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Appendix 3

BIRTLEY ENGINEERING (CANADA) LTD.

Subsidiary of Great West Steel Industries Ltd.

5112-3rd ST. S.E., CALGARY, ALBERTA T2H 1J6 PHONE 403-253-3719

REPORT NO. CS0087

~~CONFIDENTIAL~~

A REPORT

TO

WELDWOOD OF CANADA LIMITED

ON THE WASHABILITY AND

PLANT WASHING TESTS

PERFORMED ON THE

HAMILTON LAKE BULK SAMPLE

HLA

~~CONFIDENTIAL~~

Submitted By:

BIRTLEY ENGINEERING (CANADA) LTD.
Coal Science & Minerals Testing

Frank J. Horvat

Frank J. Horvat,
Manager.

March 30, 1976.

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A REPORT TO
WELWOOD OF CANADA LIMITED
ON THE WASHABILITY AND PLANT WASHING TESTS
PERFORMED ON THE
HAMILTON LAKE BULK SAMPLE

1. INTRODUCTION

The Hamilton Lake bulk sample was delivered in forty (40), forty-five (45) gallon drums to the Coal Science & Minerals Testing Division Plant in Calgary, on March 8, 1976.

The sample was processed according to the work flow sheet shown in Figure 1.

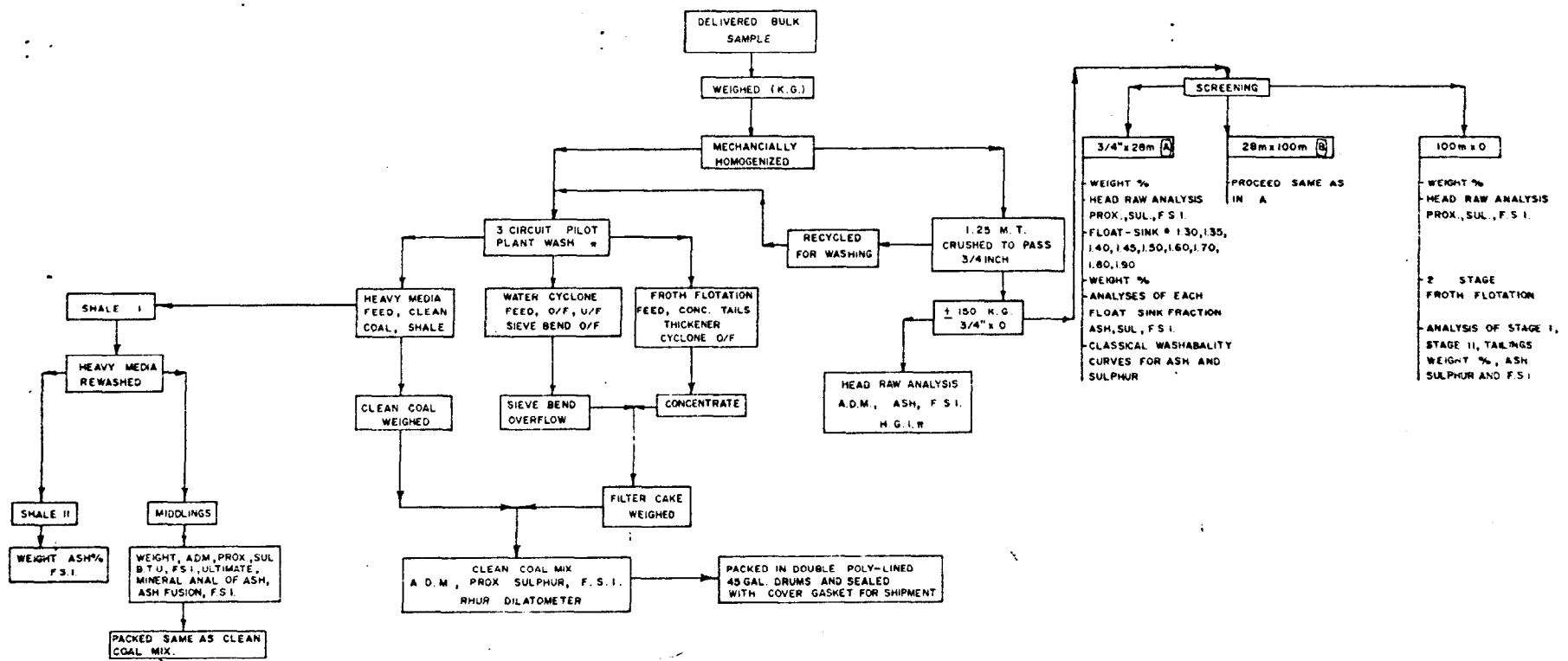
The washability was performed for sulphur, in addition to the washability for ash when high sulphurs were reported in the head samples, and some visible pyrites were observed in the raw coal. Calcite was evident as a deposit on the fracture surfaces of the raw coal along with the pyrites.

The first part of the report is made up of the analytical data, with washability curves being drawn for ash and sulphur. The last part summarizes the pilot plant wash results by means of the plant balance sheet, and the analysis of the various plant products, including clean coal and middlings.

Some adjustment in yields was made necessary by the removal of the shale partings during sampling, and these are outlined in Table 9.

A brief commentary finalizes the report.

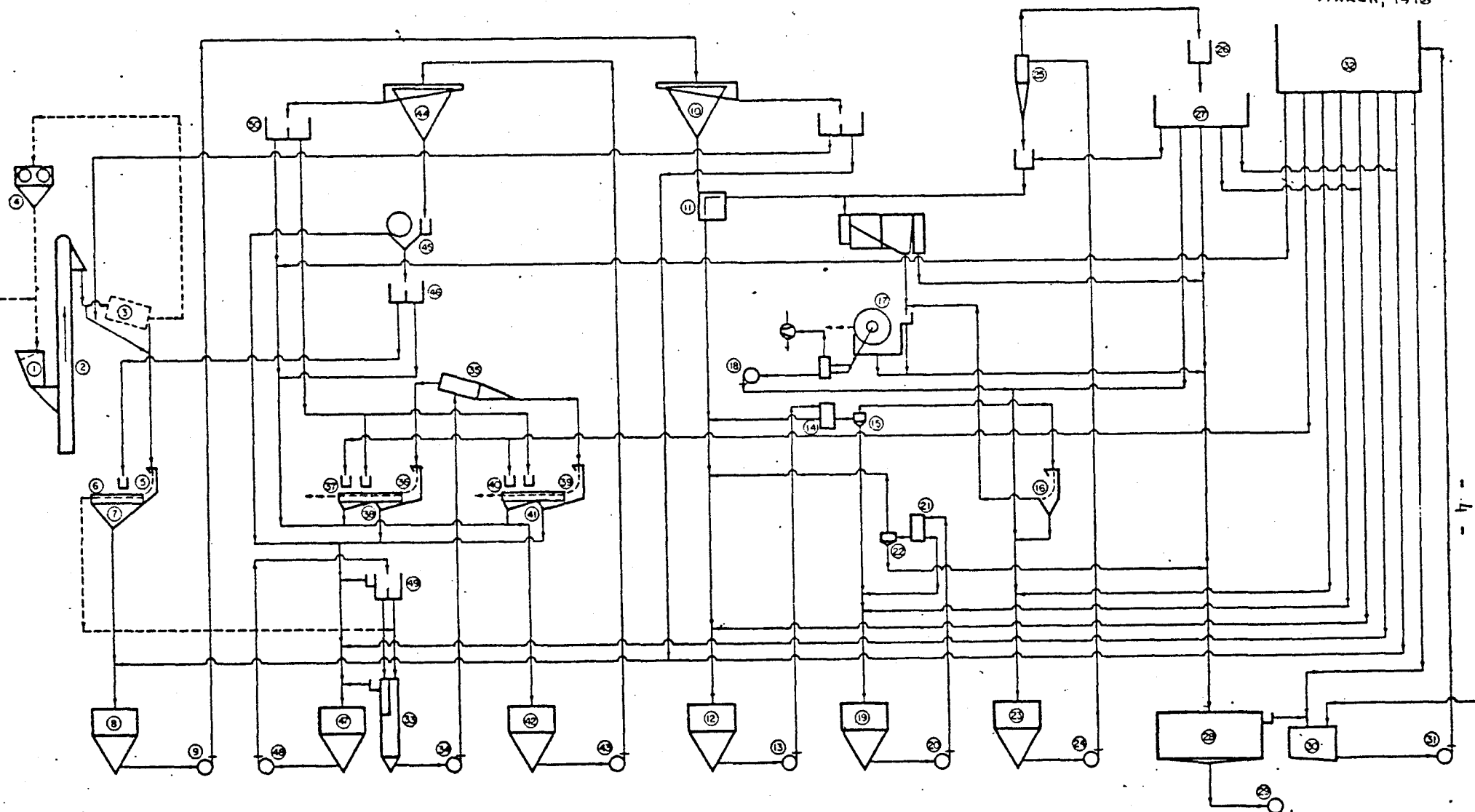
FIGURE 1



* ALL PLANT SAMPLES ANALYSED FOR ASH AND F.S.I.
 * HARDGROVE GRINDABILITY INDEX

BIRTELE BIRTELEY ENGINEERING (CANADA) LTD.	
Title	Date
WORK FLOWSHEET FOR WELWOOD OF CANADA LTD MARCH 1976	MAR 29 76
	Drawn
	L. Bailey

MARCH, 1916



- | | | | | | |
|----------------------------------|--|--|-----------------------------------|----------------------------------|-----------------------|
| ① Feed Bin | ⑩ Setting Cone | ⑲ Secondary Water Only Cyclone Feed Tank | ⑳ Head Box | ⑳ DSM Cyclone | ⑳ Pump |
| ② Elevator | ⑪ Diverter | ㉑ Pump | ㉑ Thickener | ㉑ Sieve Band | ㉑ Setting Cone |
| ③ Rotary Screen | ⑫ Primary Water Only Cyclone Feed Tank | ㉒ Distributor | ㉒ Waste Disposal Pump | ㉒ C.C. Draw and Rinse Screen | ㉒ Magnetic Separator |
| ④ Jaw Crusher | ⑬ Pump | ㉓ Secondary Water Only Cyclone | ㉓ Clarified Water Collection Tank | ㉓ Underflow Collector | ㉓ Splitter Box |
| ⑤ Sieve Band | ⑭ Distributor | ㉔ Thickening Cyclone Feed Tank | ㉔ Clarified Water Pump | ㉔ Sieve Band | ㉔ Correct Medium Tank |
| ⑥ Desliming Screen | ⑮ Primary Water Only Cyclone | ㉕ Pump | ㉕ Clarified Water Head Box | ㉕ Discard Drain and Rinse Screen | ㉕ Pump |
| ⑦ Underflow Collector | ⑯ Sieve Band | ㉖ Thickening Cyclone | ㉖ Cyclone Feed Tank | ㉖ Underflow Collector | ㉖ Distribution Box |
| ⑧ 28M-O Raw Coal Collection Tank | ⑰ Vacuum Filter | ㉗ Overflow Distributor | ㉗ Pump | ㉗ Dilute Medium Tank | ㉗ Splitter Box |
| ⑨ Pump | ⑱ Filtrate Water Pump | | | | |

TABLE 1

WELWOOD OF CANADA LIMITED

ADIT Hamilton Lake LAB. NO. 7259

SIZE AND RAW ANALYSES											
SIZE FRAC.	WT. %	ASH%	R.M. %	V.M. %	F.C. %	S. %	F.S.I.	CUMULATIVE			
								WT. %	ASH %	S. %	
* +2"	34.2										
** 2" X 3/4"	37.2										
*** 3/4" X 28M	85.7	27.4	0.8	28.7	43.1	2.26	7 1/2	85.7	27.4	2.26	
*** 28M X 100	8.5	23.2	0.6	30.1	46.1	1.94	8	94.2	27.0	2.23	
*** 100M X 0	5.8	27.2	0.5	30.3	42.0	2.13	7 1/2	100.0	27.0	2.23	
**** HEAD RAW	100.0	27.8	0.7	28.3	43.2	2.03	6 1/2	H.G.I.	63		
	Sulphur Forms	Sulfate S. %		Sulfide S. %		Organic S. %		Total S. %			
		Trace		1.39		0.82		2.21			

* As Received

** +2" crushed to -2"

*** +3/4" crushed to pass 3/4"

**** Gross Sample

FROTH FLOTATION: 100M X 0								4:1=Ker: MIBC, 0.48 lb/T 10% P.D. 1 min. conditioning		
PRODUCT	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE					
					WT. %	ASH %	S. %			
STAGE I	57.0	9.3	8 1/2	1.69	57.0	9.3	1.69	1st min. froth		
STAGE II	9.0	18.6	8	2.08	66.0	10.6	1.74	2nd min. froth		
TAILS	34.0	57.3	1/2	2.77	100.0	26.4	2.09			

WELDWOOD OF CANADA LIMITED

ADIT Hamilton Lake LAB. NO. 7260

SINK - FLOAT ANALYSES							
3/4" X 28M							
S.G.	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE		
					WT. %	ASH %	S %
-1.30	36.0	5.3	9	1.27	36.0	5.3	1.27
1.30-1.35	14.4	11.0	8 1/2	1.60	50.4	6.9	1.36
1.35-1.40	6.8	16.0	7	1.86	57.2	8.0	1.42
1.40-1.45	5.0	20.0	6 1/2	2.75	62.2	9.0	1.53
1.45-1.50	3.2	24.4	5	3.19	65.4	9.7	1.61
1.50-1.60	5.4	29.7	5	3.55	70.8	11.2	1.76
1.60-1.70	3.8	39.0	2 1/2	3.40	74.6	12.7	1.84
1.70-1.80	3.7	45.8	1 1/2	3.65	78.3	14.2	1.93
1.80-1.90	3.5	52.9	1	3.43	81.8	15.9	1.99
+1.90	18.2	71.6	0	3.79	100.0	26.0	2.32

