Pb:	28.25 "Hg	PCON:	10.30 mg/m ³
Pm:	28.38 "Hg	ERAT:	3.13 kg/hr
Ps:	28.23 "Hg		

Data for **TEST 3**

OVERALL ISOKINETICS - TEST 3 0.987

Delta P:	0.540 "H ₂ O	Us avg:	44.65 ft/sec
Delta H:	1.733	ACFM:	210391 ft ³ /min
Tm avg:	558.6 °R	SDCFM:	177145 ft ³ /min
Ts avg:	570.8 °R	Vm std:	38.55 ft ³
Bwo:	0.035	Vm corr:	43.00 ft ³
Md:	28.84	Vm:	43.39 ft ³
Ms:	28.46	MF:	0.9910
Pb:	28.25 "Hg	PCON:	9.44 mg/m ³
Pm:	28.38 "Hg	ERAT:	2.84 kg/hr
Ps:	28.23 "Hg		

Pinnacle Pellet Lavington
Dryer 2 South Stack
Lavington, BC

25-Jun-21

Permit Number: 107369

AVERAGE OF AIR EMISSION TESTS 1 TO 3

Gas Temperature:	103 ° F	39 ° C
Moisture Content (by volume):	2.44 %	
Average Stack Gas Velocity:	33.2 ft/sec	10.1 m/sec
Total Actual Gas Flow Rate:	72957 ACFM	
Dry Gas flow Rate at Reference Conditions:	63236 SCFM	29.8 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	0.003 gr/ft ³	5.8 mg/m ³
Front Half Particulate	0.002 gr/ft ³	4.2 mg/m ³
Back Half Condensibles	0.001 gr/ft ³	1.7 mg/m ³
Mass Emission Rate	1.38 lbs/hr	0.63 kg/hr

SUMMARY OF AIR EMISSION TESTS

TEST 1:

Gas Temperature:	99 ° F	37 ° C
Moisture Content (by volume):	2.6 %	
Average Stack Gas Velocity:	33.0 ft/sec	10.1 m/sec
Total Actual Gas Flow Rate:	72568 ACFM	
Dry Gas flow Rate at Reference Conditions:	63219 SCFM	29.8 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.001 gr/ft ³	2.7 mg/m ³
Front Half Particulate	.000 gr/ft ³	1.0 mg/m ³
Back Half Condensibles	.001 gr/ft ³	1.7 mg/m ³
Mass Emission Rate	0.63 lbs/hr	0.29 kg/hr

TEST 2:

Gas Temperature:	106 ° F	41 ° C
Moisture Content (by volume):	2.3 %	
Average Stack Gas Velocity:	33.0 ft/sec	10.1 m/sec
Total Actual Gas Flow Rate:	72685 ACFM	
Dry Gas flow Rate at Reference Conditions:	62787 SCFM	29.6 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.004 gr/ft ³	8.3 mg/m ³
Front Half Particulate	.003 gr/ft ³	6.6 mg/m ³
Back Half Condensibles	.001 gr/ft ³	1.7 mg/m ³
Mass Emission Rate	1.95 lbs/hr	0.88 kg/hr

TEST 3:

Gas Temperature:	104 ° F	40 ° C
Moisture Content (by volume):	2.4 %	
Average Stack Gas Velocity:	33.5 ft/sec	10.2 m/sec
Total Actual Gas Flow Rate:	73618 ACFM	
Dry Gas flow Rate at Reference Conditions:	63702 SCFM	30.1 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.003 gr/ft ³	6.5 mg/m ³
Front Half Particulate	.002 gr/ft ³	4.9 mg/m ³
Back Half Condensibles	.001 gr/ft ³	1.7 mg/m ³
Mass Emission Rate	1.56 lbs/hr	0.71 kg/hr

DATA FOR TESTS 1 TO 3

Client: Pinnacle Pellet Lavington
Plant Location: Lavington, BC
Process: Dryer 2 South Stack
Permit Number: 107369
Job Number: ME2021-219
Pollution Control Permit: 15.0 mg/m3 33 m3/sec
Number of Tests: 3 tests
Minutes per Point: 2.5 minutes

Filter Number:
Date of Test:
Start Time:
Stop Time:
On-line Sampling Time:
Testing Personnel:
Sampler Model:
Barometric Pressure("Hg):
Static Pressure("H₂O):
%CO₂:
%O₂:
%CO:
%N₂:
Diameter of Nozzle(inches):
Meter Factor:
Type-S Pitot Tube Coefficient:
Cross Sectional Area of Stack(ft²):
Impinger Condensate(g):
Weight of Moisture in Silica Gel(g):
Weight of Filter Particulate(g):
Weight of Probe Washings(g):
Weight of Impinger Content Organic(g):
Total Weight of Particulate(g):

TEST 1	TEST 2	TEST 3
34	35	36
25-Jun-21	25-Jun-21	25-Jun-21
12:55	14:10	15:25
14:00	15:15	16:30
60	60	60
DL/KS	DL/KS	DL/KS
MU-1013	MU-1013	MU-1013
28.35	28.35	28.35
-0.10	-0.10	-0.10
0.0	0.0	0.0
21.0	21.0	21.0
0.0	0.0	0.0
79.0	79.0	79.0
0.275	0.275	0.275
0.991	0.991	0.991
0.84295	0.84295	0.84295
36.67	36.67	36.67
21	17	18
3.3	4.1	3.9
0.0007	0.0072	0.0056
0.0005	0.0007	0.0002
0.0020	0.0020	0.0020
0.0032	0.0099	0.0078

Sampling Data for - *TEST 1*

25-Jun-21

Pinnacle Pellet Lavington

Dryer 2 South Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
A-12	0.38	2.57	103	104	98	0.00	1.02
A-11	0.35	2.35	94	98	95	2.30	1.01
A-10	0.36	2.42	94	98	94	4.45	0.94
A-9	0.32	2.14	95	96	94	6.49	1.02
A-8	0.30	2.01	97	98	96	8.57	1.02
A-7	0.32	2.15	99	99	96	10.60	0.99
A-6	0.31	2.09	100	100	96	12.63	1.00
A-5	0.30	2.02	101	101	96	14.65	1.03
A-4	0.28	1.88	102	102	98	16.71	0.93
A-3	0.25	1.69	102	103	97	18.51	0.97
A-2	0.24	1.62	104	104	99	20.29	1.01
A-1	0.25	1.69	107	107	99	22.10	0.98
B-12	0.37	2.51	107	107	100	23.90	0.92
B-11	0.36	2.44	109	109	101	25.96	0.96
B-10	0.35	2.37	110	109	102	28.07	1.01
B-9	0.36	2.45	111	111	101	30.26	0.99
B-8	0.32	2.18	112	111	102	32.44	1.01
B-7	0.30	2.04	113	113	102	34.55	1.06
B-6	0.31	2.10	113	113	105	36.70	0.97
B-5	0.28	1.41	113	114	102	38.70	0.99
B-4	0.28	1.91	115	114	102	40.65	0.99
B-3	0.26	1.79	115	116	100	42.59	0.97
B-2	0.23	1.58	116	116	101	44.44	1.00
B-1	0.24	1.65	116	116	100	46.22	0.97
						48.00	

Sampling Data for - *TEST 2*

25-Jun-21

Pinnacle Pellet Lavington

Dryer 2 South Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
B-12	0.38	2.60	124	123	112	0.00	1.01
B-11	0.35	2.40	121	120	108	2.33	0.93
B-10	0.37	2.52	115	117	106	4.39	0.98
B-9	0.30	2.05	116	117	107	6.61	1.03
B-8	0.28	1.91	116	118	108	8.70	1.08
B-7	0.30	2.05	115	118	105	10.82	1.02
B-6	0.32	2.18	115	117	106	12.90	0.98
B-5	0.29	1.98	116	118	104	14.95	1.02
B-4	0.27	1.85	117	118	104	16.99	0.97
B-3	0.26	1.79	117	117	103	18.87	0.99
B-2	0.24	1.65	118	117	104	20.76	0.98
B-1	0.25	1.71	116	115	103	22.56	0.94
A-12	0.35	2.40	116	116	104	24.31	0.96
A-11	0.34	2.33	117	117	104	26.42	0.99
A-10	0.35	2.40	117	118	106	28.58	0.97
A-9	0.33	2.26	118	118	105	30.72	0.99
A-8	0.31	2.12	118	119	105	32.85	0.99
A-7	0.33	2.26	119	120	105	34.90	0.99
A-6	0.32	2.20	119	119	104	37.02	1.00
A-5	0.30	2.06	120	119	105	39.13	1.01
A-4	0.27	1.88	121	121	107	41.21	1.12
A-3	0.26	1.79	123	122	108	43.40	1.01
A-2	0.25	1.72	122	122	107	45.33	1.00
A-1	0.24	1.65	122	122	107	47.21	0.97
						49.00	