TABLE 3

WASHABILITY FOR ASH

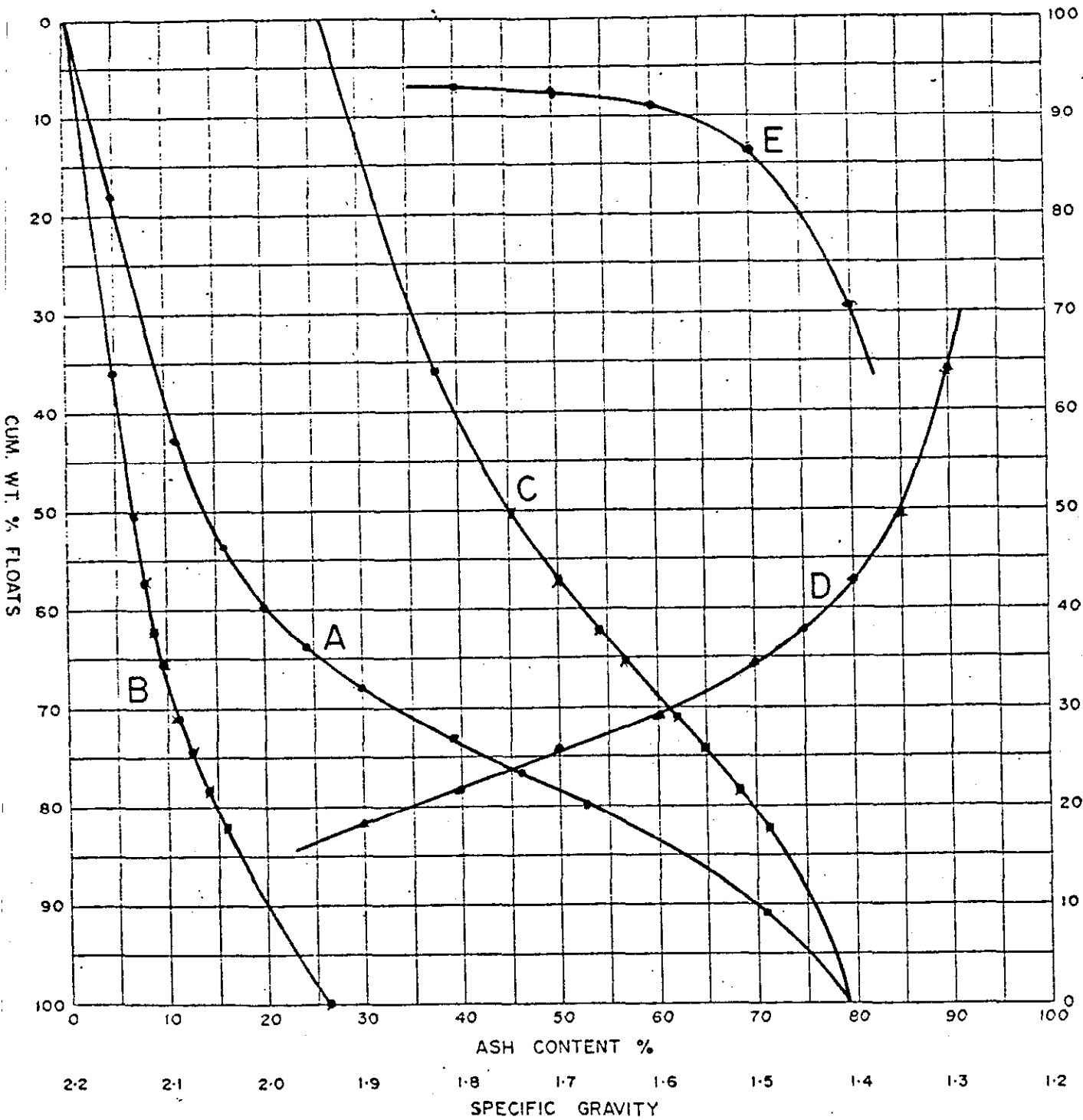
WELDWOOD CANADA LTD. BULK SAMPLE LAB. NO. 7260 3/4" X 28M

--DIRECT--			--CUM FLOATS--				--CUM SINKS--			+-0.1 DISTR		
S.G.	WT>	ASH>	WT> CUM ASH TT	WT> CUM ASHTT	WT>	SINK WT ASH>	WT>	ASH>	WT>	ASH>	S.G.	WT>
1	2	3	4	5	6	7	8	9	10	11	12	
1.30	36.00	5.30	1.91	1.91	36.00	5.30	24.12	64.00	37.68	1.30	0.00	
1.35	14.40	11.00	1.58	3.49	50.40	6.93	22.53	49.60	45.43	1.40	29.40	
1.40	6.80	16.00	1.09	4.58	57.20	8.01	21.44	42.80	50.10	1.50	13.60	
1.45	5.00	20.00	1.00	5.58	62.20	8.97	20.44	37.80	54.08	1.60	9.20	
1.50	3.20	24.40	.78	6.36	65.40	9.73	19.66	34.60	56.83	1.70	7.50	
1.60	5.40	29.70	1.60	7.96	70.80	11.25	18.06	29.20	61.85	1.80	7.20	
1.70	3.80	39.00	1.48	9.45	74.60	12.66	16.58	25.40	65.26	1.90	0.00	
1.80	3.70	45.80	1.69	11.14	78.30	14.23	14.88	21.70	68.58	2.00	0.00	
1.90	3.50	52.90	1.85	12.99	81.80	15.88	13.03	18.20	71.60	2.10	0.00	
9.99	18.20	71.60	13.03	26.02	100.00	26.02	0.00	.00	0.00	2.20	0.00	

BIRTLEY ENGINEERING

MOORE BUSINESS FORMS

THE CLASSICAL WASHABILITY CURVES



- A Primary Curve
- B Clean Coal Curve
- C Discard Curve
- D Specific Gravity-Yield Curve
- E ± 0.1 S. G. Distribution Curve

FIGURE 3

BIRTLEY ENGINEERING (CANADA) LTD.	
COAL SCIENCE & MINERALS TESTING	
CLIENT	WELDWOOD OF CANADA LTD
ADIT/SEAM NO.	BULK SAMPLE 3/4" x 28 M.
DATE	MAR. 29/76
SIGNED	K. M. LAU

TABLE 4

WASHABILITY FOR SULPHUR

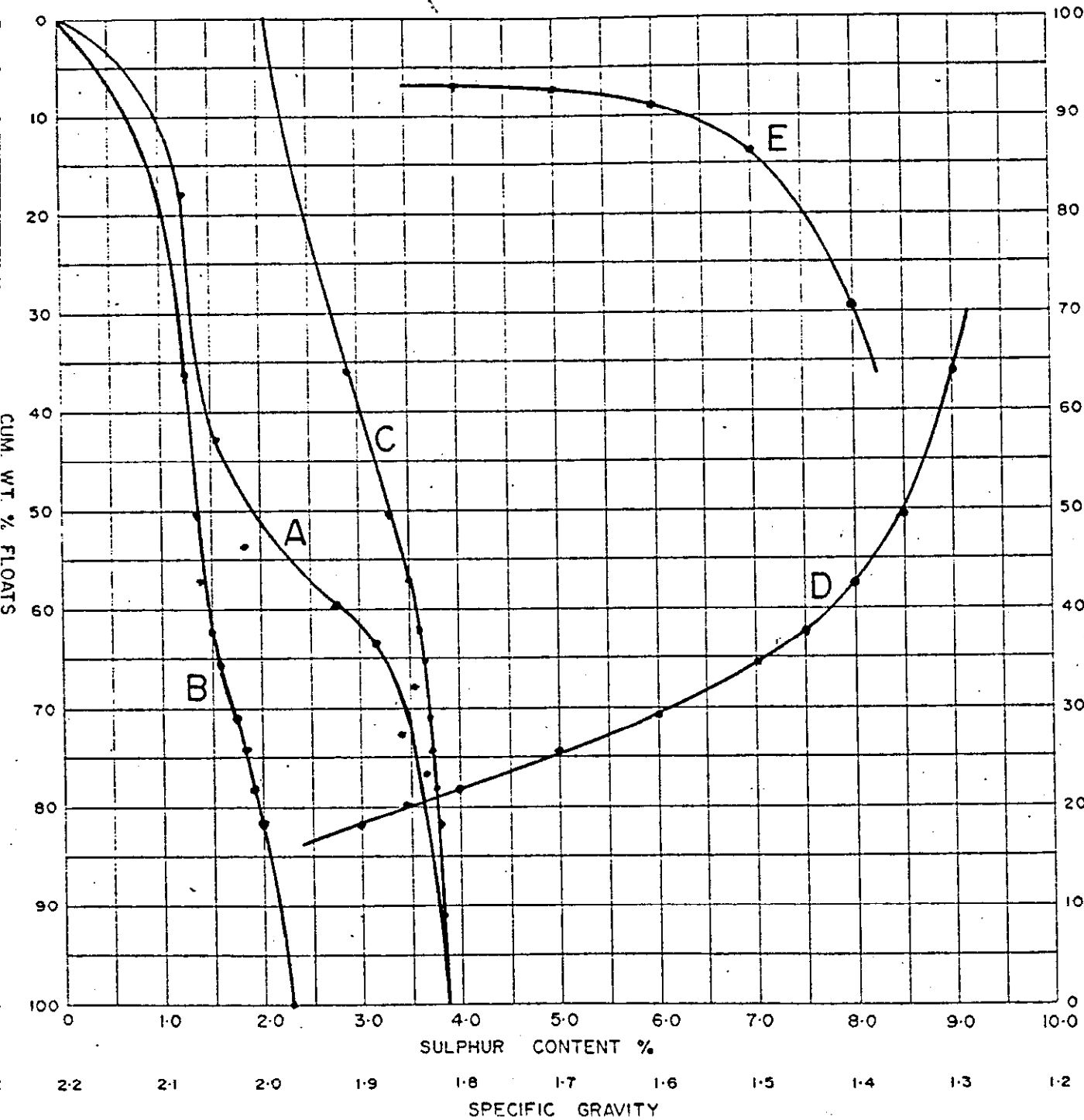
WELDWOOD CANADA LTD. BULK SAMPLE LAB. NO. 7260 3/4" X 28M

WORK BUSINESS FORM

--DIRECT--			--CUM FLOATS--				--CUM SINKS--				+-0.1 DISTR			
S.G.	WT>	S >	WT>	CUM	WT>	SINK	WT	WT>	S >	S >	WT>	S >	S.G.	WT>
1	2	3	S	TT	S	TT	S	TT	7	8	9	10	11	12
1.30	36.00	1.27	.46	.46	36.00	1.27	1.86	64.00	2.91	1.30	0.00			
1.35	14.40	1.60	.23	.69	50.40	1.36	1.63	49.60	3.29	1.40	29.40			
1.40	6.80	1.86	.13	.81	57.20	1.42	1.51	42.80	3.52	1.50	13.60			
1.45	5.00	2.75	.14	.95	62.20	1.53	1.37	37.80	3.62	1.60	9.20			
1.50	3.20	3.19	.10	1.05	65.40	1.61	1.27	34.60	3.66	1.70	7.50			
1.60	5.40	3.55	.19	1.25	70.80	1.76	1.07	29.20	3.68	1.80	7.20			
1.70	3.80	3.40	.13	1.37	74.60	1.84	.94	25.40	3.72	1.90	0.00			
1.80	3.70	3.65	.14	1.51	78.30	1.93	.81	21.70	3.73	2.00	0.00			
1.90	3.50	3.43	.12	1.63	81.80	1.99	.69	18.20	3.79	2.10	0.00			
9.99	18.20	3.79	.69	2.32	100.00	2.32	0.00	.00	0.00	2.20	0.00			

BIRTLEY ENGINEERING

THE CLASSICAL WASHABILITY CURVES



- A Primary Curve
- B Clean Coal Curve
- C Discard Curve
- D Specific Gravity-Yield Curve
- E ± 0.1 S. G. Distribution Curve

FIGURE 4

BIRTLEY ENGINEERING (CANADA) LTD.	
COAL SCIENCE & MINERALS TESTING	
CLIENT	WELDWOOD OF CANADA LTD
ADIT/SEAM NO.	BULK SAMPLE 3/4" x 28 M.
DATE	MAR. 29/76
SIGNED	K. M. Lau

WELDWOOD OF CANADA LIMITED

ADIT Hamilton Lake LAB. NO. 7260

SINK - FLOAT ANALYSES							
28M X 100M							
S.G.	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE		
					WT. %	ASH %	S. %
-1.30	44.8	3.7	9	0.98	44.8	3.7	0.98
1.30-1.35	12.4	8.3	8 1/2	1.35	57.2	4.7	1.06
1.35-1.40	6.2	13.0	7	1.67	63.4	5.5	1.12
1.40-1.45	3.6	17.9	5 1/2	2.01	67.0	6.2	1.17
1.45-1.50	2.5	20.7	3 1/2	2.13	69.5	6.7	1.20
1.50-1.60	3.4	27.6	3	2.55	72.9	7.7	1.27
1.60-1.70	2.5	35.4	1 1/2	2.74	75.4	8.6	1.31
1.70-1.80	1.8	43.4	1	2.46	77.2	9.4	1.34
1.80-1.90	2.3	50.6	1	2.53	79.5	10.6	1.38
+1.90	20.5	70.7	0	2.71	100.0	22.9	1.85

WASHABILITY FOR ASH

WELDWOOD CANADA LTD. BULK SAMPLE LAB. NO.7260 28M X 100M

--DIRECT--

--CUM FLOATS--

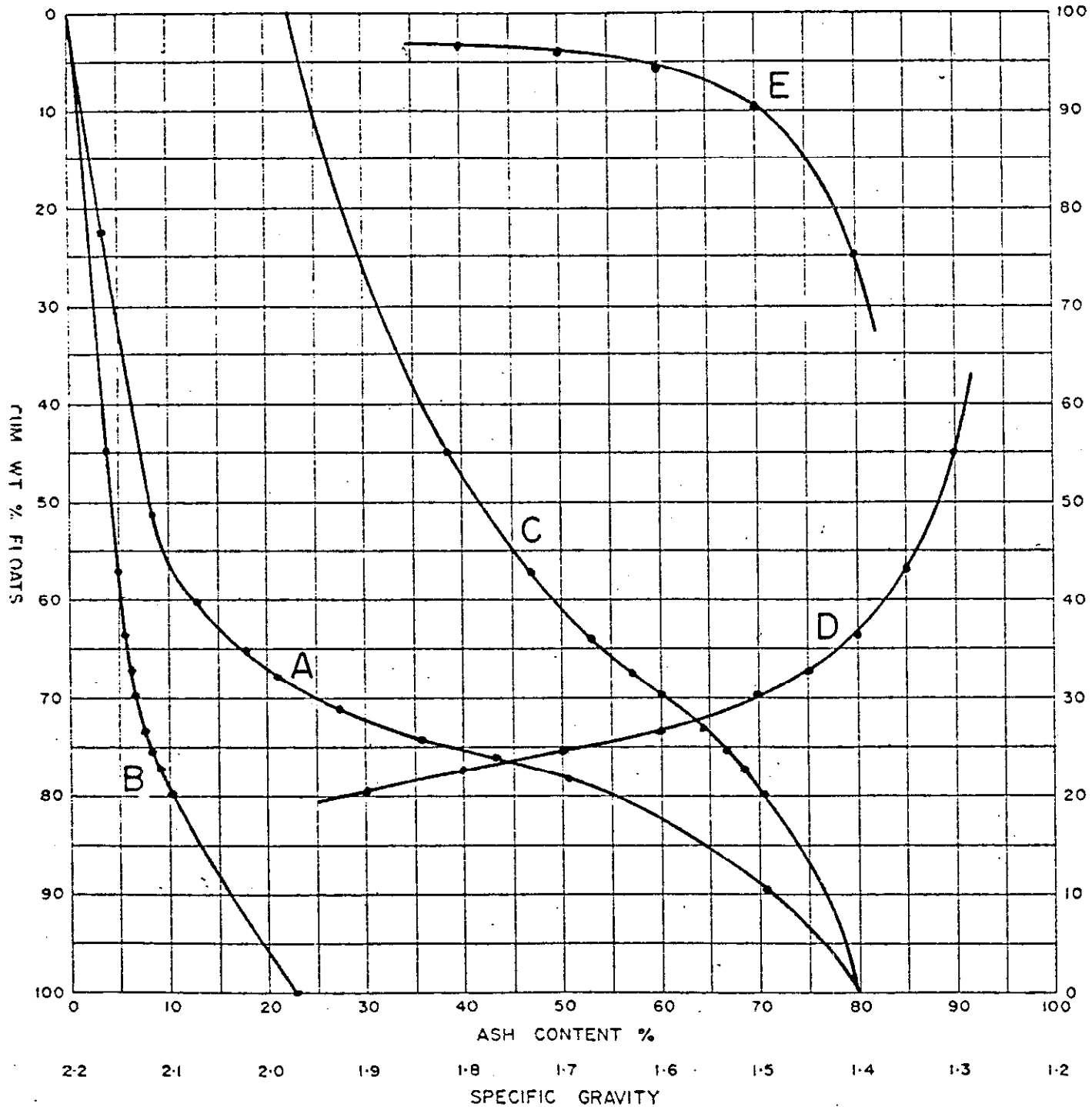
--CUM SINKS--

+-.0.1 DISTR

S.G.	WT>		WT> CUM WT>		SINK WT		WT>		ASH>		S.G.	WT>
	WT>	ASH>	ASH	IT ASHTT	WT>	ASH>	ASH>	WT>	ASH>			
1	2	3	4	5	6	7	8	9	10	11	12	
1.30	44.80	3.70	1.66	1.66	44.80	3.70	21.26	55.20	38.51	1.30	0.00	
1.35	12.40	8.30	1.03	2.69	57.20	4.70	20.23	42.80	47.27	1.40	24.70	
1.40	6.20	13.00	.81	3.49	63.40	5.51	19.42	36.60	53.07	1.50	9.50	
1.45	3.60	17.90	.64	4.14	67.00	6.17	18.78	33.00	56.91	1.60	5.90	
1.50	2.50	20.70	.52	4.65	69.50	6.70	18.26	30.50	59.88	1.70	4.30	
1.60	3.40	27.60	.94	5.59	72.90	7.67	17.32	27.10	63.92	1.80	4.10	
1.70	2.50	35.40	.89	6.48	75.40	8.59	16.44	24.60	66.82	1.90	0.00	
1.80	1.80	43.40	.78	7.26	77.20	9.40	15.66	22.80	68.67	2.00	0.00	
1.90	2.30	50.60	1.16	8.42	79.50	10.60	14.49	20.50	70.70	2.10	0.00	
9.99	20.50	70.70	14.49	22.92	100.00	22.92	0.00	.00	0.00	2.20	0.00	

BIRTLEY ENGINEERING

THE CLASSICAL WASHABILITY CURVES



- A Primary Curve
- B Clean Coal Curve
- C Discard Curve
- D Specific Gravity-Yield Curve
- E ± 0.1 S. G. Distribution Curve

FIGURE 5

BIRTLEY ENGINEERING (CANADA) LTD.	
COAL SCIENCE & MINERALS TESTING	
CLIENT	WELDWOOD OF CANADA LTD
ADIT/SEAM NO.	BULK SAMPLE 28 x 100 M
DATE	MAR. 29/76
SIGNED	K. M. LAU

TABLE 7

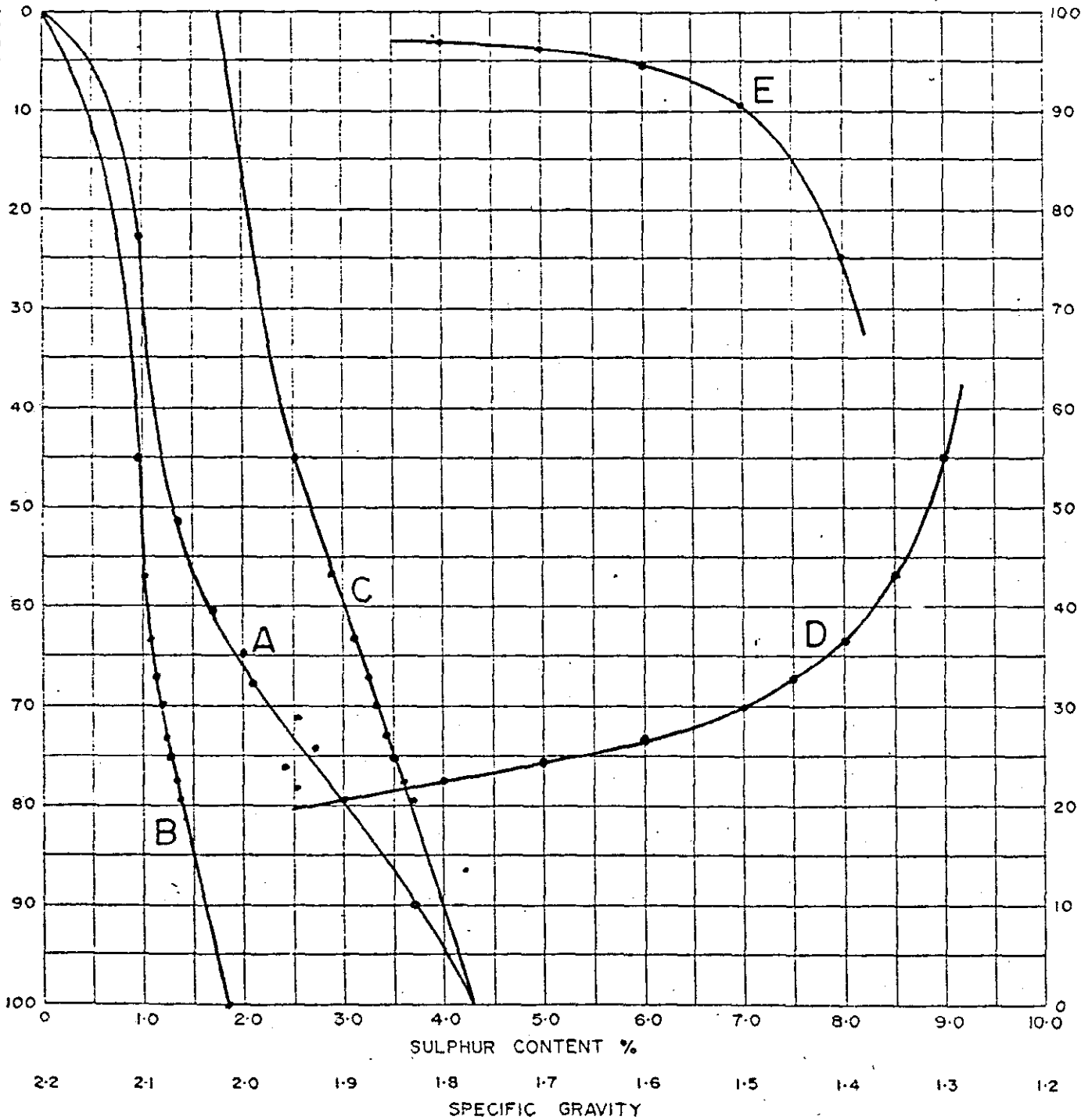
WASHABILITY FOR SULPHUR

WELWOOD CANADA LTD. BULK SAMPLE LAB. NO. 7260 28M X 100M

--DIRECT--			--CUM FLOATS--				--CUM SINKS--				+-0.1 DISTR	
S.G.	WT>	S >	WT> S	CUM WT> TT	WT> S	WT> TT	SINK WT S >	S >	WT>	S >	S.G.	WT>
1	2	3	4	5	6	7	8	9	10	11	12	
1.30	44.80	.98	.44	.44	44.80	.98	1.41	55.20	2.56	1.30	0.00	
1.35	12.40	1.35	.17	.61	57.20	1.06	1.25	42.80	2.91	1.40	24.70	
1.40	6.20	1.67	.10	.71	63.40	1.12	1.14	36.60	3.13	1.50	9.50	
1.45	3.60	2.01	.07	.78	67.00	1.17	1.07	33.00	3.25	1.60	5.90	
1.50	2.50	2.13	.05	.84	69.50	1.20	1.02	30.50	3.34	1.70	4.30	
1.60	3.40	2.55	.09	.92	72.90	1.27	.93	27.10	3.44	1.80	4.10	
1.70	2.50	2.74	.07	.99	75.40	1.31	.86	24.60	3.51	1.90	0.00	
1.80	1.80	2.46	.04	1.04	77.20	1.34	.82	22.80	3.59	2.00	0.00	
1.90	2.30	2.53	.06	1.09	79.50	1.38	.76	20.50	3.71	2.10	0.00	
9.99	20.50	3.71	.76	1.85	100.00	1.85	0.00	.00	0.00	2.20	0.00	

BIRTLEY ENGINEERING

THE CLASSICAL WASHABILITY CURVES



- A Primary Curve
- B Clean Coal Curve
- C Discard Curve
- D Specific Gravity-Yield Curve
- E ± 0.1 S. G. Distribution Curve

FIGURE 6

BIRTLEY ENGINEERING (CANADA) LTD.	
COAL SCIENCE & MINERALS TESTING	
CLIENT	WELDWOOD OF CANADA LTD.
ADIT/SEAM NO.	BULK SAMPLE 28 x 100 M.
DATE	MAR. 29/76
SIGNED	K. M. LAW

March 12th, 1976.

Mr. Don Symonds,
Manager,
Birtley Engineering (Canada) Ltd.,
Box 5488, Stn. "A",
Calgary, Alberta,
T2H 1J6.

RECEIVED MAR 15 1976

Dear Don;

With reference to the first sample sent to you from Hamilton Lake, we advise that the shale bans were picked out from the sample before dispatch. However the vertical section of the seam was measured as follows:

Roof	-	Shale	
16"	-	Coal	
8"	-	Shale	Total Seam 6 ft. 1 ins.
27"	-	Coal	
5"	-	Shale	
17"	-	Coal	
Floor			

We trust you will be able to compute the yields from this information.

Yours truly,


N.E. Roberts.

NER:ls

TABLE 9

WELDWOOD OF CANADA LIMITED

Float-Sink of 3/4" X 28M Adjusted for Inclusion of Shale Bands Removed in Sampling

<u>S.G.</u>	<u>WT. %</u>	<u>ASH %</u>	<u>CUM. WT. %</u>	<u>CUM. ASH %</u>
-1.30	29.4	5.3	29.4	5.3
1.30-1.35	11.8	11.0	41.2	6.9
1.35-1.40	5.6	16.0	46.8	8.0
1.40-1.45	4.1	20.0	50.9	9.0
1.45-1.50	3.6	24.4	53.5	9.7
1.50-1.60	4.4	29.7	57.9	11.2
1.60-1.70	3.1	39.0	61.0	12.7
1.70-1.80	3.0	45.8	64.0	14.2
1.80-1.90	2.9	52.9	66.9	15.9
+1.90	33.1	78.8*	100.0	37.0

*Assuming an ash content of 85% for the shale partings, which amounted to 22.4% of the seam.

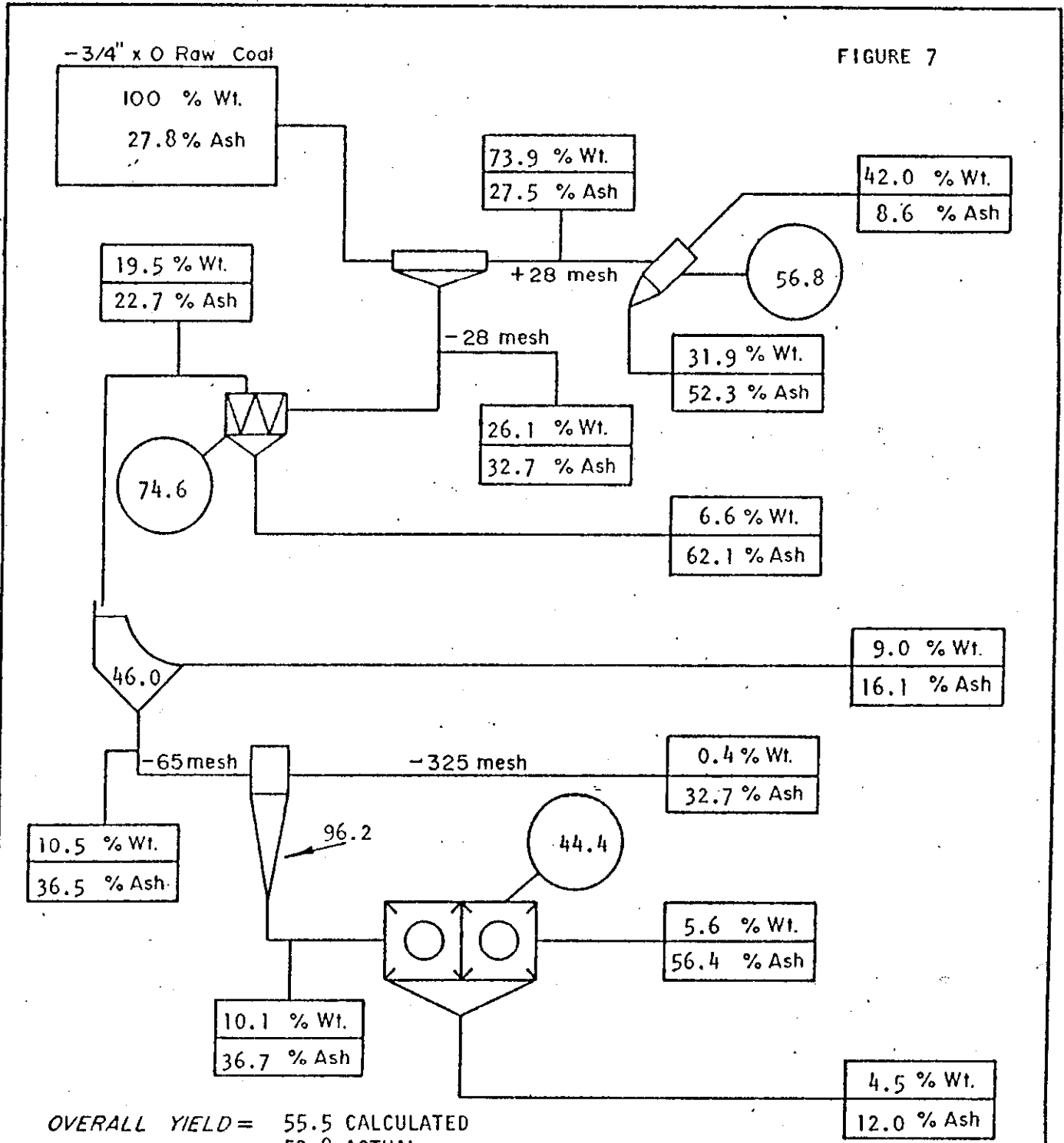
DISTRIBUTION OF SHALE AND COAL IN THE HAMILTON LAKE SEAM

<u>SEAM DISTRIBUTION</u>	<u>PARTING DISTRIBUTION</u>	<u>PARTING DIST. BY VOLUME %</u>	<u>PARTING DIST. BY WT. %**</u>
Coal	16"	21.9	20.7
Shale	8"	11.0	13.8*
Coal	27"	37.0	34.9
Shale	5"	6.8	8.6*
Floor	--	----	

* Not included in the bulk sample.

**Assuming an S.G. of 1.50 for coal and 2.00 for shale.

FIGURE 7



OVERALL YIELD = 55.5 CALCULATED
 50.8 ACTUAL

LEGEND:

- CIRCUIT YIELD %
- Wt. WEIGHT %
- Ash ASH CONTENT (AIR DRIED)



BIRTLEY ENGINEERING (CANADA) LTD.

Title

WELWOOD OF CANADA LIMITED
 ADIT - HAMILTON LAKE LAB. NO. 7259
 PLANT BALANCE SHEET

Date

MARCH 29, 1976.

Drawn

BIRTLEY ENGINEERING (CANADA) LTD.
Coal Science & Minerals Testing Div.