Sampling Data for - TEST 3

25-Jun-21

Pinnacle Pellet Lavington

Dryer 2 South Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
A-12	0.36	2.50	125	126	106	0.00	0.98
A-11	0.35	2.40	120	119	107	2.21	1.01
A-10	0.36	2.50	119	118	105	4.44	0.95
A-9	0.34	2.33	118	119	106	6.56	1.00
A-8	0.32	2.20	118	119	107	8.74	1.02
A-7	0.34	2.33	119	121	108	10.88	0.97
A-6	0.33	2.27	121	122	106	12.99	0.99
A-5	0.32	2.20	122	123	105	15.13	0.96
A-4	0.3	2.08	124	123	104	17.18	0.98
A-3	0.27	1.87	122	121	104	19.20	0.98
A-2	0.26	1.80	121	121	102	21.12	1.00
A-1	0.24	1.66	121	120	103	23.04	0.98
B-12	0.35	2.42	122	122	103	24.85	0.96
B-11	0.36	2.49	122	121	104	26.98	0.95
B-10	0.36	2.49	122	121	104	29.11	0.97
B-9	0.34	2.35	122	121	103	31.30	0.98
B-8	0.32	2.21	123	122	103	33.45	1.00
B-7	0.30	2.08	122	122	105	35.58	0.93
B-6	0.29	2.01	122	121	104	37.50	1.02
B-5	0.30	2.08	122	122	103	39.56	0.96
B-4	0.28	1.94	122	123	103	41.53	0.97
B-3	0.27	1.87	123	123	102	43.46	1.01
B-2	0.25	1.74	123	124	102	45.45	0.98
B-1	0.25	1.74	124	124	102	47.30	0.95
						49.10	



Pinnacle Pellet Lavington
Dryer 2 South Stack
Pinnacle Pellet Lavington

Data for **TEST 1**

OVERALL ISOKINETICS - TEST 1 0.991

Delta P:	0.303 "H ₂ O	Us avg:	32.98 ft/sec
Delta H:	2.044	ACFM:	72568 ft ³ /min
Tm avg:	566.4 °R	SDCFM:	63219 ft ³ /min
Ts avg:	559.0 °R	Vm std:	42.24 ft ³
Bwo:	0.026	Vm corr:	47.57 ft ³
Md:	28.84	Vm:	48.00 ft ³
Ms:	28.55	MF:	0.9910
Pb:	28.35 "Hg	PCON:	2.68 mg/m ³
Pm:	28.50 "Hg	ERAT:	0.29 kg/hr
Ps:	28.34 "Hg		

Data for **TEST 2**

OVERALL ISOKINETICS - TEST 2 0.997

Delta P:	0.301 "H ₂ O	Us avg:	33.04 ft/sec
Delta H:	2.073	ACFM:	72685 ft ³ /min
Tm avg:	578.5 °R	SDCFM:	62787 ft ³ /min
Ts avg:	565.7 °R	Vm std:	42.22 ft ³
Bwo:	0.023	Vm corr:	48.56 ft ³
Md:	28.84	Vm:	49.00 ft ³
Ms:	28.59	MF:	0.9910
Pb:	28.35 "Hg	PCON:	8.28 mg/m ³
Pm:	28.50 "Hg	ERAT:	0.88 kg/hr
Ps:	28.34 "Hg		

Data for **TEST 3**

OVERALL ISOKINETICS - TEST 3 0.980

Delta P:	0.310 "H ₂ O	Us avg:	33.46 ft/sec
Delta H:	2.148	ACFM:	73618 ft ³ /min
Tm avg:	581.6 °R	SDCFM:	63702 ft ³ /min
Ts avg:	564.2 °R	Vm std:	42.09 ft ³
Bwo:	0.024	Vm corr:	48.66 ft ³
Md:	28.84	Vm:	49.10 ft ³
Ms:	28.58	MF:	0.9910
Pb:	28.35 "Hg	PCON:	6.54 mg/m ³
Pm:	28.51 "Hg	ERAT:	0.71 kg/hr
Ps:	28.34 "Hg		

Pinnacle Pellet Lavington
Dryer 2 North Stack
Lavington, BC

25-Jun-21

Permit Number: 107369

AVERAGE OF AIR EMISSION TESTS 1 TO 3

Gas Temperature:	108 ° F	42 ° C
Moisture Content (by volume):	3.71 %	
Average Stack Gas Velocity:	41.9 ft/sec	12.8 m/sec
Total Actual Gas Flow Rate:	197281 ACFM	
Dry Gas flow Rate at Reference Conditions:	167335 SCFM	79.0 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	0.004 gr/ft ³	10.2 mg/m ³
Front Half Particulate	0.003 gr/ft ³	6.0 mg/m ³
Back Half Condensibles	0.002 gr/ft ³	4.2 mg/m ³
Mass Emission Rate	6.40 lbs/hr	2.90 kg/hr

SUMMARY OF AIR EMISSION TESTS

TEST 1:

Gas Temperature:	102 ° F	39 ° C
Moisture Content (by volume):	3.0 %	
Average Stack Gas Velocity:	41.5 ft/sec	12.7 m/sec
Total Actual Gas Flow Rate:	195652 ACFM	
Dry Gas flow Rate at Reference Conditions:	168824 SCFM	79.7 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.005 gr/ft ³	11.2 mg/m ³
Front Half Particulate	.003 gr/ft ³	6.3 mg/m ³
Back Half Condensibles	.002 gr/ft ³	4.9 mg/m ³
Mass Emission Rate	7.08 lbs/hr	3.21 kg/hr

TEST 2:

Gas Temperature:	109 ° F	43 ° C
Moisture Content (by volume):	2.2 %	
Average Stack Gas Velocity:	41.9 ft/sec	12.8 m/sec
Total Actual Gas Flow Rate:	197646 ACFM	
Dry Gas flow Rate at Reference Conditions:	169820 SCFM	80.1 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.005 gr/ft ³	11.4 mg/m ³
Front Half Particulate	.003 gr/ft ³	7.5 mg/m ³
Back Half Condensibles	.002 gr/ft ³	3.9 mg/m ³
Mass Emission Rate	7.26 lbs/hr	3.29 kg/hr

TEST 3:

Gas Temperature:	111 ° F	44 ° C
Moisture Content (by volume):	6.0 %	
Average Stack Gas Velocity:	42.1 ft/sec	12.8 m/sec
Total Actual Gas Flow Rate:	198544 ACFM	
Dry Gas flow Rate at Reference Conditions:	163360 SCFM	77.1 m ³ /sec
Total Particulate Concentration:		
Dry Basis Actual at Reference Conditions	.003 gr/ft ³	8.0 mg/m ³
Front Half Particulate	.002 gr/ft ³	4.1 mg/m ³
Back Half Condensibles	.002 gr/ft ³	3.9 mg/m ³
Mass Emission Rate	4.87 lbs/hr	2.21 kg/hr

DATA FOR TESTS 1 TO 3

Client: Pinnacle Pellet Lavington
Plant Location: Lavington, BC
Process: Dryer 2 North Stack
Permit Number: 107369
Job Number: ME2021-219
Pollution Control Permit: 15.0 mg/m3 99 m3/sec
Number of Tests: 3 tests
Minutes per Point: 2.5 minutes

Filter Number:
Date of Test:
Start Time:
Stop Time:
On-line Sampling Time:
Testing Personnel:
Sampler Model:
Barometric Pressure("Hg):
Static Pressure("H₂O):
%CO₂:
%O₂:
%CO:
%N₂:
Diameter of Nozzle(inches):
Meter Factor:
Type-S Pitot Tube Coefficient:
Cross Sectional Area of Stack(ft²):
Impinger Condensate(g):
Weight of Moisture in Silica Gel(g):
Weight of Filter Particulate(g):
Weight of Probe Washings(g):
Weight of Impinger Content Organic(g):
Total Weight of Particulate(g):

TEST 1	TEST 2	TEST 3
31	32	33
25-Jun-21	25-Jun-21	25-Jun-21
8:50	10:00	11:15
9:53	11:05	12:20
60	60	60
DL/KS	DL/KS	DL/KS
1013	1013	1013
28.35	28.35	28.35
-0.30	-0.30	-0.30
0.0	0.0	3.0
21.0	21.0	21.0
0.0	0.0	0.0
79.0	79.0	76.0
0.230	0.230	0.230
0.991	0.991	0.991
0.84295	0.84295	0.84295
78.54	78.54	78.54
20	13	45
3.5	4.1	4.2
0.0062	0.0075	0.0037
0.0003	0.0002	0.0005
0.0050	0.0040	0.0040
0.0115	0.0117	0.0082

Sampling Data for - *TEST 1*

25-Jun-21

Pinnacle Pellet Lavington

Dryer 2 North Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
A-12	0.52	1.63	74	73	98	0.00	0.98
A-11	0.50	1.55	69	67	98	1.70	0.97
A-10	0.43	1.35	71	66	93	3.34	0.97
A-9	0.40	1.25	72	68	96	4.87	0.96
A-8	0.40	1.25	72	68	96	6.33	0.95
A-7	0.39	1.23	74	70	95	7.78	0.97
A-6	0.43	1.35	77	73	99	9.25	0.97
A-5	0.42	1.32	80	74	99	10.79	0.99
A-4	0.42	1.32	78	78	102	12.34	0.99
A-3	0.43	1.36	82	78	101	13.90	0.98
A-2	0.38	1.21	86	81	101	15.47	0.96
A-1	0.40	1.27	87	83	101	16.93	0.96
B-12	0.50	1.59	89	86	103	18.43	0.97
B-11	0.48	1.53	91	87	103	20.13	0.97
B-10	0.45	1.44	94	90	104	21.80	1.02
B-9	0.50	1.60	99	90	104	23.50	0.97
B-8	0.47	1.51	95	92	106	25.22	0.96
B-7	0.55	1.77	94	93	105	26.85	0.95
B-6	0.55	1.77	98	96	107	28.61	0.98
B-5	0.60	1.93	98	96	105	30.42	0.97
B-4	0.60	1.94	101	100	108	32.30	0.98
B-3	0.65	2.10	100	100	109	34.20	0.97
B-2	0.60	1.94	102	102	110	36.17	0.98
B-1	0.45	1.45	102	101	110	38.08	0.99
						39.75	