WELDWOOD OF CANADA LIMITED
BULK WASHING DATA*

ADIT Hamilton Lake LAB. NO. 7259 DATE OF WASH March 18, 1976.
Raw Coal Analysis: A.D.M. 4.1% Ash% 27.8 F.S.I. 6 1/2 H.G.I. 63
Delivered Bulk Weight 6.962 Metric Tons
Washed Weight 6.799 Metric Tons

* All weight and analyses are on Air Dried Basis unless otherwise indicated.

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

HEAVY MEDIUM CIRCUIT

ADIT Hamilton Lake LAB. NO. 7259

1. S.G. of Separation 1.44
2. Feed Ash Content 27.5 % F.S.I. 7 1/2
3. Clean Coal Estimated Weight 2.942 M.T.
4. Clean Coal Analysis - Ash 8.6 % F.S.I. 8 1/2
5. Reject Estimated Weight 2.081 M.T.
6. Reject Analysis - Ash 52.3 % F.S.I. 1 1/2
7. Estimated 3/4" X 28M in Circuit 5.023 M.T. 73.9 Wt.%
8. Yield Clean Coal (Weighted): $\frac{3}{3 + 5}$ 58.6 %
9. Yield Clean Coal
(Calculated Ash Balance) - $\frac{6 - 2}{6 - 4}$ 56.8 %

WELWOOD OF CANADA LIMITED

BULK WASHING DATA

HEAVY MEDIUM CIRCUIT - MIDDLINGS WASH

ADIT Hamilton Lake LAB. NO. 7259

1. S.G. of Separation 1.60
2. Feed Ash Content 52.3 % F.S.I. 1 1/2
3. Clean Coal Estimated Weight 0.532 M.T.
4. Clean Coal Analysis - Ash 26.8 % F.S.I. 4 1/2
5. Reject Estimated Weight 1.106 M.T.
6. Reject Analysis - Ash 62.2 % F.S.I. 1/2
7. Estimated 3/4" X 28M in Circuit _____ M.T. _____ Wt. %
8. Yield Clean Coal (Weighted): $\frac{3}{3+5}$ 32.5 %
9. Yield Clean Coal
(Calculated Ash Balance) - $\frac{6-2}{6-4}$ 28.0 %

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

WATER ONLY CYCLONE CIRCUIT

ADIT Hamilton Lake LAB. NO. 7259

1. Vortex Finder Clearance (VFC) 1.27 CM 0.5 Inches
2. Feed Pressure 1.4 KG/CM² 20 P.S.I.
3. Feed Rate 23.2 M³/Hr. 85 IG/Min.
4. Feed Pulp Density 90-140 g/l. 9-14 Solids W/V
5. Sample Analysis:-

	SCREEN SIZE	WT. %	ASH %	F.S.I.	CUM WT. %	CUM ASH %	HEAD ASH	HEAD F.S.I.
FEED							32.7	5 1/2
O'FLOW	+65M	46.0	10.0	9	46.0	10.0	22.7	8
	65M X 0	54.0	32.3	5	100.0	22.0		
U'FLOW							62.1	1
S B O							16.1	8 1/2
T C O*	+325M	3.7	14.4	8	3.7	14.4	32.7	1
	325M X 0	96.3	33.8	1/2	100.0	33.1		

6. Yield - Total W.O. Cyclone Circuit = 74.6
7. Est. Yield of 28 X 65 Mesh Coal = 34.3
(as % of 28 Mesh X 0 Feed)
8. Est. 28M X 0 in circuit (Plant Feed - HM Products) 1.776 M.T. 26.1 %

* Thickner Cyclone Overflow

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

FROTH FLOTATION CIRCUIT

ADIT Hamilton Lake LAB. NO. 7259

1. Reagents: Kerosene-Methylisobutylcarbinol (MIBC).
2. Feed Pulp Density 150-240 g/l 15-24 % Solids W/V
3. Sample Analysis:

	ASH	F.S.I.
FEED	36.7	6
CONC.	12.0	8
TAILS	56.4	1 1/2

4. Impeller Type - Birtley-Humboldt Multi-Wobble
5. Yield Calculated (Ash Balance) 44.4 %
6. Filter Cake (Sieve Bend O'Flow & Flotation Conc.)
Wt. Recovered 0.515 M.T.
7. Filter Cake - Ash% 15.2 F.S.I. 8 1/2

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

ADIT Hamilton Lake LAB. NO. 7259 DATE OF WASH March 18, 1976.

a) Raw Coal

Delivered Weight	=	<u>6.962 M.T.</u>
Ash %	=	<u>27.8</u>
F.S.I.	=	<u>6 1/2</u>
Estimated Washed Wt.	=	<u>6.799 M.T.</u>

b) Heavy Media Circuit

Estimated Proportion of +28 Mesh in Feed	=	<u>73.9%</u>
Effective S.G.	=	<u>1.44</u>
Raw Feed	<u>27.5</u>	%Ash <u>7 1/2</u> F.S.I.
Clean Coal	<u>3.6</u>	%Ash <u>8 1/2</u> F.S.I.
Reject	<u>52.3</u>	%Ash <u>1 1/2</u> F.S.I.
Calculated Yield	=	<u>56.8%</u>
Weighed Yield	=	<u>58.6%</u>

c) Water-Only Cyclone Circuit

Raw Feed	<u>32.7</u>	%Ash <u>5 1/2</u> F.S.I.
Overflow	<u>22.7</u>	%Ash <u>8</u> F.S.I.
Underflow	<u>62.1</u>	%Ash <u>1</u> F.S.I.
Calculated Yield	=	<u>74.6</u>
% of +65 Mesh in O/F	=	<u>46.0</u>
Sieve Bend Overflow	<u>16.1</u>	%Ash <u>8 1/2</u> F.S.I.

d) Froth Flotation Circuit

Raw Feed	<u>36.7</u>	%Ash <u>6</u> F.S.I.
Concentrates	<u>12.0</u>	%Ash <u>8</u> F.S.I.
Tails	<u>56.4</u>	%Ash <u>1 1/2</u> F.S.I.
Calculated Yield	=	<u>44.4</u>

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

BULK WASHING SUMMARY (Cont.)

ADIT Hamilton Lake LAB. NO. 7259

e) Clean Coal Mix Analysis

(i) Proximate Analysis

ADM% 5.8 RM% 0.8 ASH% 9.9 VM% 32.2 FC% 57.1 S% 1.52 F.S.: 1.8 1/2BTU/LB 13,655

(ii) Ultimate Analysis

H ₂ O%	C%	H%	N%	S%	ASH%	O%
0.41	76.12	5.03	1.30	1.44	10.15	5.55

(iii) Rhur Dilatometer Test

Softening °C 366° Max. Dil. °C 446° Max. Cont. % 27%

Max. Dil. % 126% G. No. = 1.068

(iv) Gieseler Plastometer Test

Initial Softening Temp. °C	Max. Fluid Temp. °C	Solidification Temp. °C	Maximum Fluidity (DDM)
394	442	475	2013

(v) Mineral Analysis of Ash

SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	CaO %	MgO %
35.06	22.68	13.30	12.29	0.66
Na ₂ O %	K ₂ O %	SO ₃ %	P ₂ O ₅ %	TiO ₂ %
0.46	0.40	12.64	1.06	1.51

(vi) Ash Fusion Temperatures °F

Atmosphere	Initial Deformation	Spherical	Hemispherical	Fluid
Oxidizing	2440	2460	2480	2500
Reducing	2360	2430	2450	2500

WELDWOOD OF CANADA LIMITED

May 5, 1976.

PROJECT: Hamilton Lake Clean Coal

LAB. NO.: 7259

GIESELER PLASTICITY

Start	394 °C
Fusion Temp.	409 °C
Max. Fluid Temp.	442 °C
Final Fluid Temp.	469 °C
Solidification Temp.	475 °C
Melting Range	75 °C
Max. Fluidity	2013 dd/m
Torque	40 g.in.

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 • AREA CODE 312 726-8434

Please address all correspondence to:
147 Riverside Dr., North Vancouver, B.C. V7H 1T6



Office: Tel. (604) 929-2228
Roberts Bank Tel. (604) 946-7021

April 23, 1976

CERTIFICATE OF ANALYSIS FOR:

THE ROBERTS CONSULTING CORP. LTD.,
West Vancouver, B.C.

for

WILDWOOD OF CANADA LTD.

REPORT NO. 64 - 12010

COAL PLASTICITY

	<u>TEMP °C</u>
0.1 D.D.P.M. @	368
1.0 D.D.P.M. @	405
5.0 D.D.P.M.	419
Max. D.D.P.M.	447
5.0 D.D.P.M. @	477
1.0 D.D.P.M. @	480
Solidification @	487
Max. Fluidity, 2400 D.D.P.M. @	447

Respectfully Submitted,
COMMERCIAL TESTING & ENGINEERING CO.

R.A. Houser,
District Manager

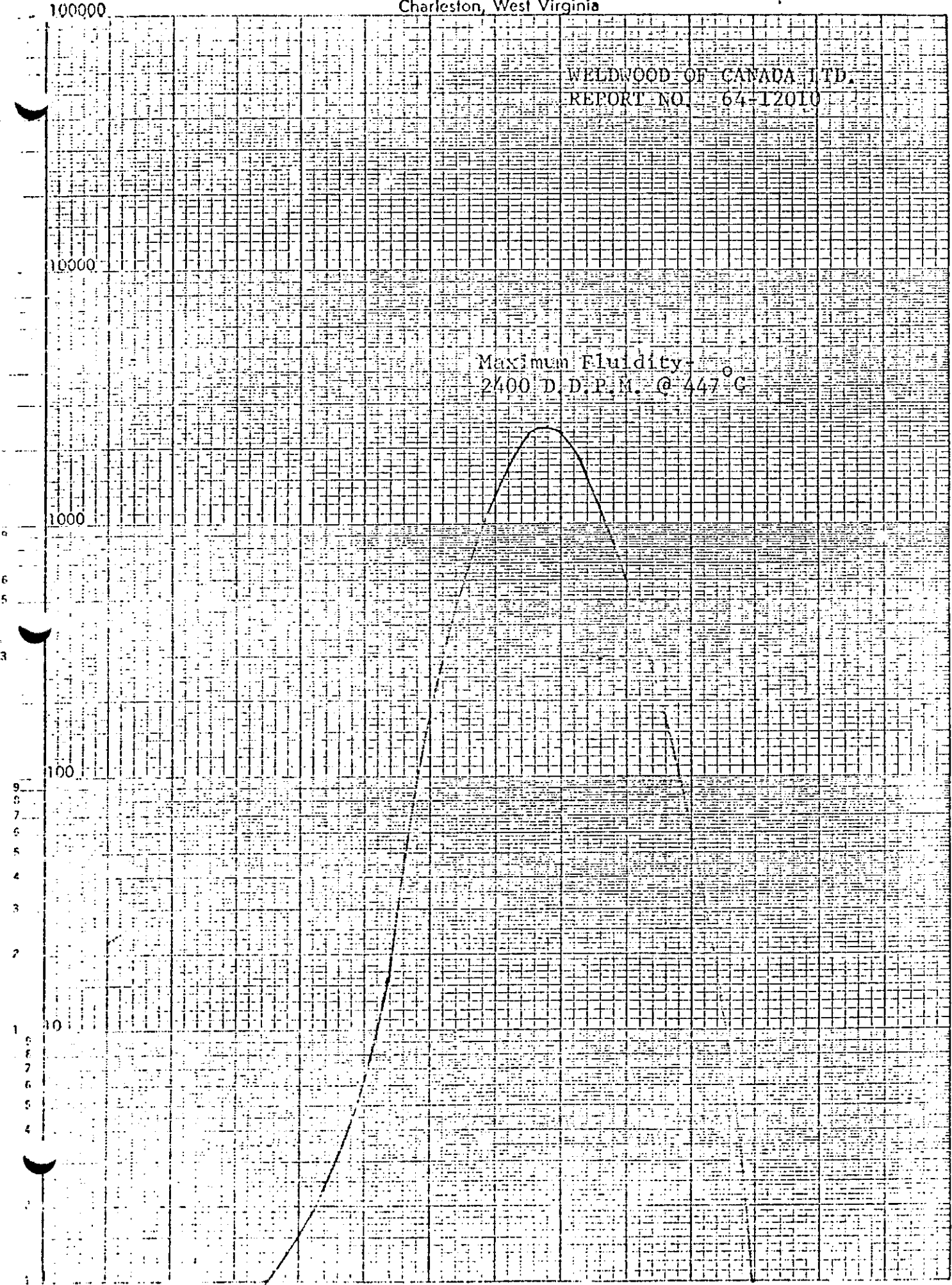
RAH/sl



FUEL RESEARCH & INSTRUMENT COMPANY
Charleston, West Virginia

WELWOOD OF CANADA LTD.
REPORT NO. 64-12010

Maximum Fluidity
2400 D.P.M. @ 447°C



Dial Divisions/Minute

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

BULK WASHING SUMMARY (Cont.)

ADIT Hamilton Lake LAB. NO. 7259

(vii) Hardgrove Grindability Index 57

(f) Middlings Coal Analysis

(i) Proximate Analysis

ADM% 4.7 RM% 0.9 ASH% 26.8 VM% 28.5 FC% 43.8 S% 2.69 F.S.I. 4 1/2 BTU/LB 10,670

(ii) Ultimate Analysis

H ₂ O%	C%	H%	N%	S%	ASH%	O%
0.38	59.98	4.35	1.10	2.70	26.49	5.00

(iii) Mineral Analysis of Ash

SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	CaO%	MgO%
42.46	27.79	12.80	7.56	0.33

Na ₂ O%	K ₂ O%	SO ₃ %	P ₂ O ₅ %	TiO ₂ %
0.40	0.45	5.49	1.01	1.37

(iv) Ash Fusion Temperatures °F

Atmosphere	Initial Deformation	Spherical	Hemispherical	Fluid
Oxidizing	2480	2600	2620	2650+
Reducing	2410	2480	2500	2560