Sampling Data for - TEST 2

25-Jun-21

Pinnacle Pellet Lavington

Dryer 2 North Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
B-12	0.52	1.70	110	110	110	0.00	0.98
B-11	0.50	1.62	102	103	109	1.81	0.95
B-10	0.45	1.46	102	103	108	3.52	0.97
B-9	0.47	1.52	103	103	107	5.17	0.94
B-8	0.46	1.49	103	103	107	6.81	1.00
B-7	0.52	1.69	104	104	108	8.53	0.98
B-6	0.56	1.82	104	104	107	10.33	0.93
B-5	0.60	1.96	106	106	107	12.10	0.96
B-4	0.63	2.06	106	106	107	14.00	0.94
B-3	0.65	2.12	108	107	109	15.90	0.92
B-2	0.62	2.02	107	107	108	17.80	0.98
B-1	0.50	1.64	109	109	108	19.77	0.97
A-12	0.50	1.63	109	109	109	21.54	1.00
A-11	0.53	1.74	110	109	108	23.35	1.04
A-10	0.46	1.50	110	110	110	25.30	0.92
A-9	0.42	1.37	110	110	109	26.90	0.99
A-8	0.40	1.31	111	111	110	28.55	0.98
A-7	0.38	1.24	111	111	110	30.15	0.98
A-6	0.40	1.31	113	113	111	31.71	0.97
A-5	0.44	1.44	113	112	111	33.30	0.98
A-4	0.41	1.34	112	113	112	34.97	0.95
A-3	0.43	1.41	113	113	112	36.54	0.97
A-2	0.40	1.31	113	113	112	38.18	1.02
A-1	0.40	1.31	114	114	111	39.84	0.92
						41.35	

Sampling Data for - TEST 3

25-Jun-21

Pinnacle Pellet Lavington

Dryer 2 North Stack

Lavington, BC

SAMPLE POINT	VELOCITY HEAD ("H ₂ O)	ORIFICE PRESSURE ("H ₂ O)	DRY GAS METER		STACK GAS TEMP (° F)	GAS SAMPLE VOLUME (ft ³)	ISOKINETICS
			TEMP IN (° F)	TEMP OUT (° F)			
A-12	0.51	1.69	117	118	110	0.00	0.99
A-11	0.54	1.76	112	113	115	1.76	1.00
A-10	0.45	1.48	113	114	111	3.58	1.02
A-9	0.43	1.41	111	112	111	5.28	1.01
A-8	0.4	1.31	111	114	111	6.92	1.00
A-7	0.39	1.28	111	114	111	8.48	1.00
A-6	0.4	1.31	111	113	110	10.02	1.01
A-5	0.43	1.42	113	114	111	11.60	1.01
A-4	0.4	1.33	113	113	107	13.25	1.02
A-3	0.42	1.38	113	114	110	14.85	0.99
A-2	0.4	1.32	114	114	108	16.44	1.01
A-1	0.4	1.32	114	116	109	18.03	1.01
B-12	0.55	1.82	115	116	110	19.62	1.00
B-11	0.53	1.76	115	116	111	21.47	1.03
B-10	0.46	1.52	117	117	111	23.33	1.02
B-9	0.48	1.59	117	117	111	25.05	0.99
B-8	0.47	1.56	116	117	110	26.76	1.01
B-7	0.53	1.76	117	118	111	28.48	1.01
B-6	0.57	1.89	116	118	111	30.31	1.03
B-5	0.60	1.98	118	119	114	32.24	1.00
B-4	0.62	2.05	120	119	113	34.18	1.05
B-3	0.65	2.14	120	120	115	36.25	0.98
B-2	0.60	1.98	120	120	114	38.22	1.10
B-1	0.50	1.65	119	120	114	40.35	0.96
						42.05	



Pinnacle Pellet Lavington
Dryer 2 North Stack
Pinnacle Pellet Lavington

Data for **TEST 1**

OVERALL ISOKINETICS - TEST 1 0.974

Delta P:	0.477 "H ₂ O	Us avg:	41.52 ft/sec
Delta H:	1.528	ACFM:	195652 ft ³ /min
Tm avg:	545.4 °R	SDCFM:	168824 ft ³ /min
Ts avg:	562.2 °R	Vm std:	36.28 ft ³
Bwo:	0.030	Vm corr:	39.39 ft ³
Md:	28.84	Vm:	39.75 ft ³
Ms:	28.52	MF:	0.9910
Pb:	28.35 "Hg	PCON:	11.19 mg/m ³
Pm:	28.46 "Hg	ERAT:	3.21 kg/hr
Ps:	28.33 "Hg		

Data for **TEST 2**

OVERALL ISOKINETICS - TEST 2 0.968

Delta P:	0.482 "H ₂ O	Us avg:	41.94 ft/sec
Delta H:	1.584	ACFM:	197646 ft ³ /min
Tm avg:	568.5 °R	SDCFM:	169820 ft ³ /min
Ts avg:	569.2 °R	Vm std:	36.21 ft ³
Bwo:	0.022	Vm corr:	40.98 ft ³
Md:	28.84	Vm:	41.35 ft ³
Ms:	28.60	MF:	0.9910
Pb:	28.35 "Hg	PCON:	11.41 mg/m ³
Pm:	28.47 "Hg	ERAT:	3.29 kg/hr
Ps:	28.33 "Hg		

Data for **TEST 3**

OVERALL ISOKINETICS - TEST 3 1.010

Delta P:	0.486 "H ₂ O	Us avg:	42.13 ft/sec
Delta H:	1.613	ACFM:	198544 ft ³ /min
Tm avg:	575.6 °R	SDCFM:	163360 ft ³ /min
Ts avg:	571.2 °R	Vm std:	36.37 ft ³
Bwo:	0.060	Vm corr:	41.67 ft ³
Md:	29.32	Vm:	42.05 ft ³
Ms:	28.64	MF:	0.9910
Pb:	28.35 "Hg	PCON:	7.96 mg/m ³
Pm:	28.47 "Hg	ERAT:	2.21 kg/hr
Ps:	28.33 "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.

O₂, CO₂, CO (where applicable)

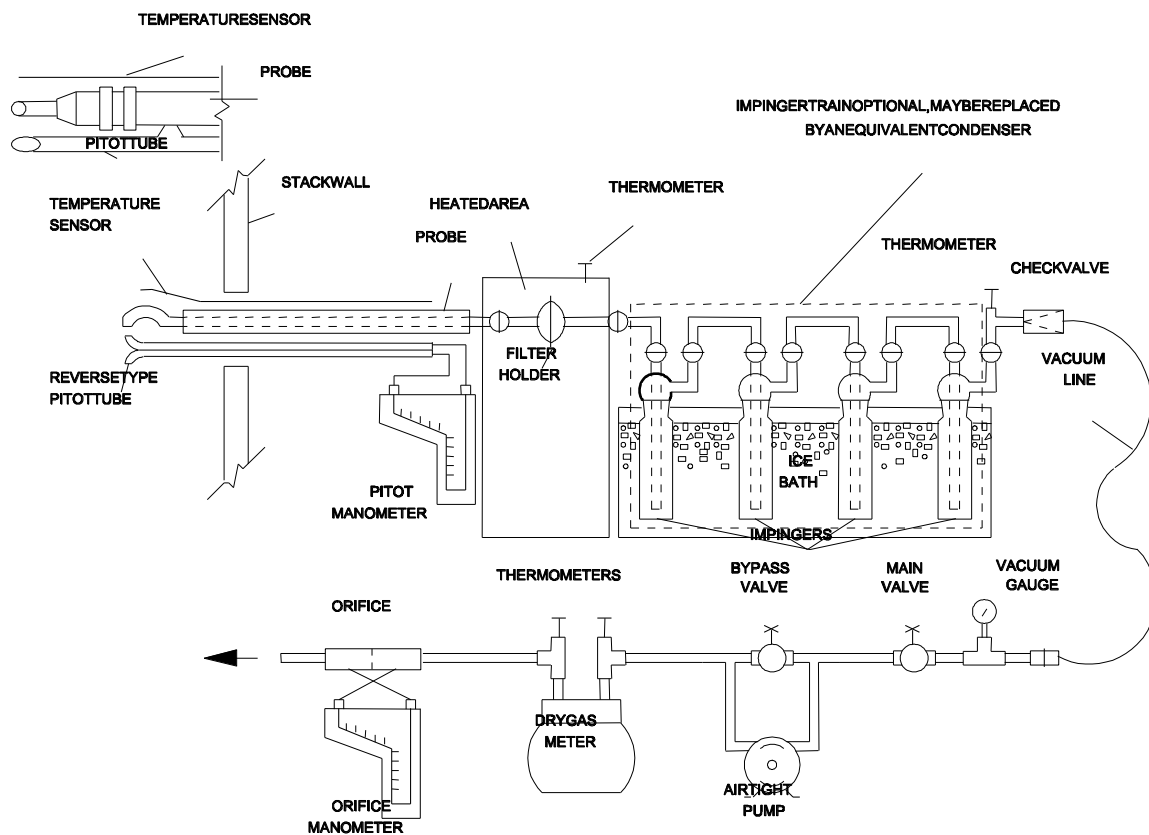
O₂, CO₂, and CO were found using either Fuji Analytical Analyzer by means of infrared and paramagnetic technology (EPA 3A) or by fyrite (EPA Method 3).

NO_x (where applicable)

NO_x was found using and API Model 252 NO_x 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

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 ($i = 1, 2, 3...n$), 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, $18.0 g/g\text{-mole}$ ($18.0 lb/lb\text{-mole}$).
 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, $0.06236 \frac{[(mmHg)(m^3)]}{[(^{\circ}K)(g\text{-mole})]}$
 $\{21.85 \frac{[(in.\ Hg)(ft^3)]}{[(^{\circ}R)(lb\text{-mole})]}\}$.
 T_m = Absolute average DGM temperature (see Figure 5-2), $^{\circ}K$ ($^{\circ}R$).
 T_s = Absolute average stack gas temperature (see Figure 5-2), $^{\circ}K$ ($^{\circ}R$).
 T_{std} = Standard absolute temperature, $293^{\circ}K$ ($528^{\circ}R$).
 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), $mm\ H_2O$ ($in.\ H_2O$).
 ρ_a = Density of acetone, mg/ml (see label on bottle).
 ρ_w = Density of water, $0.9982\ g/ml$ ($0.002201\ lb/ml$).
 θ = Total sampling time, min .
 θ_1 = 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 .
 13.6 = Specific gravity of mercury.
 60 = Sec/min .
 100 = 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 5-1.

$$V_{m(std)} = V_m Y \left(\frac{T_{std}}{T_m} \right) \left[\frac{P_{bar} + \frac{\Delta H}{13.6}}{P_{std}} \right]$$

$$= K_1 V_m Y \frac{P_{bar} + \left(\frac{\Delta H}{13.6} \right)}{T_m}$$
Eq. 5-1

where:

$$K_1 = 0.3858 \text{ } ^\circ\text{K/mm Hg for metric units,}$$

$$= 17.64 \text{ } ^\circ\text{R/in. Hg for English units.}$$

NOTE: Equation 5-1 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 5-1 must be modified as follows:

(a) Case I. No component changes made during sampling run. In this case, replace V_m in Equation 5-1 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 5-1 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.

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

where:

$$K_2 = 0.001333 \text{ m}^3/\text{ml for metric units,}$$

$$= 0.04707 \text{ ft}^3/\text{ml for English units.}$$

Moisture Content.

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

Acetone Blank Concentration.

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

Acetone Wash Blank.

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

Total Particulate Weight. Determine the total particulate matter catch from the sum of the weights obtained from Containers 1 and 2 less the acetone blank (see Figure 5-3).

Particulate Concentration.

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

Conversion Factors:

<u>From</u>	<u>To</u>	<u>Multiply by</u>
scf	m ³	0.02832
g/ft ³	gr/ft ³	15.43
g/ft ³	lb/ft ³	2.205 x 10 ⁻³
g/ft ³	g/m ³	35.31

Isokinetic Variation.**Calculation from Raw Data.**

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

where:

$K_3 = 0.003454 [(\text{mm Hg})(\text{m}^3)]/[(\text{ml})(^\circ\text{K})]$ for metric units,

$= 0.002669 [(\text{in. Hg})(\text{ft}^3)]/[(\text{ml})(^\circ\text{R})]$ for English units.

Calculation from Intermediate Values.

$$I = \frac{100 T_s V_{m(std)} P_{std}}{60 T_{std} v_s \theta A_n P_s (1 - B_{ws})}$$

$$= \frac{K_4 T_s V_{m(std)}}{P_s v_s A_n \theta (1 - B_{ws})}$$
Eq.5-8

where:

$K_4 = 4.320$ for metric units,

$= 0.09450$ for English units.

Acceptable Results. If 90 percent $\leq I \leq 110$ 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).

$$= M_d (1 - B_{ws}) + 18.0 B_{ws}$$
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, $^{\circ}C$ ($^{\circ}F$).
T_s	=	Absolute stack temperature, $^{\circ}K$ ($^{\circ}R$).

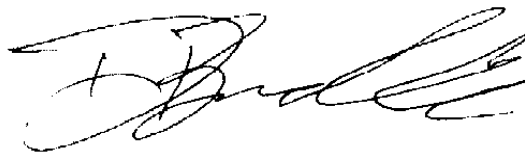
Calibration Certificate for S-Type Pitot Tube

Date: Jan 10/21 *Barometric Pressure ("Hg):* 28.25
Pitot I.D.: **294** *Wind Tunnel Temperature (^oF):* 71.0
Nozzle: 0.250

<i>Wind Velocity (ft/sec)</i>	<i>Ref.Pitot ("H₂O)</i>	<i>S-Type Pitot ("H₂O)</i>	<i>Pitot Factor</i>
12.63	0.03431	0.04849	0.83276
21.19	0.09665	0.13581	0.83517
41.86	0.37711	0.51819	0.84455
65.41	0.92067	1.25359	0.84842
84.01	1.51873	2.06836	0.84833
105.94	2.41538	3.28817	0.84850

Average= 0.84295

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



**CALIBRATION CERTIFICATE
DRY GAS METER**

DATE: Jan 4/21

CONSOLE MANUF.: NAPP/MILLENNIUM MODEL 32

CONSOLE I.D.: MU 1013

PARAMETER SUMMARY	RUN #1	RUN #2	RUN #3
Ta = Ambient (WTM) Temperature (oF.)	52.0	52.0	52.0
P=Pres. Differential at WTM ("Hg)	0.0677	0.1325	0.1840
Pb= Atmospheric Pressure ("Hg)	27.85	27.85	27.85
Pv= Vapour Pressure Water at Temp. Ta ("Hg)	0.3761	0.3761	0.3761
H=Pres. Differential at Orifice	1.0	2.0	3.0
Ti= Dry Test Meter Inlet Temp. (oF.)	75.0	70.0	76.0
To= Dry Test Meter Outlet Temp. (oF.)	76.0	70.0	77.0
Ri= Initial Dry Test volume (ft3)	0.00	0.00	0.00
Rf= Final Dry Test Volume (ft3)	5.15	5.03	5.12
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	27.7823	27.7175	27.6660
Pd= Pb + (^H/13.59) "Hg	27.9236	27.9972	28.0708
Tw= Ta +460 (oR.)	512.0	512.0	512.0
Td= [(Ti + To)/2] + 460 (oR.)	535.5	530.0	536.5
Bw= Pv/Pb ("Hg)	0.0135	0.0135	0.0135
WET TEST METER FACTOR (WTMF)	0.9922	0.9922	0.9922
ated Y Value)(WTMF)	0.9889	0.9971	0.9872
Y (MEAN)(WTMF) =	0.9910		

N.R. MCCALL & ASSOCIATES LTD.

Calibrating Technician Signature:



ORIFICE METER CALIBRATION

DATE: Jan 4/21

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	0.9889	0.9889	0.9971
Delta H=	0.5	1	1.5
Ri=int. gas meter vol.	0	0	0
Rf=final gas meter vol.	1.87	2.77	3.36
min. samp	5	5	5
$Q_m = Y(R_f - R_i) / \Delta T (FT^3/MIN)$	0.3698486	0.5478506	0.6700512
To=meter outlet Temp (oF)	73	71	72
Tm=meter out temp. (oR)	533	531	532
$P_m = P_b + \Delta H$	27.886792	27.9235835	27.9603753
$SQRT(T_m / P_m \cdot H / M_d)$	0.5743777	0.810233	0.99260895
Ko=orifice const.	0.6439118	0.67616427	0.67504046

Ko MEAN = 0.6650389

$Ko \cdot 4^{144} = 383.06238$

McCALL ENVIRONMENTAL LTD.

Calibrating Technician Signature:



ORIFICE METER CALIBRATION

DATE: Jan 4/21

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	0.9971	0.9872	0.9872
Delta H=	2	2.5	3
Ri=int. gas meter vol.	0	0	0
Rf=final gas meter vol.	3.9	4.37	4.78
min. samp	5	5	5
Qm=Y(Rf-Ri)/^T(FT3/MIN)	0.777738	0.8628128	0.9437632
To=meter outlet Temp (oF)	75	77	79
Tm=meter out temp. (oR)	535	537	539
Pm=Pb + ^H	27.997167	28.0339588	28.0707506
SQRT(Tm/Pm*H/Md)	1.1486377	1.28576966	1.41018548
Ko=orifice const.	0.677096	0.67104772	0.66924757

Ko MEAN = 0.6724638

Ko*4*144= 387.33912

McCALL ENVIRONMENTAL LTD.

Calibrating Technician Signature:



Analytical Report

Bill To: McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID: Pinnacle Pellet Project Name: Dryer Stacks Project Location: Lavington, BC LSD: P.O.:	Lot ID: 1502913 Control Number: C116451 Date Received: Jun 30, 2021 Date Reported: Jul 7, 2021 Report Number: 2637516
Attn: Accounts Payable Sampled By: D. Lawrence Company: McCall Env.	Proj. Acct. code:	

		Reference Number	1502913-1	1502913-2	1502913-3
		Sample Date	Jun 24, 2021	Jun 24, 2021	Jun 24, 2021
		Sample Time	NA	NA	NA
		Sample Location			
		Sample Description	Dryer 1 - North Stack / Test 1	Dryer 1 - North Stack / Test 2	Dryer 1 - North Stack / Test 3
		Matrix	Water	Water	Water
Analyte	Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents					
Oil and Grease	Total	mg/sample	11	8	8
Volume	Sample volume	mL	320	320	340
pH adjustment	required prior to O&G extraction		Yes	Yes	Yes

Analytical Report

Bill To: McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID: Pinnacle Pellet Project Name: Dryer Stacks Project Location: Lavington, BC LSD: P.O.:	Lot ID: 1502913 Control Number: C116451 Date Received: Jun 30, 2021 Date Reported: Jul 7, 2021 Report Number: 2637516
Attn: Accounts Payable Sampled By: D. Lawrence Company: McCall Env.	Proj. Acct. code:	

		Reference Number	1502913-4	1502913-5	1502913-6	
		Sample Date	Jun 24, 2021	Jun 24, 2021	Jun 24, 2021	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	Dryer 1 - South Stack / Test 1	Dryer 1 - South Stack / Test 2	Dryer 1 - South Stack / Test 3	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Oil and Grease	Total	mg/sample	5	5	4	2
Volume	Sample volume	mL	340	340	340	
pH adjustment	required prior to O&G extraction		Yes	Yes	Yes	