(v) Hardgrove Grindability Index 62

WELWOOD OF CANADA LIMITED

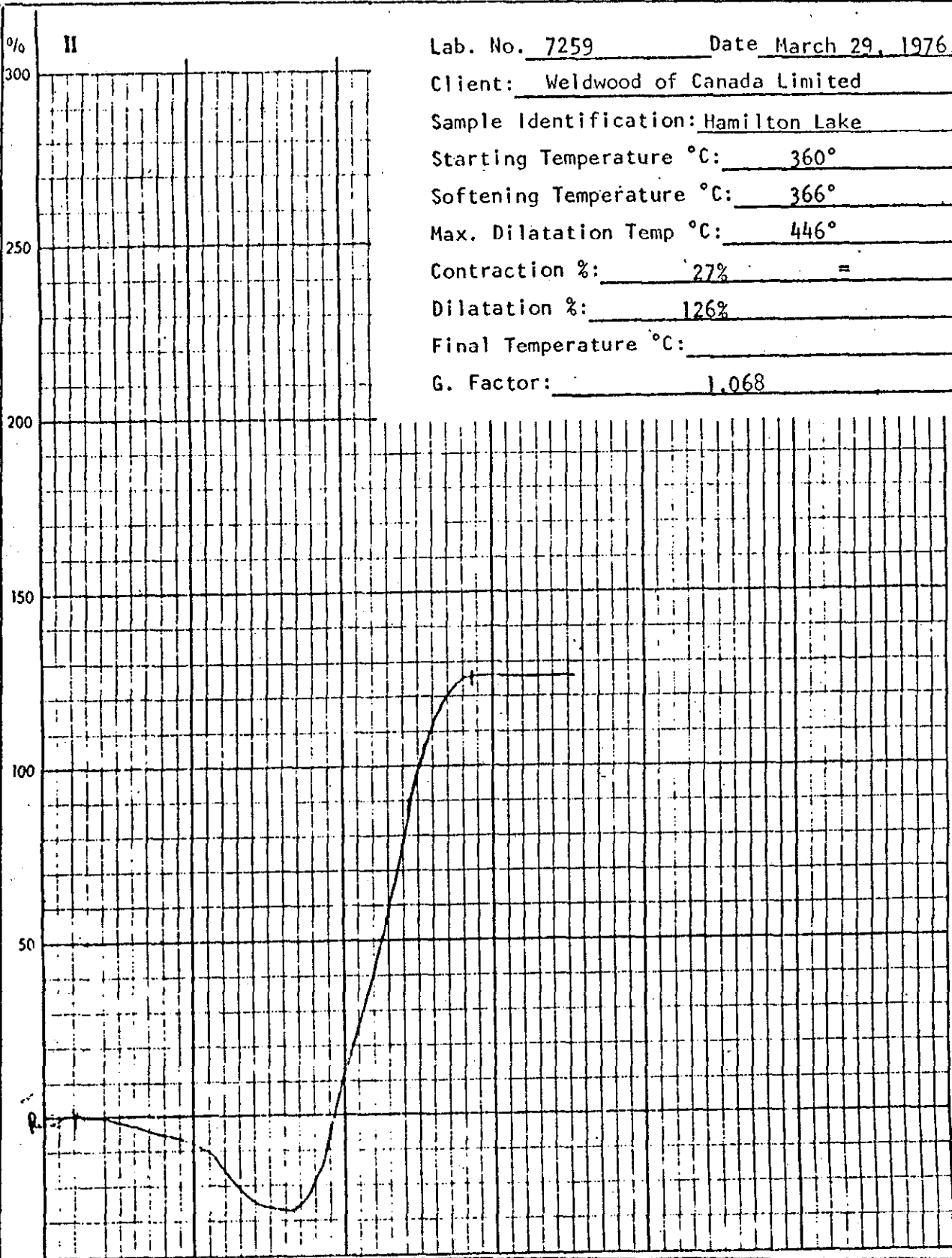
BULK WASHING DATA

BULK WASHING SUMMARY (Cont.)

ADIT Hamilton Lake LAB. NO. 7259

(g) Clean Coal Mix Make-Up

H. M. CLEAN COAL	FINES FILTER CAKE	CLEAN COAL MIX		SHIPPED		IN STOCK	
		BBLS.	M.T.	BBLS.	M.T.	BBLS.	M.T.
2.942	0.511	22	3.453				



Lab. No. 7259 Date March 29, 1976.
 Client: Weldwood of Canada Limited
 Sample Identification: Hamilton Lake
 Starting Temperature °C: 360°
 Softening Temperature °C: 366°
 Max. Dilatation Temp °C: 446°
 Contraction %: 27% =
 Dilatation %: 126%
 Final Temperature °C: _____
 G. Factor: 1.068



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

March 30, 1976

694

3. COMMENTS AND CONCLUSIONS

The predictable clean coal yield of 63% at 9.5% ash, as taken from the washability data of the raw coal crushed to pass 3/4", appears to be somewhat higher than what could be expected on a R.O.M. basis, which would include about 22% of shale partings. A factor of 81.7% which takes into account the partings, would bring the yield to 51.5% of R.O.M. However, the washability and plant wash figures are still valid when consideration is given to the fact that the greater part of the shale partings would likely be removed at the breaker station.

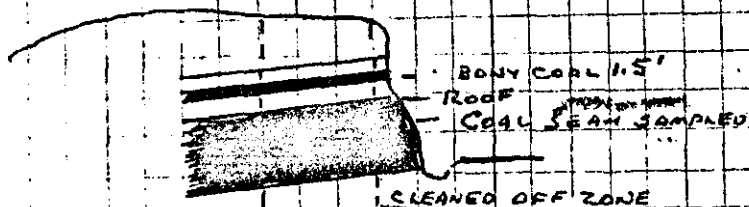
The clean coal, which places in the high volatile bituminous 'A' classification, exhibits good coking characteristics with an F.S.I. of 8 1/2 comparing with a G. Factor of 1.068 of the Rhur Dilatometer test. The sulphur content of the coal is rather high at 1.5%. Nevertheless, if this metallurgical coal could be marketed, to be blended with a low sulphur coal, the proximity to seaport could offset the low yield parameter, and high sulphur penalty to make an economic operation feasible.

The middling coal was recovered from the rewashing of the primary heavy media shale at an overall yield of 8-10%. This product analysed on a dry basis at 27.0% ash, 28.8% volatile, and a calorific value of 10,767 BTU/lb. While these encouraging values lend optimism for thermal applications, the high sulphur level of 2.7% would almost certainly relegate the middlings to the refuse heap because of environmental restrictions.

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HAMILTON LAKE

EXPLORATION TUNNEL



LENGTH OF TUNNEL - 21 Feet

TOTAL SECTION SAMPLED - 74"

COAL - 60"

PARTINGS - 14"

SHALE ROOF

16" COAL

8" SHALE

24" COAL

3" BONE

5" SHALE

18" COAL

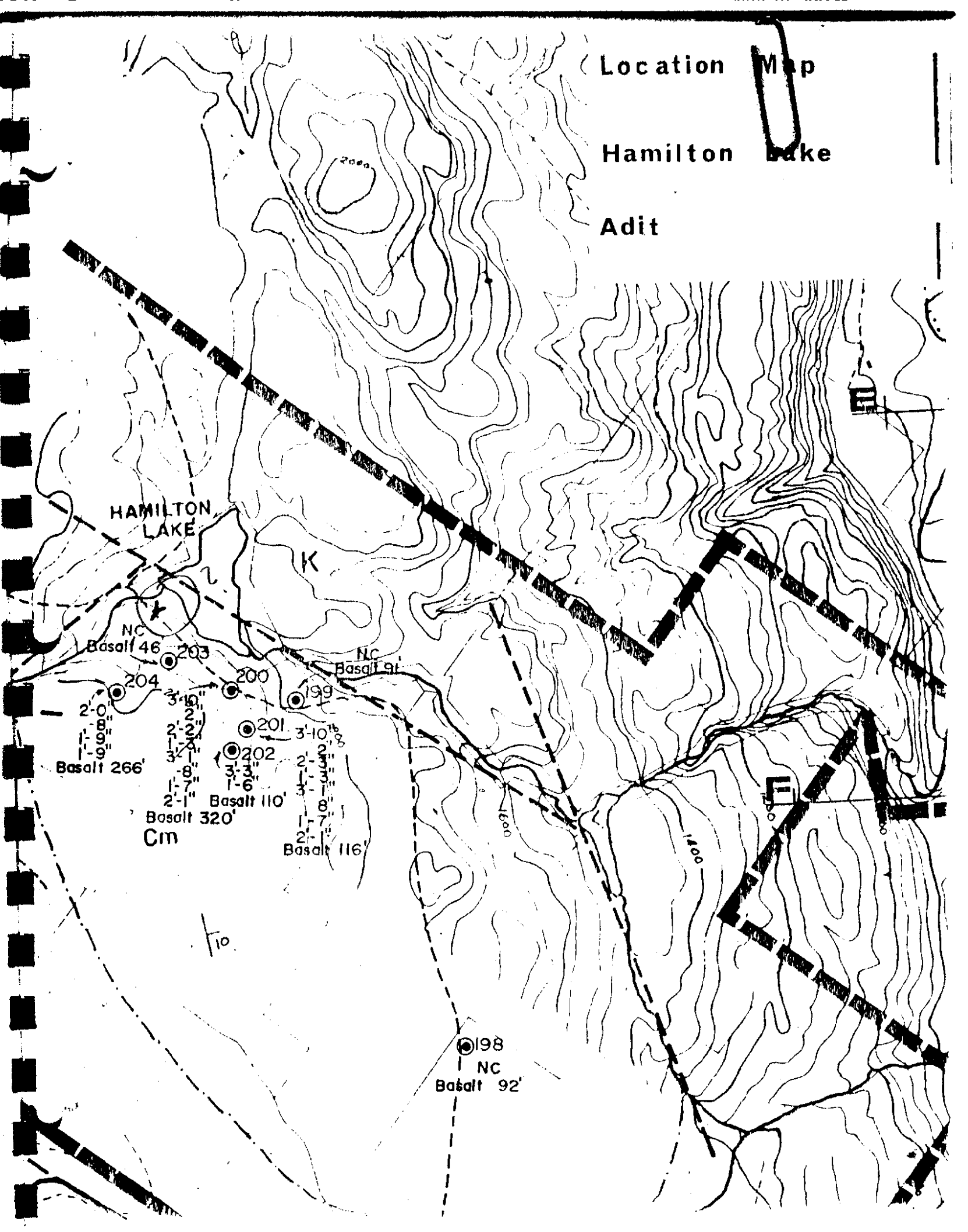
SHALE FLOOR 6°

APRIL 1976

Location Map

Hamilton Lake

Adit



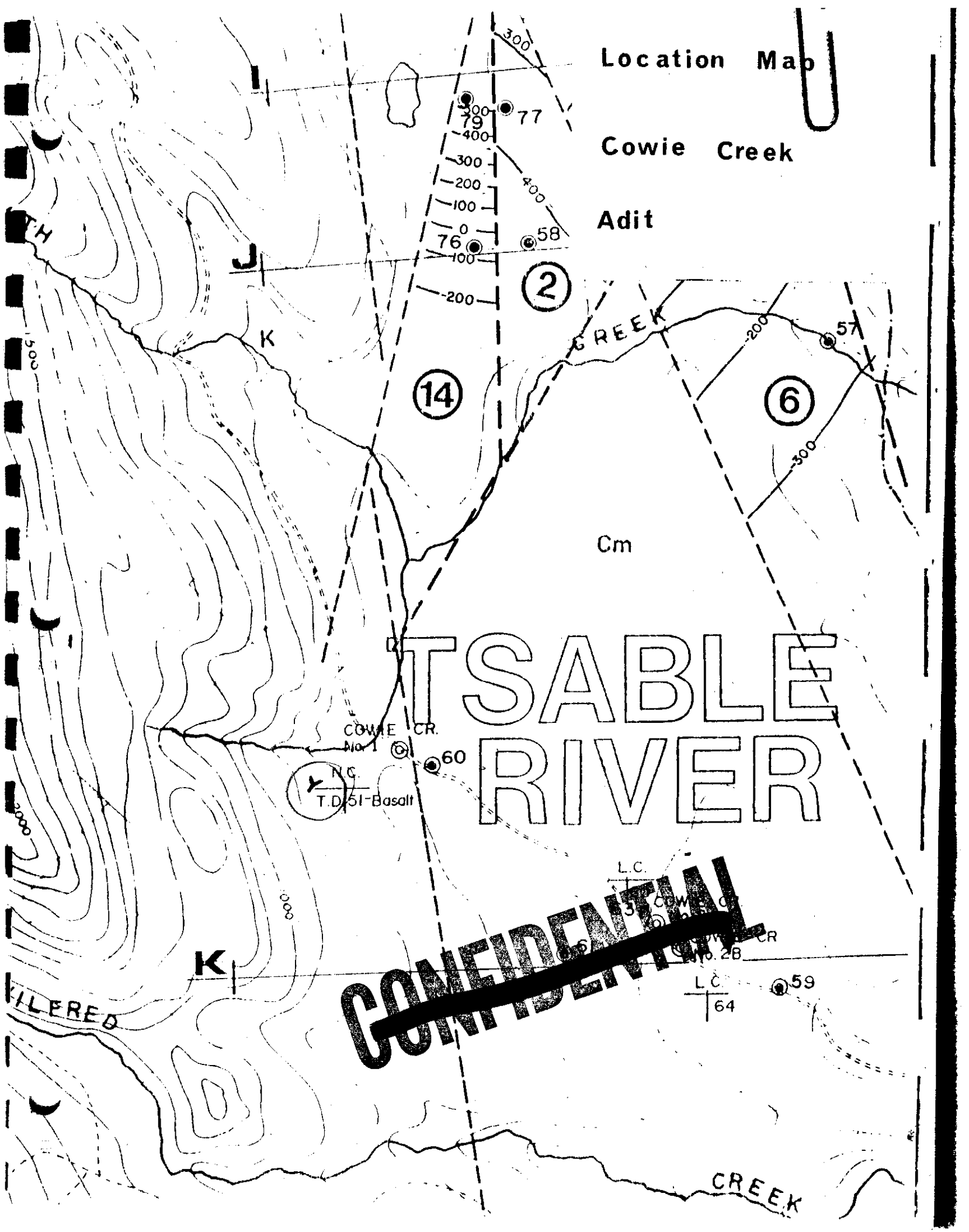
COMOX BASIN
T'SABLE AREA
A REPORT TO WELWOOD
OF CANADA LTD ON WASHABLE
COWIE CREEK
ADIT- ~~XXXXXXXXXX~~ A

694(2)

Location Map

Cowie Creek

Adit



TSABLE RIVER

CONFIDENTIAL

SAMPLE: Cowie Creek Channel Sample

Cowie Creek Adit

CCA

LAB. NO. 7265

SIZE AND RAW ANALYSES										
SIZE FRAC.	WT. %	ASH%	R.M. %	V.M. %	F.C. %	S. %	F.S.I.	CUMULATIVE		
								WT. %	ASH%	S. %
+3/4"	37.4	-	-	-	-	-	-	-	-	-
3/4" X 28M	89.3	45.1	1.0	24.8	29.1	1.07	3 1/2	89.3	45.1	1.07
28M X 100M	7.8	28.2	0.9	28.5	42.4	1.48	8	97.1	43.7	1.10
100M X 0	2.9	31.3	0.8	28.2	39.7	1.97	7 1/2	100.0	43.4	1.13
HEAD RAW	100.0	43.8	1.0	25.1	30.1	1.12	4	Gross Head Sample % ADM= 7.0%		

REMARKS: +3/4" Size Fraction: Crushed down to and combined with -3/4".

FROTH FLOTATION: 100M X 0							
4:1=Ker: MIBC, 0.48 lb/T 10% P.D. 1 min. conditioning							
PRODUCT	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE		
					WT. %	ASH %	S. %
STAGE I	27.9	11.9	9		27.9	11.9	
STAGE II	14.6	15.5	8 1/2		42.5	13.1	
TAILS	57.5	44.9	2 1/2		100.0	31.4	

WELWOOD OF CANADA LIMITED

April 1, 1976.

SAMPLE: Cowie Creek Channel Sample

LAB. NO.: 7265

SINK - FLOAT ANALYSES							
3/4" X 28M							
S.G.	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE		
					WT. %	ASH %	S%
-1.30	9.2	4.5	9		9.2	4.5	
1.30-1.35	6.9	10.8	8 1/2		16.1	7.2	
1.35-1.40	5.9	16.4	8		22.0	9.7	
1.40-1.45	5.5	21.5	6 1/2		27.5	12.0	
1.45-1.50	4.4	26.7	5 1/2		31.9	14.1	
1.50-1.60	10.1	34.1	4 1/2		42.0	18.9	
1.60-1.70	9.0	40.5	4		51.0	22.7	
1.70-1.80	6.0	48.3	2		57.0	25.4	
1.80-1.90	5.3	55.0	1 1/2		62.3	27.9	
+1.90	37.7	74.0	N.A.		100.0	45.3	

Birtley Engineering

Subsidiary of Great West Steel Industries

WELDWOOD OF CANADA LIMITED

April 1, 1976.