Analytical Report

Bill To: McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID: Pinnacle Pellet Project Name: Dryer Stacks Project Location: Lavington, BC LSD: P.O.:	Lot ID: 1502913 Control Number: C116451 Date Received: Jun 30, 2021 Date Reported: Jul 7, 2021 Report Number: 2637516
Attn: Accounts Payable Sampled By: D. Lawrence Company: McCall Env.	Proj. Acct. code:	

		Reference Number	1502913-7	1502913-8	1502913-9	
		Sample Date	Jun 25, 2021	Jun 25, 2021	Jun 25, 2021	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	Dryer 2 - North Stack / Test 1	Dryer 2 - North Stack / Test 2	Dryer 2 - North Stack / Test 3	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	Nominal Detection Limit
Aggregate Organic Constituents						
Oil and Grease	Total	mg/sample	5	4	4	2
Volume	Sample volume	mL	330	330	330	
pH adjustment	required prior to O&G extraction		Yes	Yes	Yes	

Analytical Report

Bill To: McCall Environmental 6733 Buchanan Road Coldstream, BC, Canada V1B 3C5	Project ID: Pinnacle Pellet Project Name: Dryer Stacks Project Location: Lavington, BC LSD: P.O.:	Lot ID: 1502913 Control Number: C116451 Date Received: Jun 30, 2021 Date Reported: Jul 7, 2021 Report Number: 2637516
Attn: Accounts Payable Sampled By: D. Lawrence Company: McCall Env.	Proj. Acct. code:	

		Reference Number	1502913-10	1502913-11	1502913-12	Nominal Detection Limit
		Sample Date	Jun 25, 2021	Jun 25, 2021	Jun 25, 2021	
		Sample Time	NA	NA	NA	
		Sample Location				
		Sample Description	Dryer 2 - South Stack / Test 1	Dryer 2 - South Stack / Test 2	Dryer 2 - South Stack / Test 3	
		Matrix	Water	Water	Water	
Analyte		Units	Results	Results	Results	
Aggregate Organic Constituents						
Oil and Grease	Total	mg/sample	<2	<2	<2	2
Volume	Sample volume	mL	320	330	330	
pH adjustment	required prior to O&G extraction		Yes	Yes	Yes	

Approved by:



Max Hewitt
Operations Manager

Data have been validated by Analytical Quality Control and Element's Integrated Data Validation System (IDVS).

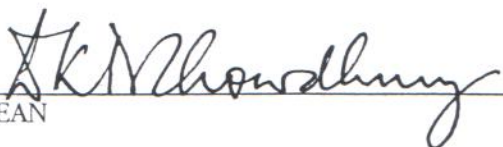
Generation and distribution of the report, and approval by the digitized signature above, are performed through a secure and controlled automatic process.

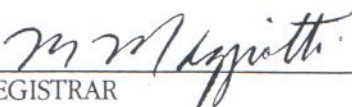


This is to verify that
Matthew McCall
has successfully completed
a course of study in
Source Testing for Particulates
(35 hours)

Endorsed by
The B.C. Ministry of Environment

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


DEAN


REGISTRAR

BRITISH COLUMBIA INSTITUTE OF TECHNOLOGY



North Carolina State University Environmental Programs

This certificate awarded to

Danny Lawrence

for satisfactory completion of course and examination for

SI: 414 Quality Assurance for Source Emission Measurements

Joe F. VanArsdale
Manager

Christine S. Murphy
Registrar

May 22, 2000

Date Completed

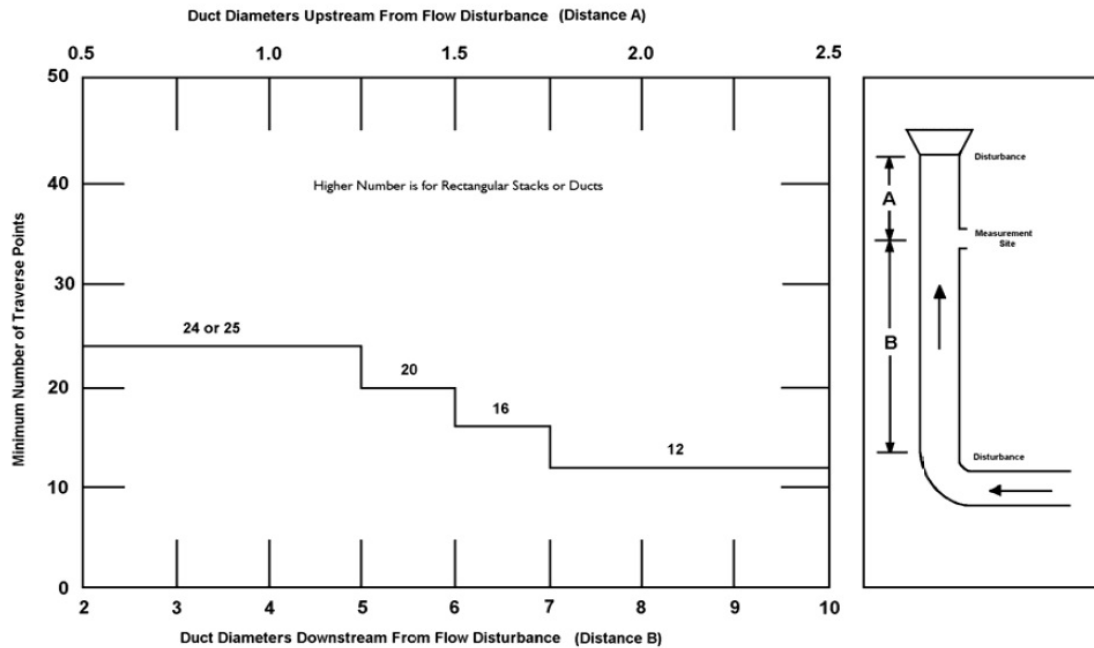
3.5 CEUs

Awarded under EPA Assistance Agreement CT - 825724





Site Diagram & Sample Point Selection



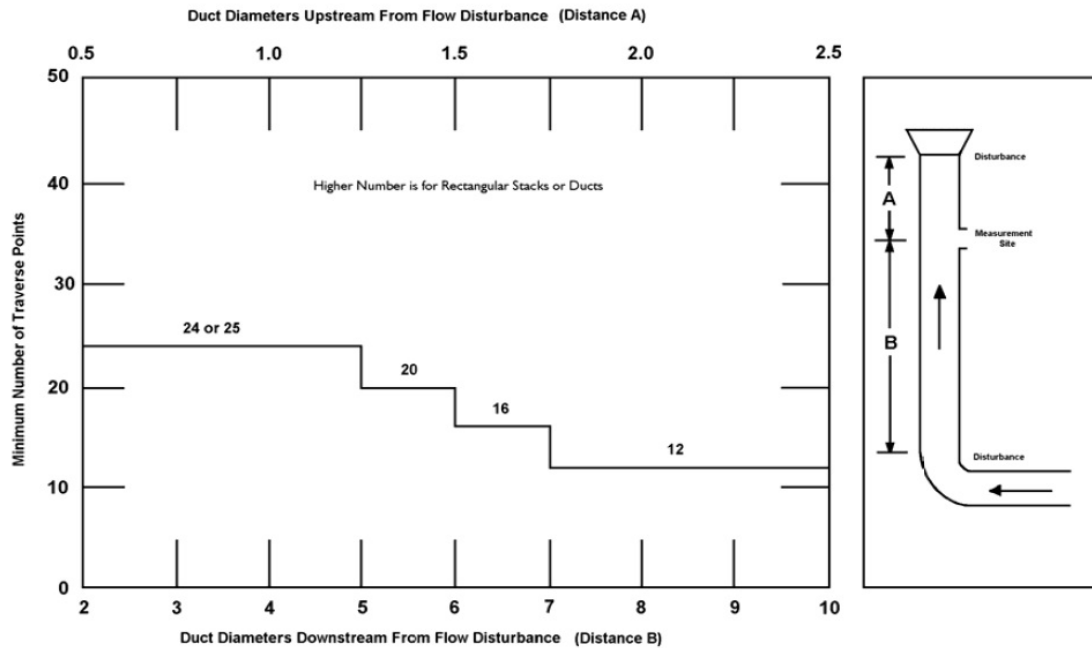
Client: Pinnacle Pellet Lavington
Source: Dryers 1 & 2 North Stacks
Pollution Abatement Equipment:
Duct Diameters Up (A): >2
Duct Diameters Down (B): 2
Area of Stack (ft): 78.54
Stack Diameter (in): 120
Zero (in): 4
Number of Points: 24

Traverse Points (in):

PT-1	2.52
PT-2	8.04
PT-3	14.16
PT-4	21.24
PT-5	30
PT-6	42.6
PT-7	77.4
PT-8	90
PT-9	98.76
PT-10	105.84
PT-11	111.96
PT-12	117.48

Cyclonic Angle: 5°

Site Diagram & Sample Point Selection



Client: [Pinnacle Pellet Lavington](#)
 Source: [Dryers 1 & 2 South Stacks](#)
 Pollution Abatement Equipment:
 Duct Diameters Up (A): [2](#)
 Duct Diameters Down (B): [3](#)
 Area of Stack (ft): [36.67](#)
 Stack Diameter (in): [82](#)
 Zero (in): [4](#)
 Number of Points: [24](#)

Traverse Points (in):