SAMPLE: Cowie Creek Channel Sample

LAB. NO.: 7265

SINK - FLOAT ANALYSES							
28M X 100M							
S.G.	WT. %	ASH %	F.S.I.	S. %	CUHULATIVE		
					WT. %	ASH %	S. %
-1.30	33.0	4.6	9		33.0	4.6	
1.30-1.35	15.7	8.9	8 1/2		48.7	6.0	
1.35-1.40	7.4	14.5	8		56.1	7.1	
1.40-1.45	4.0	20.5	6 1/2		60.1	8.0	
1.45-1.50	3.2	24.1	6		63.3	8.8	
1.50-1.60	5.2	30.9	4		68.5	10.5	
1.60-1.70	4.6	39.4	2		73.1	12.3	
1.70-1.80	4.0	47.9	1		77.1	14.2	
1.80-1.90	2.8	53.9	1		79.9	15.5	
+1.90	20.1	72.0	1/2		100.0	26.9	

Birtley Engineering

Subsidiary of Great West Steel Industries

SAMPLE: Cowie Creek Channel Sample

LAB. NO. 7265

SIZE AND RAW ANALYSES										
SIZE FRAC.	WT. %	ASH%	R.M. %	V.M. %	F.C. %	S. %	F.S.I.	CUMULATIVE		
								WT. %	ASH%	S. %
+3/4"	37.4	-	-	-	-	-	-	-	-	-
3/4" X 28M	89.3	45.1	1.0	24.8	29.1	1.07	3 1/2	89.3	45.1	1.07
28M X 100M	7.8	28.2	0.9	28.5	42.4	1.48	8	97.1	43.7	1.10
100M X 0	2.9	31.3	0.8	28.2	39.7	1.97	7 1/2	100.0	43.4	1.13
HEAD RAW	100.0	43.8	1.0	25.1	30.1	1.12	4	Gross Head Sample % ADM= 7.0%		

REMARKS: +3/4" Size Fraction: Crushed down to and combined with -3/4".

FROTH FLOTATION: 100M X 0								4:1=Ker: MIBC, 0.48 lb/T 10% P.D. 1 min. conditioning		
PRODUCT	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE					
					WT. %	ASH %	S. %			
STAGE I	27.9	11.9	9		27.9	11.9				
STAGE II	14.6	15.5	8 1/2		42.5	13.1				
TAILS	57.5	44.9	2 1/2		100.0	31.4				

WELDWOOD OF CANADA LIMITED

April 1, 1976.

SAMPLE: Cowie Creek Channel Sample

LAB. NO.: 7265

SINK - FLOAT ANALYSES							
3/4" X 28M							
S.G.	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE		
					WT. %	ASH %	S%
-1.30	9.2	4.5	9		9.2	4.5	
1.30-1.35	6.9	10.8	8 1/2		16.1	7.2	
1.35-1.40	5.9	16.4	8		22.0	9.7	
1.40-1.45	5.5	21.5	6 1/2		27.5	12.0	
1.45-1.50	4.4	26.7	5 1/2		31.9	14.1	
1.50-1.60	10.1	34.1	4 1/2		42.0	18.9	
1.60-1.70	9.0	40.5	4		51.0	22.7	
1.70-1.80	6.0	48.3	2		57.0	25.4	
1.80-1.90	5.3	55.0	1 1/2		62.3	27.9	
+1.90	37.7	74.0	N.A.		100.0	45.3	

WELDWOOD OF CANADA LIMITED

April 1, 1976.

SAMPLE: Cowie Creek Channel Sample

LAB. NO.: 7265

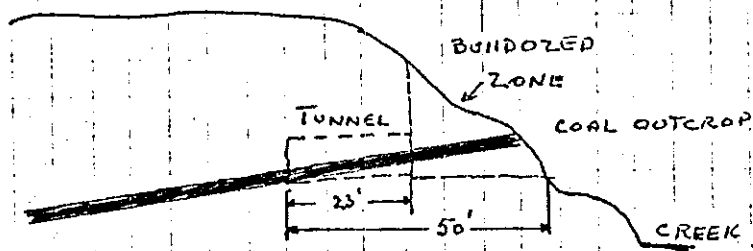
SINK - FLOAT ANALYSES							
28M X 100M							
S.G.	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE		
					WT. %	ASH %	S. %
-1.30	33.0	4.6	9		33.0	4.6	
1.30-1.35	15.7	8.9	8 1/2		48.7	6.0	
1.35-1.40	7.4	14.5	8		56.1	7.1	
1.40-1.45	4.0	20.5	6 1/2		60.1	8.0	
1.45-1.50	3.2	24.1	6		63.3	8.8	
1.50-1.60	5.2	30.9	4		68.5	10.5	
1.60-1.70	4.6	39.4	2		73.1	12.3	
1.70-1.80	4.0	47.9	1		77.1	14.2	
1.80-1.90	2.8	53.9	1		79.9	15.5	
+1.90	20.1	72.0	1/2		100.0	26.9	

Birtley Engineering

Subsidiary of Great West Steel Industries

COWIE CREEK #1

EXPLORATION TUNNEL



COAL OXIDIZED
DUE TO FAULTING.

TOTAL SECTION	103"
COAL	81"
PARTINGS & BONE	22"



5" BONY SHALE

8" COAL

3" BONY COAL

26" COAL

5" SHALE (MEDIUM HARD)

11" COAL

9" SHALE (HARD)

36" COAL

FLOOR CONFIGURATION

ENTRANCE to 10' - 20°
10 FEET to 14' - 35°
14 FEET to 23' - 20°

MARCH 1976
MIKE CURCIO

SHALE
SOFT



BIRTLEY ENGINEERING (CANADA) LTD.

Subsidiary of Great West Steel Industries Ltd.

5112-3rd ST. S.E., CALGARY, ALBERTA T2H 1J6 PHONE 403-253-3719

REPORT NO. CS0089

CONFIDENTIAL

A REPORT

TO

WELDWOOD OF CANADA LIMITED

ON THE WASHABILITY AND

PLANT WASHING TESTS

PERFORMED ON THE

QUINSAM RIVER BULK SAMPLE

QRA

CONFIDENTIAL

Submitted By:

BIRTLEY ENGINEERING (CANADA) LTD.
Coal Science & Minerals Testing

Frank J. Horvat

Frank J. Horvat,
Manager.

694 (3)

May 19, 1976.

Zoological field camp

Location Map

Quisam Lake

Adit

ECHO No.6

ECHO No.1

Cm

1.6	111
12.6	159
Km	213
T.D.	305

ECHO No.5

1.6	165
16	245
13.0	252
Km	275
T.D.	305

ECHO No.4

1.8	1062
11.8	110.5
Km	175
T.D.	205

ECHO No.2

MIDDLE

QUINSAM

LAKE

Gd D

Cm

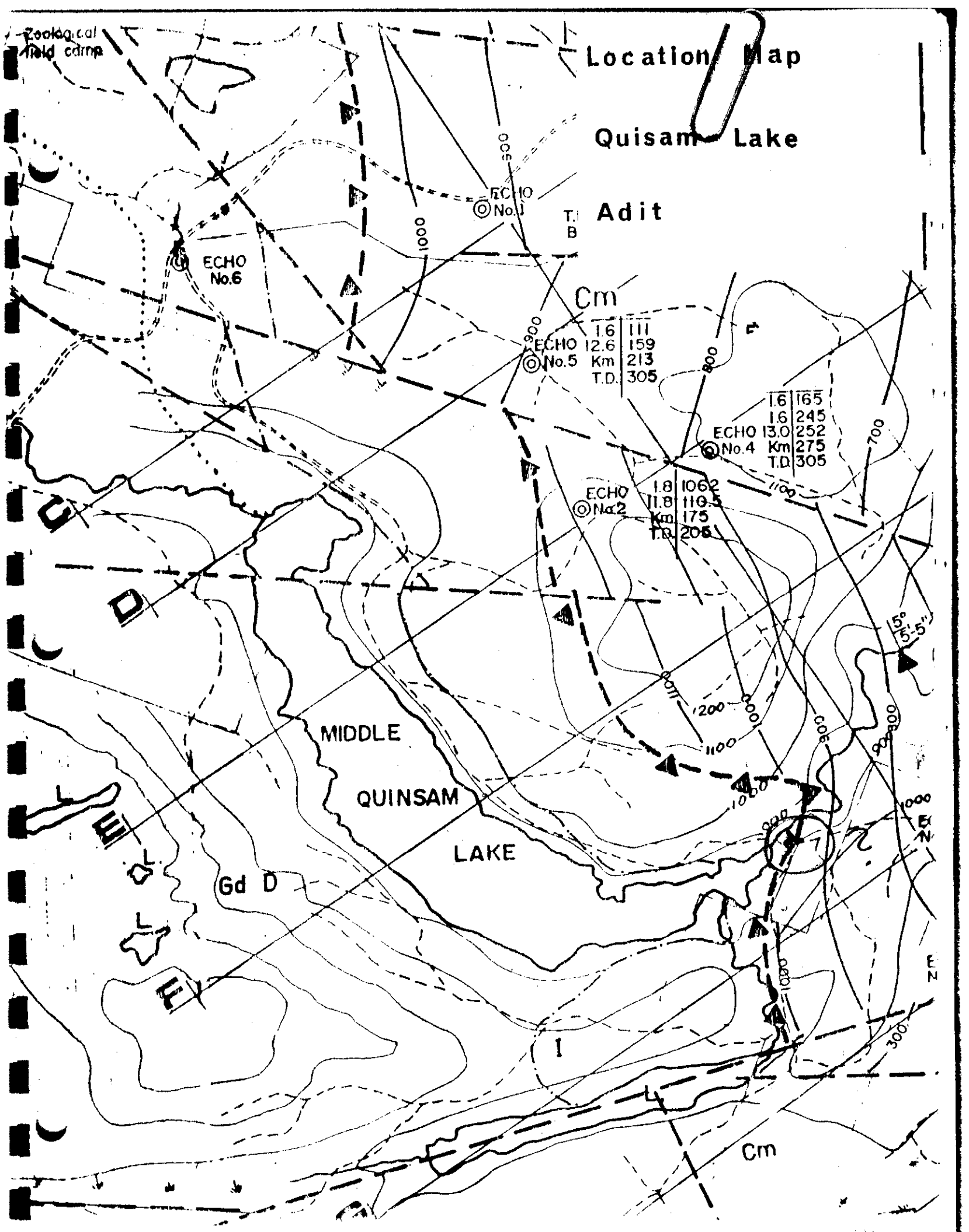


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BIRTLEY ENGINEERING (CANADA) LTD.

Subsidiary of Great West Steel Industries Ltd.

5112 3rd ST. S.E., CALGARY, ALBERTA T2H 1J6 PHONE 403-253-3719

A REPORT TO
WELDWOOD OF CANADA LIMITED
ON THE WASHABILITY AND PLANT WASHING TESTS
PERFORMED ON THE
QUINSAM RIVER BULK SAMPLE

1. INTRODUCTION

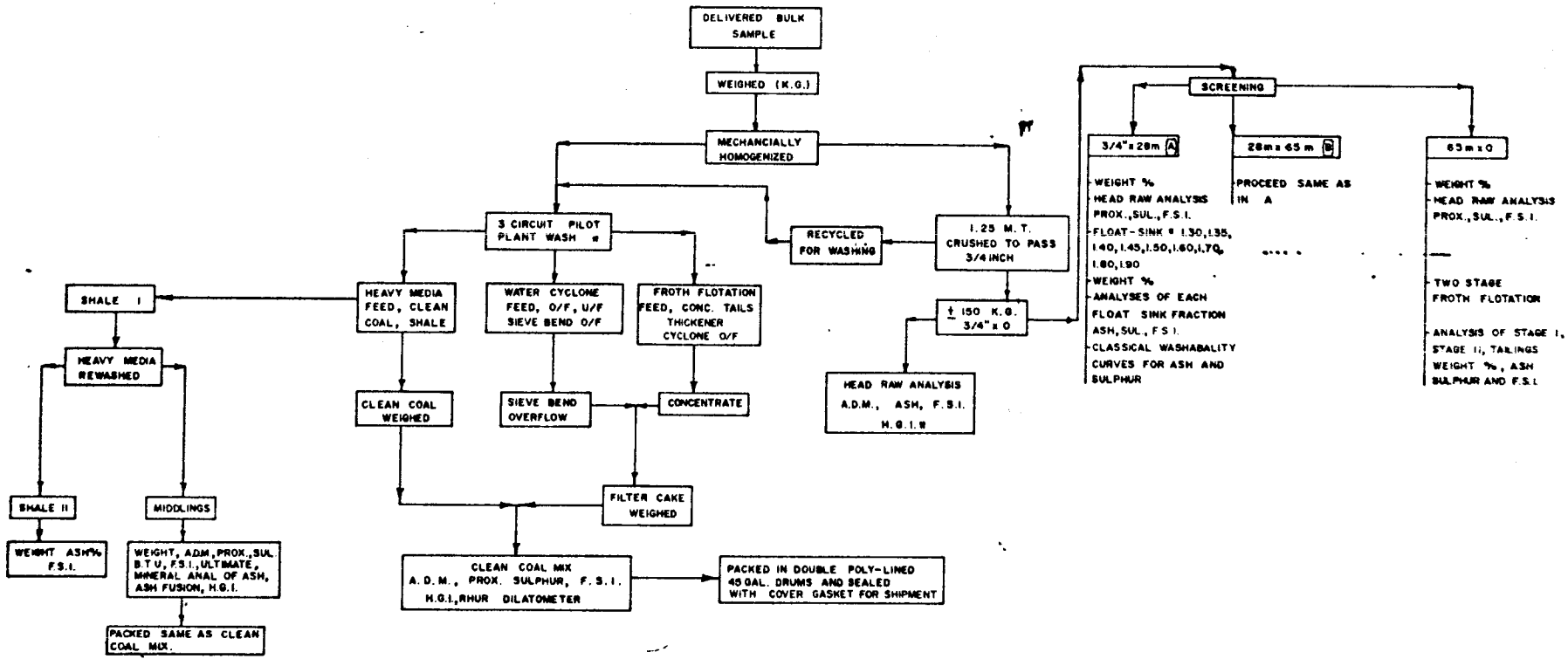
The Quinsam River bulk sample was delivered in forty (40), forty-five (45) gallon drums to the Coal Science & Minerals Testing Division Plant on April 19, 1976.

This sample was processed the the same manner as the Hamilton Lake bulk sample according to the work flow sheet shown in Figure 1, except that no middling wash was performed.

The coal appeared oxidized, and the low F.S.I. readings and the dilatation tests would tend to substantiate this assumption, but only petrographic analysis would verify it beyond doubt.

The first part of the report is made up of the analytical data, with washability curves being drawn for ash and sulphur. The last part summarizes the pilot plant wash results by means of the plant balance sheet and the analysis of the various plant products including the clean coal.

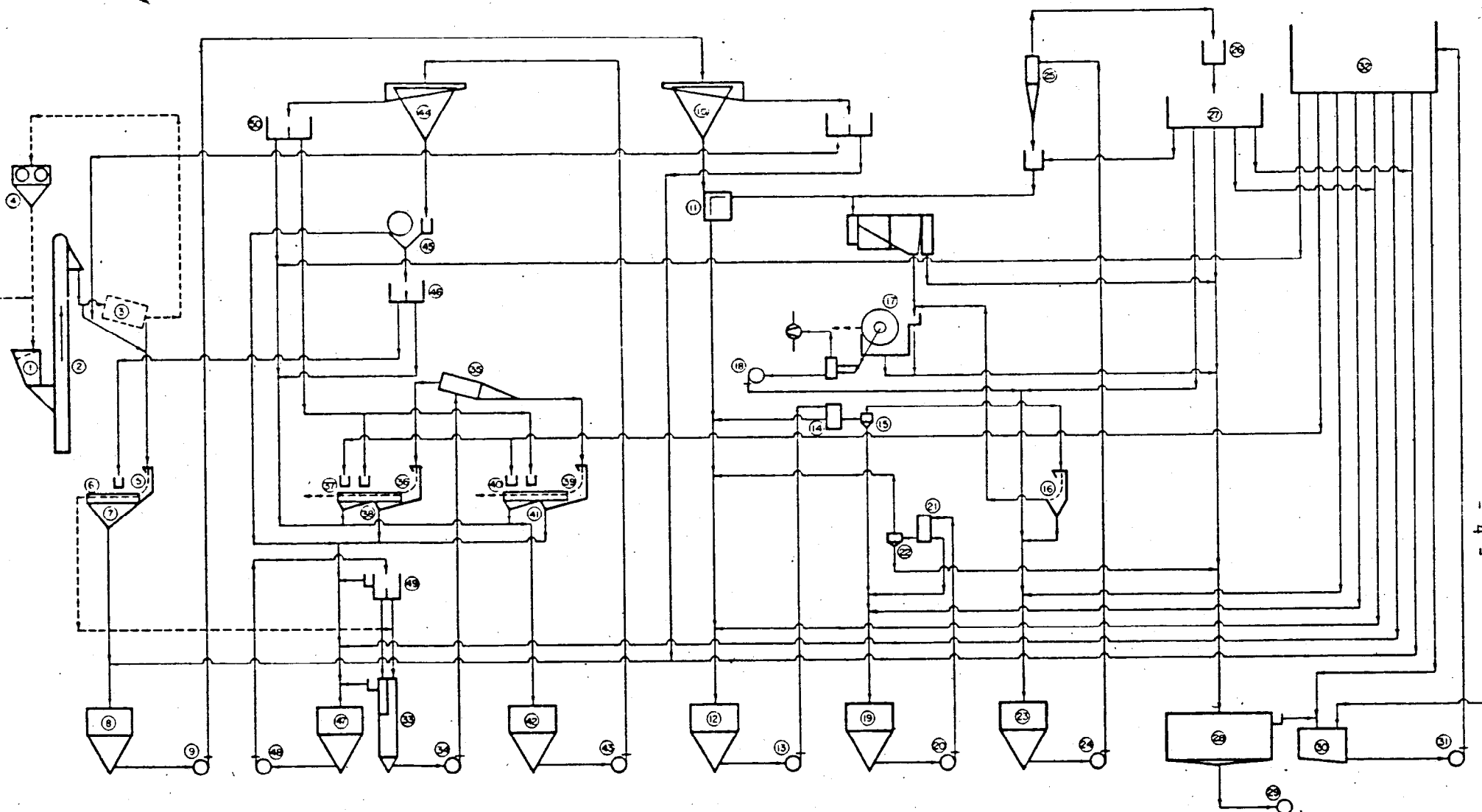
FIGURE 1



* ALL PLANT SAMPLES ANALYSED FOR ASH AND F.S.I.

W HARDGROVE GRINDABILITY INDEX

BIRLEY ENGINEERING (CANADA) LTD.	
Title:	Date:
WORK FLOWSHEET FOR WELDWOOD OF CANADA LTD. MARCH 1976	MAR 29 76
	Drawn: L Bailey



- | | | | | | |
|----------------------------------|--|--|-----------------------------------|----------------------------------|-----------------------|
| ① Feed Bin | ⑩ Setting Cone | ⑲ Secondary Water Only Cyclone Feed Tank | ⑳ Thickener | ⑳ DSM Cyclone | ⑳ Pump |
| ② Elutriator | ⑪ Diverter | ㉑ Pump | ㉒ Waste Disposal Pump | ㉓ Sieve Band | ㉔ Setting Cone |
| ③ Rotary Screen | ⑫ Primary Water Only Cyclone Feed Tank | ㉒ Distributor | ㉓ Clarified Water Collection Tank | ㉔ C.C. Drain and Rinse Screen | ㉕ Underflow Collector |
| ④ Jaw Crusher | ⑬ Pump | ㉓ Secondary Water Only Cyclone | ㉔ Clarified Water Pump | ㉕ Sieve Band | ㉖ Magnetic Separator |
| ⑤ Sieve Band | ⑭ Distributor | ㉔ Thickening Cyclone Feed Tank | ㉕ Clarified Water Head Box | ㉖ Discard Drain and Rinse Screen | ㉗ Splitter Box |
| ⑥ Desliming Screen | ⑮ Primary Water Only Cyclone | ㉕ Pump | ㉖ Thickening Cyclone | ㉘ Underflow Collector | ㉘ Pump |
| ⑦ Underflow Collector | ⑯ Sieve Band | ㉖ Thickening Cyclone | ㉗ Cyclone Feed Tank | ㉙ Overflow Distributor | ㉙ Distribution Box |
| ⑧ 28M-0 Raw Coal Collection Tank | ⑰ Vacuum Filter | ㉗ Overflow Distributor | ㉘ Pump | | ㉚ Splitter Box |
| ⑨ Pump | ⑱ Fimate Water Pump | | | | |

TEST PLANT FLOWSHEET

FIGURE 2

WELDWOOD OF CANADA LIMITED

TABLE 1

ADIT Quinsam River LAB. NO. 7313

SIZE/RAW ANALYSES* : (gross sample crushed to -3/4")											
SIZE FRAC.	WT. %	ASH%	R.M. %	V.M. %	F.C. %	S. %	F.S.I.	CUMULATIVE			
								WT. %	ASH %	S. %	
* +2"	19.5										
** 2" X 3/4"	41.2										
*** 3/4" X 28M	88.5	14.6	3.8	34.6	47.0	1.37	1 1/2	88.5	14.6	1.37	
*** 28M X 100	7.0	16.0	3.2	33.2	47.6	2.12	2 1/2	95.5	14.7	1.42	
*** 100M X 0.	4.5	23.2	2.7	30.8	43.3	2.82	1	100.0	15.1	1.49	
**** HEAD RAW	100.0	14.4	3.6	34.4	47.6	1.45	2	A.D.M.	6.3		
	Sulphur Forms	Sulfate S. %		Sulfide S. %		Organic S. %		Total S. %			
		TRACE		1.50		0.07		1.57			

- * As Received
- ** +2" crushed to -2"
- *** +3/4" crushed to pass 3/4"
- **** Gross Sample

FROTH FLOTATION: 100M X 0								4:1=Ker: MIBC, 0.48 lb/T 10% P.D. 1 min. conditioning	
PRODUCT	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE				
					WT. %	ASH %	S. %		
STAGE I	20.3	10.3	1	1.30	20.3	10.3	1.30	1st min. froth	
STAGE II	5.2	14.6	1	1.48	25.5	11.2	1.34	2nd min. froth	
TAILS	74.5	27.2	1/2	3.49	100.0	23.1	29.4		

TABLE 2

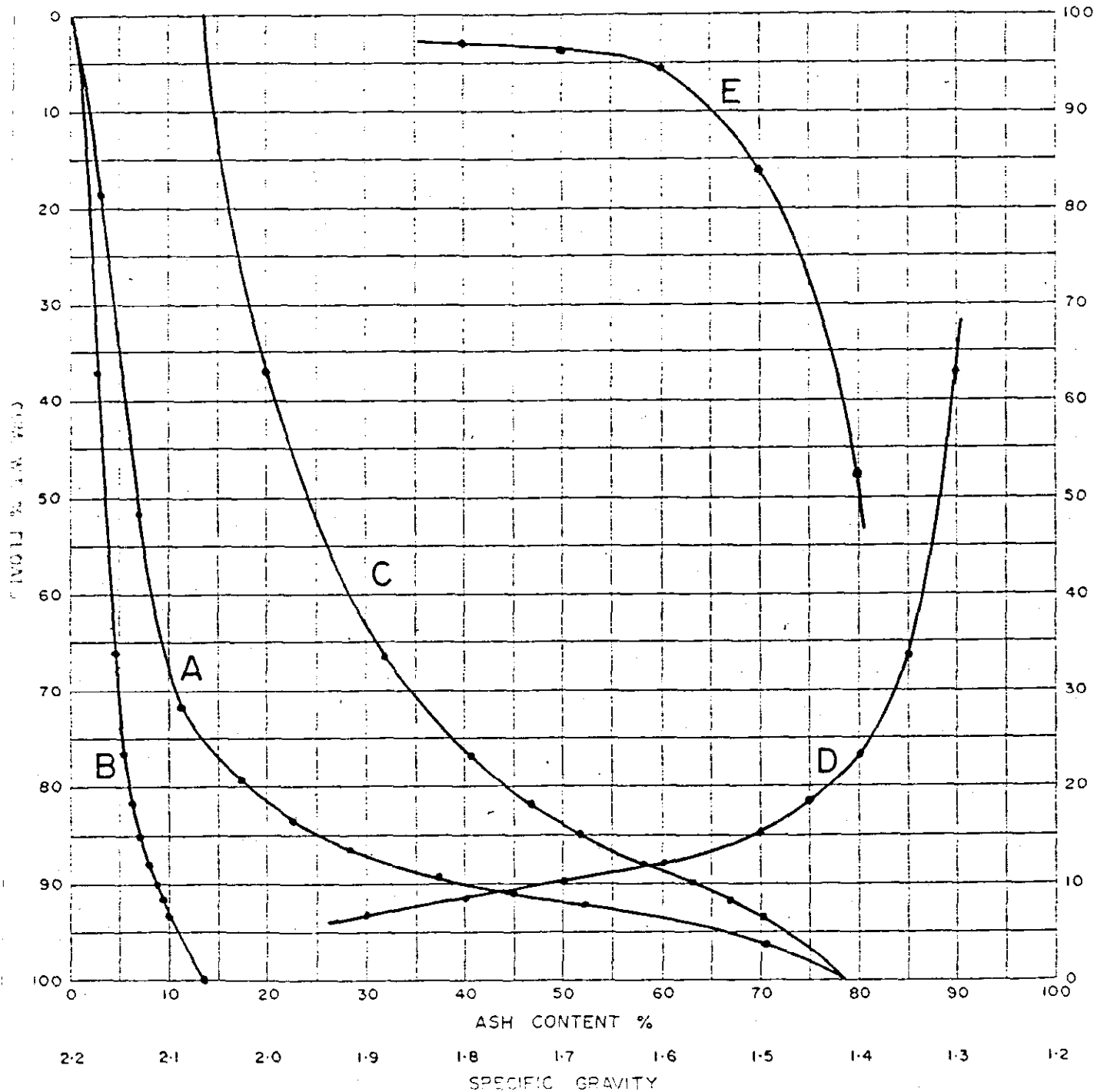
WELDWOOD OF CANADA LIMITED

SAMPLE: Quinsam River Bulk Sample

LAB. NO. 7313

SINK - FLOAT ANALYSES							
3/4" X 28M							
S.G.	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE		
					WT. %	ASH %	S%
-1.30	37.2	3.3	1.23	3	37.2	3.3	1.23
1.30-1.35	29.3	6.8	1.25	1 1/2	66.5	4.8	1.24
1.35-1.40	10.4	11.5	1.17	1 1/2	76.9	5.7	1.23
1.40-1.45	5.1	17.4	1.20	1	82.0	6.5	1.23
1.45-1.50	2.7	22.7	1.39	1	84.7	7.0	1.23
1.50-1.60	3.4	28.5	1.49	1	88.1	7.8	1.24
1.60-1.70	2.2	37.5	1.76	1	90.3	8.5	1.26
1.70-1.80	1.7	44.9	1.43	1/2	92.0	9.2	1.26
1.80-1.90	1.7	52.3	2.05	1/2	93.7	10.0	1.27
+1.90	6.3	70.6	2.72	N.A.	100.0	13.8	1.36

THE CLASSICAL WASHABILITY CURVES



- A Primary Curve
- B Clean Coal Curve
- C Discard Curve
- D Specific Gravity - Yield Curve
- E ± 0.1 S. G. Distribution Curve

FIGURE 3

BIRTLEY ENGINEERING (CANADA) LTD.	
COAL SCIENCE & MINERALS TESTING	
CLIENT	WELDWOOD OF CANADA
ADIT/SEAM NO.	QUINSAM RIVER 3/4" x 28 M
DATE	APR. 27/1976
SIGNED	K. M. LAU