PT-1	1.72
PT-2	5.49
PT-3	9.68
PT-4	14.52
PT-5	20.5
PT-6	29.1
PT-7	52.89
PT-8	61.5
PT-9	67.49
PT-10	72.32
PT-11	76.51
PT-12	80.28

Cyclonic Angle: 5°

LAVINGTON

Client: Pinnacle Pellet			Console: 1013		Pb: 28.25 "Hg	Filter: 25	File:		Date: JUNE 24/21		
Process: DRYER 1 NORTH			Mf: .9910		Static: -.30 "H ₂ O	Flask: 164+ 4	%CO ₂	%O ₂	CO		
Test: 1- COND.			K _o : .6650		Ps: 28.23	Silica: 25 156+	0	21			
Personnel: DL KS			Pitot: 294		Pm: 28.36	Total Vol: 324 ml					
Start time: 9:20			C _p : .84295		Area: 78.54 ft ²	Start Vol: 300 ml					
Stop time: 10:25			Nozzle: .230		Bwo: .05	Plant Type:			Mix:		
Permitt #			Start Leakage Rate@ 15 "Hg .006 ft ³ /min			Pollution Abatement Equip:					
up strm down strm			Finish Leakage Rate@ 15 "Hg .007 ft ³ /min			Load:			Burner:		Fuel Type:
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT=2.5 ZERO=
			IN	OUT							
A-12	.55	1.65	75	75	114	0.00	243	iced	Hot	4	
11	.50	1.50	66	64	103	1.75					
10	.52	1.57	67	65	102	3.35					
9	.50	1.51	67	65	100	5.00				4	
8	.54	1.63	71	66	102	6.68					
7	.58	1.76	72	68	101	8.40	249				
6	.60	1.82	77	71	104	10.13					
5	.62	1.89	76	71	105	11.92				4	
4	.70	2.14	79	75	105	13.77					
3	.72	2.20	80	76	106	15.76					
2	.75	2.30	84	79	107	17.72	260			4	
1	.77	2.38	85	80	108	19.80					
B-12	.85	1.69	87	82	108	21.78					
11	.50	1.54	87	83	107	23.50					
10	.48	1.48	88	86	110	25.31					
9	.42	1.30	90	88	109	27.00	263			4	
8	.40	1.21	92	89	110	28.56					
7	.40	1.24	90	89	109	30.05					
6	.42	1.31	92	92	110	31.56					
5	.43	1.34	92	92	110	33.15					
4	.45	1.41	93	93	109	34.70	259			4	
3	.52	1.63	93	93	109	36.36					
2	.55	1.73	96	95	110	38.09					
1	.53	1.67	95	95	108	39.90		V	V		
						41.69					

Client: P. PELLET			Console: 1013		Pb: 28.25 "Hg	Filter: 26	File:		Date: JUNE 24/12		
Process: DRYER1 NORTH			Mf: 9910		Static: -.30 "H ₂ O	Flask: ✓	+	%	%CO ₂	%O ₂	CO
Test: 2 - COND			K _o : 16650		Ps: 28.23	Silica: 26			+	0	21
Personnel: DL KCS			Pitot: 294		Pm: 28.36	Total Vol: 320 ml					
Start time: 10:31			Cp: 84295		Area: 78.54 ft ²	Start Vol: 300 ml					
Stop time: 11:36			Nozzle: 230		Bwo: 105	Plant Type:				Mix:	
Permitt #			Start Leakage Rate@ 15 "Hg 1004 ft ³ /min		Pollution Abatement Equip:						
up strm down strm			Finish Leakage Rate@ 15 "Hg 1008 ft ³ /min		Load:		Burner:		Fuel Type:		
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT= 2.5 ZERO=
			IN	OUT							
B-12	.53	1.68	100	101	110	0.00	242	100	100	4	
11	.50	1.56	94	95	113	1.80					
10	.50	1.57	95	96	109	3.52					
9	.48	1.41	96	96	110	5.30					
8	.40	1.25	96	96	109	6.92					
7	.40	1.25	96	96	110	8.45	256			4	
6	.43	1.35	96	96	108	10.06					
5	.42	1.32	97	97	109	11.66					
4	.46	1.45	98	98	109	13.18					
3	.52	1.64	99	98	109	14.83					
2	.55	1.74	99	99	109	16.52	242			4	
1	.53	1.67	100	100	110	18.34					
A-12	.57	1.81	101	101	109	20.16					
11	.54	1.71	102	102	110	21.98					
10	.50	1.58	102	102	110	23.88					
9	.52	1.65	102	102	110	25.61	249			5	
8	.53	1.68	103	103	110	27.40					
7	.57	1.81	103	103	111	29.19					
6	.60	1.90	104	104	111	31.06					
5	.65	2.06	105	104	111	32.94					
4	.70	2.23	105	105	111	34.88					
3	.73	2.39	106	105	112	36.96	253			5	
2	.75	2.39	105	105	111	39.10					
1	.74	2.36	106	106	110	41.27					
						43.37					

Client: <i>P. Hellet</i>	Console: <i>1014</i>	Pb: <i>24.23</i> "Hg	Filter: <i>27</i>	File:	Date: <i>5-24-94</i>					
Process: <i>VA-7011</i>	Mf: <i>9910</i>	Static: <i>24.23</i> "H ₂ O	Flask: <i>27</i>	+	%CO ₂					
Test: <i>5</i>	K ₀ : <i>6650</i>	Ps: <i>24.23</i>	Silica: <i>27</i>	+	%O ₂					
Personnel: <i>15 DL</i>	Pitot: <i>244</i>	Pm: <i>20.46</i>	Total Vol: <i>2.26</i> ml		CO					
Start time: <i>11:49</i>	Cp: <i>44293</i>	Area: <i>ft</i>	Start Vol: <i>2.00</i> ml							
Stop time: <i>12:46</i>	Nozzle: <i>240</i>	Bwo: <i>05</i>	Plant Type:							
Stack Diam. Upstream =	Start Leakage Rate@ <i>14</i> "Hg <i>0</i> ft ³ /min	Pollution Abatement Equip:								
Stack Diam. Downstream =	Finish Leakage Rate@ <i>15</i> "Hg <i>9</i> ft ³ /min	Load:								
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)	STACK TEMP (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT= ZERO=
12	.40	1.57	99	99	109	270		240	21	
11	.40	1.57	99	99	110					
10	.40	1.57	96	95	111					
9	.45	1.42	96	95	112					
8	.40	1.26	96	95	112					
7	.40	1.26	96	96	110					
6	.42	1.33	97	96	109					
5	.40	1.26	97	96	108					
4	.52	1.63	97	96	110					
3	.55	1.75	97	96	110				24	
2	.40	1.58	98	95	111					
1	.40	1.58	98	96	112					
13/12	.54	1.73	99	97	113					
11	.52	1.65	100	98	112					
10	.57	1.83	101	99	115					
9	.60	1.98	101	99	110					
8	.60	1.92	102	99	110					
7	.55	1.75	102	100	111					
6	.60	1.93	103	100	111					
5	.60	1.93	104	100	112					
4	.70	2.29	104	101	113					
3	.75	2.41	105	101	113					
2	.70	2.24	106	102	110					
1	.70	2.24	106	102	109					

LAVINGTON

Client: P. BELIER			Console: 1013		Pb: 28.25 "Hg		Filter: 28		File:		Date: JUNE 24/21	
Process: DAVALL SOUTH			Mf: 9910		Static: -10 "H ₂ O		Flask: ✓		+ %CO ₂		%O ₂ CO	
Test: 1- CAMP			K _o : 6650		Ps: 28.24		Silica: 28		+			
Personnel: OL KLS			Pitot: 294		Pm: 28.30		Total Vol: 327 ml					
Start time: 1:30			C _p : 84293		Area: 36.67 ft ²		Start Vol: 300 ml					
Stop time: 2:35			Nozzle: .275		Bwo: .04		Plant Type:				Mix:	
Permitt # 107309			Start Leakage Rate@ 15 "Hg .006 ft ³ /min		Pollution Abatement Equip:							
up strm down strm			Finish Leakage Rate@ 15 "Hg .006 ft ³ /min		Load:		Burner:		Fuel Type:			
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT=2.5 ZERO=	
			IN	OUT								
A-12	.34	2.59	90	91	100	0.00	241	1000	100	5		
11	.33	2.19	85	90	96	2.12						
10	.35	2.31	84	86	94	4.15						
9	.36	2.39	86	88	93	6.28						
8	.34	2.26	89	89	94	8.40	245			5		
7	.33	2.21	90	90	91	10.45						
6	.32	2.14	92	92	93	12.45						
5	.32	2.14	92	92	94	14.46						
4	.30	2.00	96	95	97	16.49	248			5		
3	.30	2.00	95	95	99	18.47						
2	.31	2.07	98	97	99	20.35						
1	.30	2.00	98	97	99	22.33						
B-12	.36	2.42	100	100	99	24.26						
11	.35	2.35	101	99	101	26.43	245			5		
10	.33	2.22	102	102	99	28.49						
9	.34	2.28	101	101	100	30.55						
8	.34	2.29	103	103	98	32.62						
7	.33	2.23	103	103	98	34.69				5		
6	.32	2.16	104	104	100	36.78	246					
5	.32	2.17	105	105	98	38.81						
4	.33	2.24	107	106	99	40.84						
3	.34	2.31	107	107	100	42.95						
2	.33	2.24	109	108	106	45.02				5		
1	.33	2.24	109	109	102	47.10	250	✓	✓			
						49.20						

Client: P. PELLET			Console: 1013		Pb: 28.25 "Hg		Filter: 29		File:		Date: JUNE 24/21	
Process: DRYER 1 SOUTH			Mf: 9910		Static: -10 "H ₂ O		Flask: ✓		+		%CO ₂	%O ₂
Test: 2- COND			K _o : 16650		Ps: 28.24		Silica: 29		+		0	21
Personnel: DL KS			Pitot: 294		Pm: 28.36		Total Vol: 328 ml					
Start time: 2:47			Cp: 84295		Area: 36.67 ft ²		Start Vol: 300 ml					
Stop time: 3:53			Nozzle: 275		Bwo: 204		Plant Type:				Mix:	
Permitt #			Start Leakage Rate@ 15 "Hg .006 ft ³ /min		Pollution Abatement Equip:							
up strm down strm			Finish Leakage Rate@ 15 "Hg .006 ft ³ /min		Load:		Burner:				Fuel Type:	
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT= 205 ZERO=	
			IN	OUT								
B-12	.35	2.35	112	112	111	0.00	259	1000	Hot	5		
11	.35	2.35	103	108	104	2.14						
10	.37	2.48	103	104	103	4.30						
9	.34	2.28	104	105	103	6.46						
8	.32	2.15	105	105	100	8.54				5		
7	.33	2.23	105	105	100	10.65	252					
6	.33	2.22	106	106	104	12.58						
5	.32	2.15	107	107	103	14.64						
4	.33	2.22	107	107	103	16.05						
3	.32	2.16	108	108	103	18.72						
2	.33	2.23	109	109	104	20.76	256			5		
1	.30	2.03	109	109	102	22.85						
A-12	.36	2.43	110	110	105	24.83						
11	.35	2.36	110	110	104	26.92						
10	.36	2.44	111	111	104	29.07						
9	.34	2.30	112	113	105	31.26	253			5		
8	.34	2.31	113	113	105	33.41						
7	.33	2.23	112	112	105	35.52						
6	.34	2.30	113	113	104	37.62						
5	.32	2.17	113	113	105	39.75						
4	.33	2.25	114	114	104	41.82	255			5		
3	.32	2.18	114	114	104	43.90						
2	.33	2.24	115	115	106	45.94						
1	.32	2.17	114	115	106	48.02						
						50.07						

Client: P. PELLET			Console: 1013		Pb: 28.25 "Hg	Filter: 30	File:		Date: JUNE 24/21		
Process: D.I. SOUTH			Mf: 9910		Static: -10 "H ₂ O	Flask: ✓	+	%CO ₂	%O ₂	CO	
Test: 3-COND			K _o : 1.0650		Ps: 28.24	Silica: 31	+	0	21		
Personnel: DL KCS			Pitot: 294		Pm: 28.36	Total Vol: 327 ml					
Start time: 4:08			Cr: 184295		Area: 36.67 ft ²	Start Vol: 300 ml					
Stop time: 5:12			Nozzle: 275		Bwo: 04	Plant Type:			Mix:		
Permitt #			Start Leakage Rate@ 15 "Hg .006 ft ³ /min			Pollution Abatement Equip:					
up strm down strm			Finish Leakage Rate@ 15 "Hg .009 ft ³ /min			Load:		Burner:		Fuel Type:	
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT= 2.5 ZERO=
			IN	OUT							
A-12	.33	2.36	114	117	109	0.00	239	1050	140T	4	
11	.35	2.37	115	118	110	2.11					
10	.36	2.44	115	118	110	4.22					
9	.34	2.31	114	117	107	6.36					
8	.34	2.31	114	116	104	8.55	240			4	
7	.33	2.24	116	116	104	10.63					
6	.32	2.18	116	117	105	12.72					
5	.32	2.14	115	114	103	14.76					
4	.32	2.19	114	113	102	16.82					
3	.30	2.05	114	113	102	18.90	250			5	
2	.31	2.12	113	113	104	20.86					
1	.31	2.12	114	115	103	22.95					
B-12	.31	2.47	114	116	102	25.09					
11	.35	2.40	115	117	102	27.21					
10	.35	2.40	115	116	101	29.37	252			5	
9	.33	2.26	116	115	102	31.48					
8	.34	2.33	116	116	102	33.57					
7	.34	2.33	117	115	104	35.66					
6	.32	2.19	116	116	103	37.79	256				
5	.33	2.26	117	116	103	39.93				5	
4	.31	2.13	118	117	103	42.10					
3	.30	2.06	117	117	103	44.23					
2	.30	2.06	117	116	104	46.24	261				
1	.30	2.06	116	116	105	48.22				5	
						50.28					

Client: P. Pellet			Console: 1013		Pb: 28.35 "Hg		Filter: 34	File:		Date: JUNE 25/21	
Process: L-100F - 1000			Mf: 0.9410		Static: -1.10 "H ₂ O		Flask:	+	%CO ₂	%O ₂	CO
Test: 1			K ₀ : 6650		Ps: 28.34		Silica: 34	+	0	21	
Personnel: K5106			Pitot: 294		Pm: 28.46		Total Vol: 321 ml				
Start time: 12:55			C _P : 842.95		Area: 36.67 ft ²		Start Vol: 300 ml				
Stop time: 2:00			Nozzle: 275		Bwo: 1.04		Plant Type:		Mix:		
Permitt #			Start Leakage Rate@ 15 "Hg .002 ft ³ /min				Pollution Abatement Equip:				
up strm down strm			Finish Leakage Rate@ 15 "Hg .003 ft ³ /min				Load:		Burner:		Fuel Type:
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT= 2.5 ZERO=
			IN	OUT							
A 12	.38	2.57	103	104	98	0.00	251	1000	HOT	3	
11	.35	2.35	94	98	95	2.30					
10	.36	2.42	94	98	94	4.45					
9	.32	2.14	95	96	94	6.49	253				
8	.30	2.01	97	98	96	8.57					
7	.32	2.15	99	99	96	10.66					
6	.31	2.09	100	100	96	12.63	260				
5	.30	2.02	101	101	96	14.65					
4	.28	1.88	102	102	98	16.71					
3	.25	1.69	102	103	97	18.51	250			3	
2	.24	1.62	104	104	99	20.29					
1	.25	1.69	107	107	99	22.10					
B 12	.37	2.51	107	107	100	23.90	251			3	
11	.36	2.44	109	109	101	25.96					
10	.35	2.37	110	104	102	28.77					
9	.36	2.45	111	111	101	30.26	252			3	
8	.32	2.18	112	111	102	32.44					
7	.30	2.04	113	113	102	34.55					
6	.31	2.10	113	113	102	36.70	259			3	
5	.28	1.91	113	114	102	38.70					
4	.28	1.91	115	114	102	40.65					
3	.26	1.79	115	116	100	42.59	250				
2	.23	1.58	116	116	101	44.44					
1	.24	1.65	116	116	100	46.22					
						48.00					

Client: P.P. 1164			Console: 1013		Pb: 29.35 "Hg		Filter: 35	File:		Date: JUNE 25/21		
Process: 100% 2 5000			Mf: 0.9410		Static: 10 "H ₂ O		Flask:	+	%CO ₂	%O ₂	CO	
Test:			K ₀ : 0.6650		Ps: 25.34		Silica: 35	+	0	21		
Personnel: 151 04			Pitot: 294		Pm: 28.46		Total Vol: 317 ml					
Start time: 2:10			Cp: 74305		Area: 36.67 ft ²		Start Vol: 300 ml					
Stop time: 3:15			Nozzle: 0.275		Bwo: .04		Plant Type:		Mix:			
Permitt #			Start Leakage Rate@ 15 "Hg .003 ft ³ /min				Pollution Abatement Equip:					
up strm down strm			Finish Leakage Rate@ 15 "Hg .006 ft ³ /min				Load:		Burner: -		Fuel Type:	
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	NON/PT= 2.5 ZERO=	
			IN	OUT								
B 12	.38	2.60	124	123	112	0.00	246	100	HOT	4		
11	.35	2.40	121	120	103	2.33						
10	.37	2.52	115	117	106	4.39						
9	.30	2.05	116	117	107	6.61						
8	.28	1.91	116	118	108	8.70				4		
7	.30	2.05	115	118	105	10.82	261					
6	.32	2.18	115	117	106	12.90						
5	.29	1.98	116	118	104	14.95						
4	.24	1.85	117	118	104	16.99				5		
3	.26	1.79	117	117	103	18.87						
2	.24	1.65	118	117	104	20.76	257					
1	.25	1.71	116	115	103	22.56						
A 12	.35	2.40	116	116	104	24.31						
11	.34	2.33	117	117	104	26.42				5		
10	.35	2.40	117	118	106	28.58						
9	.33	2.126	118	118	105	30.72	255					
8	.31	2.12	118	119	105	32.85						
7	.33	2.216	119	120	105	34.90				5		
6	.32	2.20	119	119	104	37.02						
5	.30	2.06	120	119	105	39.13						
4	.27	1.85	121	121	107	41.21						
3	.26	1.79	123	122	108	43.40	258					
2	.25	1.72	122	122	107	45.33		V	V	5		
1	.24	1.65	122	122	107	47.21						
						49.00						

Client: P. Pellet			Console: 1013		Pb: 28.35 "Hg		Filter: 34		File:		Date: JUNE 25/21	
Process: Drier 2 South			Mf: .9910		Static: .10 "H ₂ O		Flask: -		+		%CO ₂	%O ₂
Test: 3			K _o : 6650		Ps: 28.34		Silica: 36		+		0	21
Personnel: KS, DL			Pitot: 704		Pm: 28.76		Total Vol: 318 ml					
Start time: 3:25			C _p : 84295		Area: 26.46 ft ²		Start Vol: 300 ml					
Stop time: 4:30			Nozzle: 275		Bwo: 24		Plant Type:				Mix:	
Permitt #			Start Leakage Rate@ 15 "Hg 004 ft ³ /min		Pollution Abatement Equip:							
up strm down strm			Finish Leakage Rate@ 15 "Hg 006 ft ³ /min		Load:		Burner:				Fuel Type:	
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT=2.5 ZERO=	
			IN	OUT								
A 12	.36	2.50	125	126	106	0.00	244	1030	107	4		
11	.35	2.40	120	119	107	2.21						
10	.36	2.50	119	118	105	4.44						
9	.34	2.33	118	119	106	6.56				4		
8	.32	2.20	118	119	107	8.74						
7	.34	2.33	119	121	108	10.88	256					
6	.33	2.27	121	122	106	12.99						
5	.32	2.10	122	123	105	15.13				4		
4	.30	2.08	124	123	104	17.18						
3	.27	1.87	122	121	104	19.20						
2	.26	1.80	121	121	102	21.12	267					
1	.24	1.60	121	120	103	23.04				4		
B 12	.35	2.42	122	122	103	24.85						
11	.36	2.49	122	121	104	26.98						
10	.36	2.49	122	121	104	29.11						
9	.34	2.35	122	121	103	31.30	261					
8	.32	2.21	123	122	103	33.45				5		
7	.30	2.08	122	122	105	35.58						
6	.29	2.01	122	121	104	37.50						
5	.30	2.08	122	122	103	39.56						
4	.28	1.94	122	123	103	41.53	265					
3	.27	1.87	123	123	102	43.46				5		
2	.25	1.74	123	124	102	45.45						
1	.25	1.74	124	124	102	47.30						
						49.10						

Client: P. PEUET			Console: 1013		Pb: 28.35 "Hg		Filter: 31		File:		Date: JUNE 25/21			
Process: DRYER 2 NORTH			Mf: .9910		Static: -.30 "H ₂ O		Flask: -		+		%CO ₂		%O ₂	CO
Test: 1- COND			K _o : 6650		Ps: 28.33		Silica: 31		+		0		21	
Personnel: DL KS			Pitot: 294		Pm: 28.46		Total Vol: 320 ml							
Start time: 8:50			C _p : .84295		Area: 78.54 ft ²		Start Vol: 300 ml							
Stop time: 9:53			Nozzle: .230		Bwo: .04		Plant Type:				Mix:			
Permitt # 107369			Start Leakage Rate@ 15 "Hg .008 ft ³ /min		Pollution Abatement Equip:									
up strm down strm			Finish Leakage Rate@ 15 "Hg .009 ft ³ /min		Load:		Burner:				Fuel Type:			
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT=2.5 ZERO=			
			IN	OUT										
A-12	.52	1.63	74	73	98	0.00	243	11ED	HOT	4				
11	.50	1.55	69	67	98	1.70								
10	.43	1.35	71	66	93	3.34								
9	.40	1.25	72	68	91	4.87								
8	.40	1.25	72	68	96	6.33				4				
7	.39	1.23	74	70	95	7.78	250							
6	.43	1.35	77	73	99	9.25								
5	.42	1.32	80	74	99	10.79								
4	.42	1.32	78	78	102	12.34								
3	.43	1.36	82	78	101	13.90				4				
2	.38	1.21	86	81	101	15.47	257							
1	.40	1.27	87	83	101	16.93								
B-12	.50	1.59	89	86	103	18.43								
11	.48	1.53	91	87	103	20.13								
10	.45	1.44	94	90	104	21.80				4				
9	.50	1.60	94	90	104	23.50	252							
8	.47	1.51	95	92	106	25.22								
7	.55	1.77	94	93	105	26.85								
6	.53	1.77	98	96	107	28.61								
5	.60	1.93	98	96	105	30.42				4				
4	.60	1.94	101	100	108	32.30	250							
3	.65	2.10	100	100	109	34.20								
2	.60	1.94	102	102	110	36.17				4				
1	.45	1.45	102	101	110	38.08		↓	↓					
						39.75								

Client: <u>PIPETT</u>			Console: <u>1013</u>		Pb: <u>28.35</u> "Hg		Filter: <u>32</u>	File:		Date: <u>JUNE 25/21</u>		
Process: <u>DRYER 2 NORTH</u>			Mf: <u>.9910</u>		Static: <u>-.30</u> "H ₂ O		Flask: <u>✓</u>	+	%CO ₂	%O ₂	CO	
Test: <u>2- COND</u>			K ₀ : <u>.16650</u>		Ps: <u>28.33</u>		Silica: <u>32</u>	+	<u>0</u>	<u>21</u>		
Personnel: <u>DL KS</u>			Pitot: <u>294</u>		Pm: <u>28.46</u>		Total Vol: <u>513</u> ml					
Start time: <u>10:00</u>			C _p : <u>.84295</u>		Area: <u>78.54</u> ft ²		Start Vol: <u>300</u> ml					
Stop time: <u>11:05</u>			Nozzle: <u>.230</u>		Bwo: <u>.04</u>		Plant Type: <u>Mix:</u>					
Permitt #			Start Leakage Rate@ <u>15</u> "Hg <u>1004</u> ft ³ /min				Pollution Abatement Equip:					
up strm down strm			Finish Leakage Rate@ <u>15</u> "Hg <u>.004</u> ft ³ /min				Load:		Burner:		Fuel Type:	
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT= ZERO=	
			IN	OUT								
B-12	.52	1.70	110	110	110	0.00	242	ICED	HOT	2		
11	.50	1.62	102	103	109	1.81						
10	.45	1.46	102	103	108	3.52						
9	.47	1.52	103	103	107	5.17						
8	.46	1.49	103	103	107	6.81	248			3		
7	.52	1.69	104	104	108	8.53						
6	.56	1.82	104	104	107	10.33						
5	.60	1.96	106	106	107	12.10						
4	.63	2.06	106	106	107	14.00	250			3		
3	.65	2.12	108	107	109	15.90						
2	.62	2.02	107	107	108	17.80						
1	.50	1.64	109	109	108	19.77						
A-12	.50	1.63	109	109	109	21.51	253			3		
11	.53	1.74	110	109	108	23.35						
10	.46	1.50	110	110	110	25.30						
9	.42	1.37	110	110	109	26.90						
8	.40	1.31	111	111	110	28.55	249			3		
7	.38	1.24	111	111	110	30.15						
6	.40	1.31	113	113	111	31.71						
5	.44	1.44	113	112	111	33.30						
4	.41	1.34	112	113	112	34.97						
3	.43	1.41	113	113	112	36.54	251			3		
2	.40	1.31	113	113	112	38.18						
1	.40	1.31	114	114	111	39.84						
						41.35						

Client: 1 PAPER			Console: 10B		Pb: 38.35	"Hg	Filter: 33	File:	Date: June 25/81		
Process: DRYER & NOZZLE			Mf: 9910		Static: .30	"H ₂ O	Flask:	+	%CO ₂	%O ₂	CO
Test: 2 Cond			K _o : 26650		Ps: 22.23		Silica: 33	+	0	21	
Personnel: DL K2			Pitot: 294		Pm:		Total Vol: 3415 ml				
Start time: 11:15			C _p : 8412.95		Area:	ft ²	Start Vol: 300 ml				
Stop time: 12:20			Nozzle: 0.250		Bwo: .05		Plant Type:			Mix:	
Permitt #			Start Leakage Rate@ 15 "Hg .004 ft ³ /min				Pollution Abatement Equip:				
up strm down strm			Finish Leakage Rate@ 15 "Hg .009 ft ³ /min				Load:		Burner:	Fuel Type:	
SAMPLE POINT	DELTA P ("H ₂ O)	DELTA H ("H ₂ O)	GAS METER TEMP (°F)		STACK (°F)	VOLUME (ft ³)	BOX TEMP (°F)	LAST IMP (°F)	PROBE (°F)	VACUUM ("Hg)	MIN/PT=2.5 ZERO=
			IN	OUT							
12	.51	1.69	117	118	110	0.00	248	ICED	HOT	4	
11	.54	1.76	112	113	115	1.76					
10	.45	1.48	113	114	111	3.58					
9	.43	1.41	111	112	111	5.28					
8	.40	1.31	111	114	111	6.92				4	
7	.39	1.28	111	114	111	8.48	247				
6	.40	1.31	111	113	110	10.02					
5	.43	1.42	113	114	111	11.60					
4	.40	1.33	113	113	107	13.25					
3	.42	1.38	113	114	110	14.85				4	
2	.40	1.32	114	114	108	16.44	260				
1	.40	1.32	114	116	109	18.03					
12	.55	1.82	115	116	110	19.62					
11	.53	1.76	115	116	111	21.47					
10	.46	1.52	117	117	111	23.33				4	
9	.48	1.59	117	117	111	25.05	256				
8	.47	1.56	116	117	110	26.76					
7	.53	1.76	117	118	111	28.48					
6	.57	1.89	116	118	111	30.31					
5	.60	1.98	118	119	114	32.24				4	
4	.62	2.05	120	119	113	34.18	261				
3	.65	2.14	120	120	115	36.25					
2	.60	1.98	120	120	114	38.22					
1	.50	1.65	119	120	114	40.35					
						42.05					



PRINCE GEORGE | VANCOUVER

Lavington Pellet Limited Partnership

June 24, 2021

Dryer exit gas temperature during stack test

40.7 °C

Daily production rate during stack test

45.1 MT/hr

Average for the previous month

40.6 MT/hr

90th percentile production rate

46.8 MT/hr

June 25, 2021

Dryer exit gas temperature during stack test

39.6 °C

Daily production rate during stack test

48.1 MT/hr

Average for the previous month

40.6 MT/hr

90th percentile production rate

46.8 MT/hr

PRINCE GEORGE

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