TABLE 4

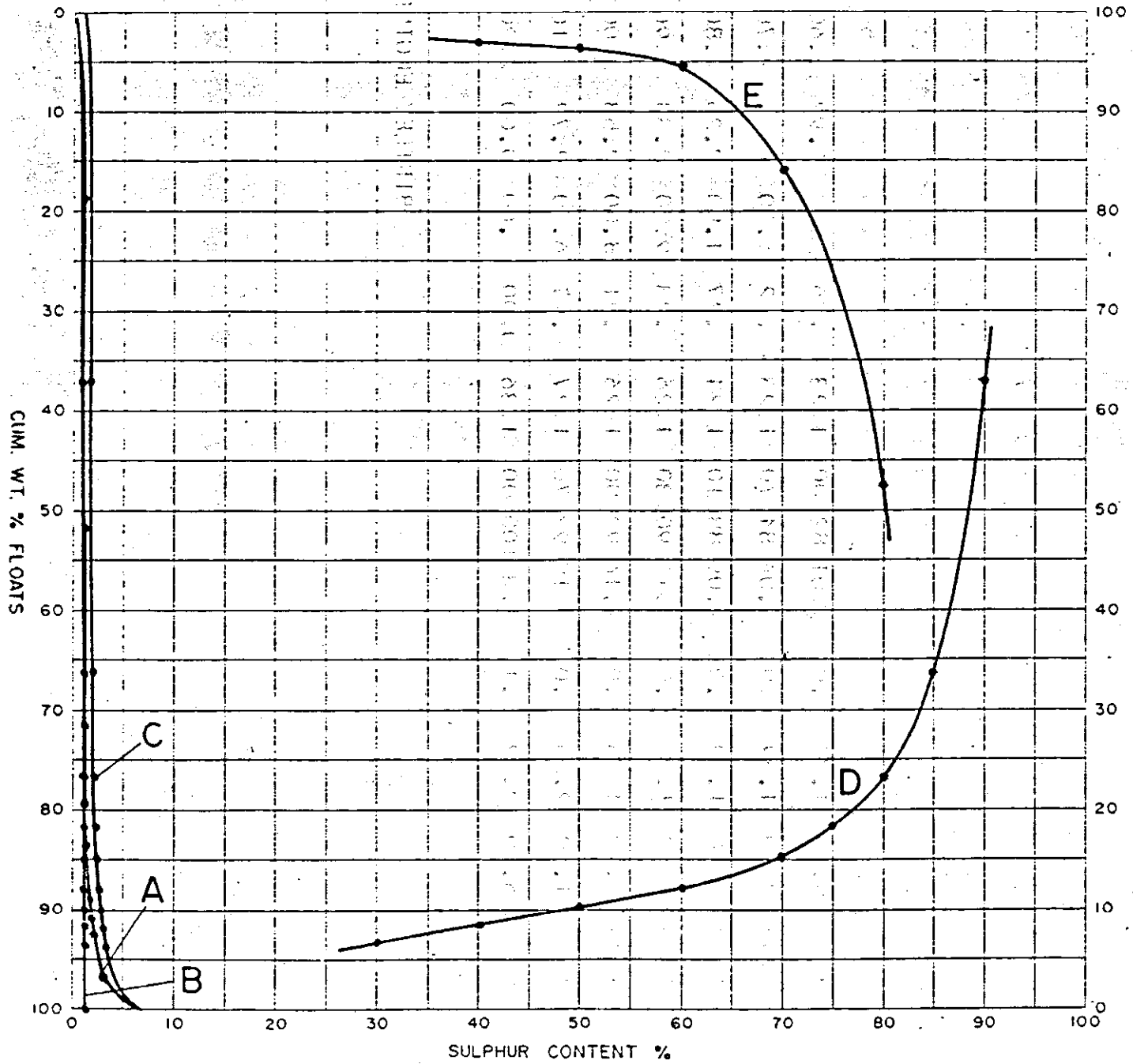
WELDWOOD OF CANADA QUINNSAM RIVER LAB. NO. 7213 3/4" X 234 SULLER

--DIRECT-- --CUM FLOATS-- --CUM SINKS-- +-0.1 DISTR

S.G.	WT>	S >	WT>	CUM WT>	S >	WT>	SINK WT	WT>	S >	S.G.	WT>
1	2	3	4	5	6	7	8	9	10	11	12
1.30	37.20	1.23	.46	.46	37.20	1.23	.91	62.80	1.44	1.30	0.00
1.35	29.30	1.25	.37	.82	66.50	1.24	.54	33.50	1.61	1.40	47.50
1.40	10.40	1.17	.12	.95	76.90	1.23	.42	23.10	1.81	1.50	11.20
1.45	5.10	1.20	.06	1.01	82.00	1.23	.36	18.00	1.99	1.60	5.60
1.50	2.70	1.39	.04	1.04	84.70	1.23	.32	15.30	2.09	1.70	3.90
1.60	3.40	1.49	.05	1.09	83.10	1.24	.27	11.90	2.26	1.80	3.40
1.70	2.20	1.76	.04	1.13	90.30	1.26	.23	9.70	2.33	1.90	0.00
1.30	1.70	1.43	.02	1.16	92.00	1.26	.21	8.00	2.53	2.00	0.00
1.90	1.70	2.05	.03	1.19	93.70	1.27	.17	6.30	2.72	2.10	0.00
9.99	6.30	2.72	.17	1.36	100.00	1.36	0.00	.00	0.00	2.20	0.00

BIRILEY ENGINEERING

THE CLASSICAL WASHABILITY CURVES



- A Primary Curve
- B Clean Coal Curve
- C Discard Curve
- D Specific Gravity-Yield Curve
- E ± 0.1 S. G. Distribution Curve

FIGURE 4

BIRTLEY ENGINEERING (CANADA) LTD	
COAL SCIENCE & MINERALS TESTING	
CLIENT	WELDWOOD OF CANADA
ADIT/SEAM NO.	QUINSAM RIVER 3/4" x 28 M
DATE	APR. 27/1976
SIGNED	K. M. LAU

2.2 2.1 2.0 1.9 1.8 1.7 1.6 1.5 1.4 1.3 1.2
SPECIFIC GRAVITY

TABLE 5

WELDWOOD OF CANADA LIMITED

SAMPLE: Quinsam River Bulk Sample

LAB. NO. 7313

SINK - FLOAT ANALYSES							
28M X 100M							
S.G.	WT. %	ASH %	F.S.I.	S. %	CUMULATIVE		
					WT. %	ASH %	S. %
-1.30	34.0	2.3	1.02	4	34.0	2.3	1.02
1.30-1.35	32.9	4.3	1.29	3 1/2	66.9	3.3	1.15
1.35-1.40	8.2	8.9	1.36	1 1/2	75.1	3.9	1.18
1.40-1.45	3.2	14.0	1.43	1	78.3	4.3	1.19
1.45-1.50	2.0	18.3	1.49	1/2	80.3	4.7	1.19
1.50-1.60	2.8	25.4	1.60	1/2	83.1	5.4	1.21
1.60-1.70	1.9	35.9	1.56	N.A.	85.0	6.0	1.22
1.70-1.80	1.3	43.5	1.48	N.A.	86.3	6.6	1.22
1.80-1.90	0.9	50.5	1.39	N.A.	87.2	7.1	1.22
+1.90	12.8	72.3	7.68	N.A.	100.0	15.4	2.05

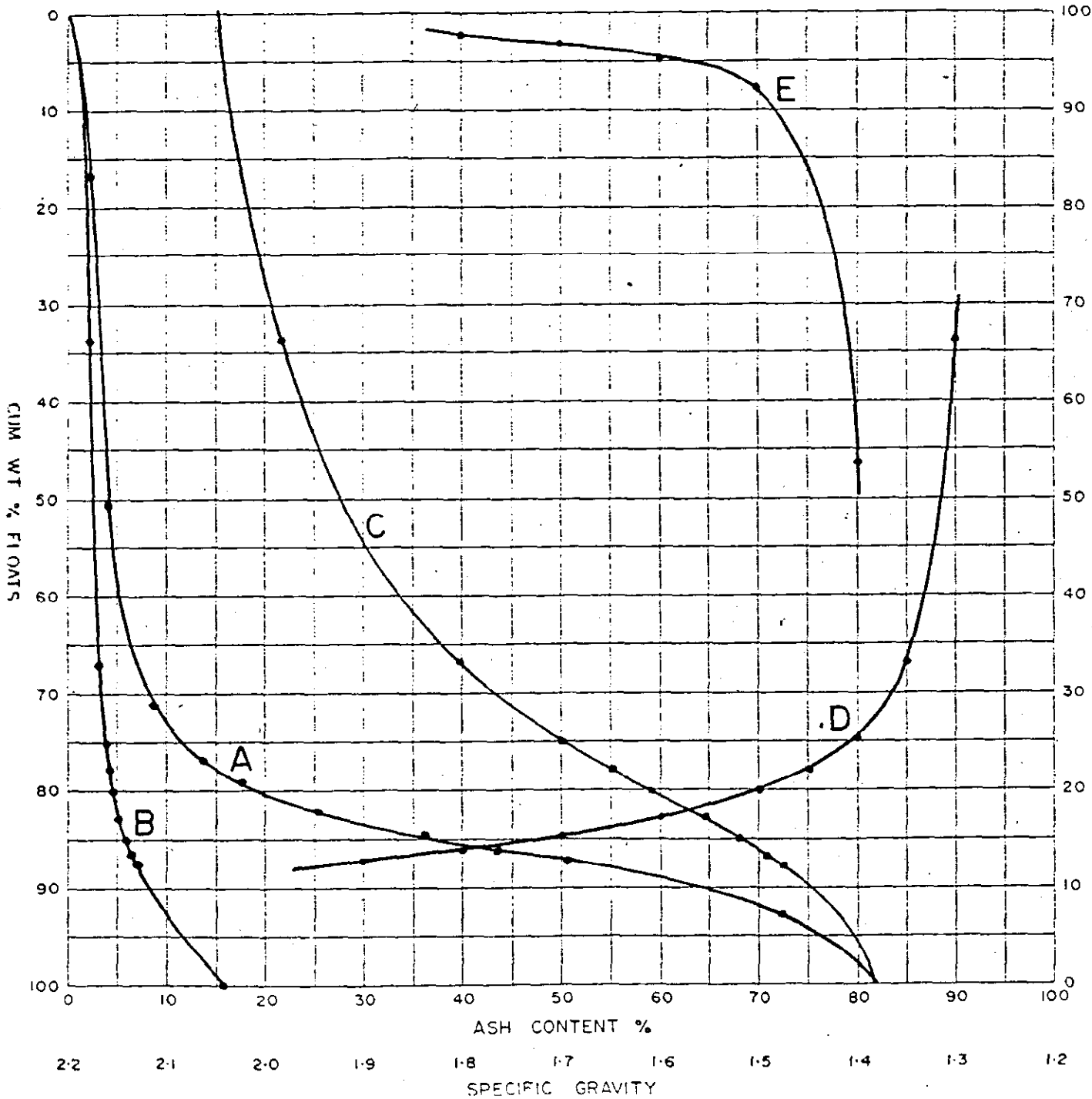
TABLE 6

WATERBOOD OF CANADA OJIBWA RIVER LAB. NO. 7313 23M X 100M

--DIRECT--					--CUM FLOATS--			--CUM SINKS--			+-0.1 DISTR	
S.G.	WT>	ASH>	WT> CUM WT> ASH TT ASHTT	WT>	ASH>	SINK WT ASH>	WT>	ASH>	S.G.	WT>		
1	2	3	4	5	6	7	8	9	10	11	12	
1.30	34.00	2.30	.78 .78	34.00	2.30	14.63	66.00	22.16	1.30	0.00		
1.35	32.90	4.30	1.41 2.20	66.90	3.28	13.21	33.10	39.91	1.40	46.30		
1.40	8.20	8.90	.73 2.93	75.10	3.90	12.48	24.90	50.13	1.50	8.00		
1.45	3.20	14.00	.45 3.37	78.30	4.31	12.03	21.70	55.45	1.60	4.70		
1.50	2.00	18.30	.37 3.74	80.30	4.66	11.67	19.70	59.23	1.70	3.20		
1.60	2.30	25.40	.71 4.45	83.10	5.36	10.96	16.90	64.83	1.80	2.20		
1.70	1.90	35.90	.68 5.13	85.00	6.04	10.27	15.00	68.50	1.90	0.00		
1.80	1.30	43.50	.57 5.70	86.30	6.60	9.71	13.70	70.87	2.00	0.00		
1.90	.90	50.50	.45 6.15	87.20	7.06	9.25	12.80	72.30	2.10	0.00		
2.20	12.30	72.30	2.25 15.41	100.00	15.41	0.00	.00	0.00	2.20	0.00		

BIRTLEY ENGINEERING

THE CLASSICAL WASHABILITY CURVES



- A Primary Curve
- B Clean Coal Curve
- C Discard Curve
- D Specific Gravity-Yield Curve
- E ± 0.1 S. G. Distribution Curve

FIGURE 5

BIRTLEY ENGINEERING (CANADA) LTD.	
COAL SCIENCE & MINERALS TESTING	
CLIENT	WELDWOOD OF CANADA
ADIT/SEAM NO.	QUINSAM RIVER 28 M x 100M
DATE	APR. 27/1976
SIGNED	K. M. LAU

TABLE 7

WELDWOOD OF CANADA QUINSAM RIVER LAB. NO. 7313 2 3/4 X 100# SULE

--DIRECT--

--CUM FLOATS--

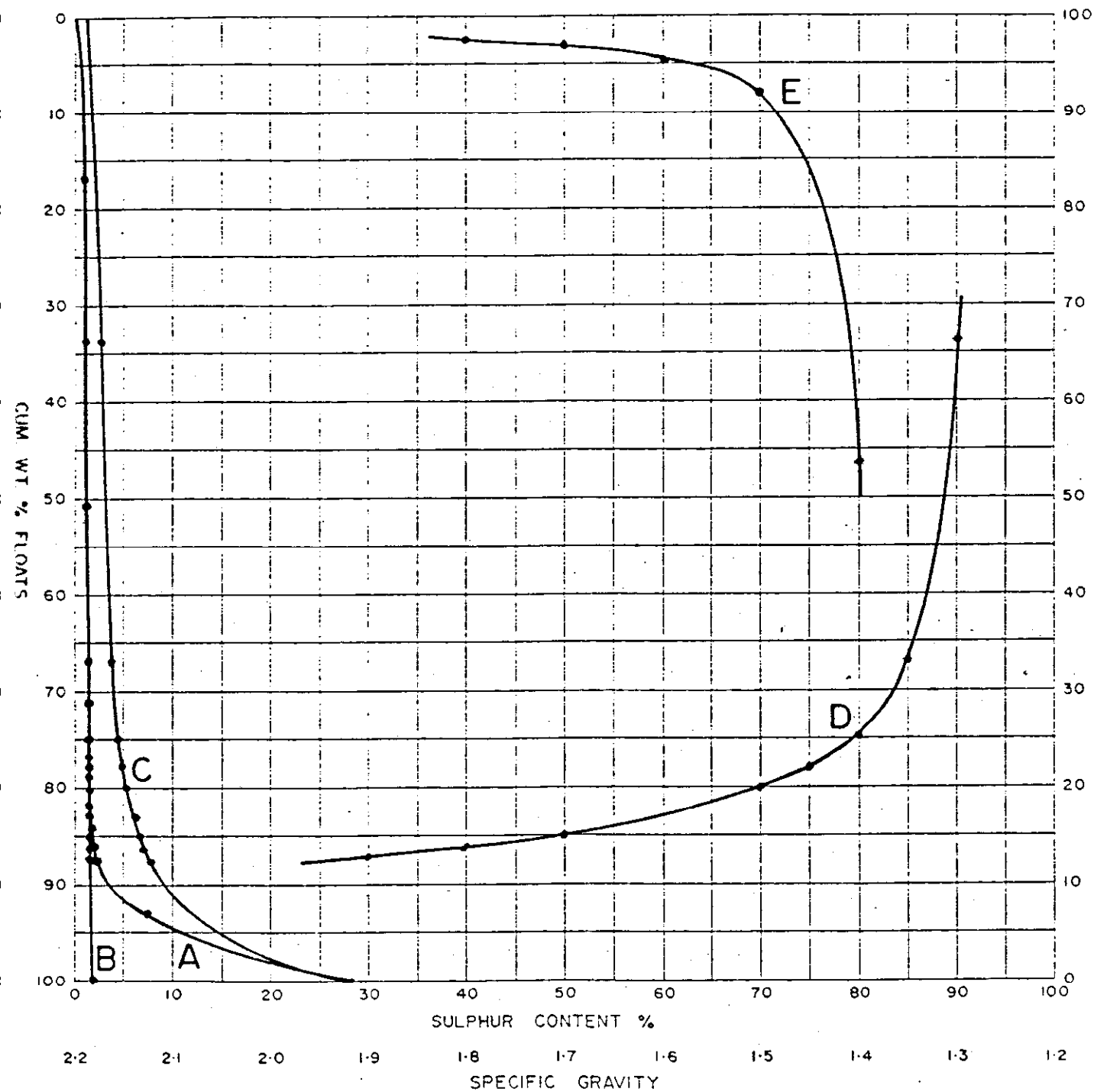
--CUM SINKS--

+-.1 DISTR

S.G.	WT>	S>	WT> CUM WT>			SINK WT			S>	S.G.	WT>
			STT	STT	WT>	S>	S>	WT>			
1	2	3	4	5	6	7	8	9	10	11	12
1.30	34.00	1.02	.35	.35	34.00	1.02	1.70	66.00	2.58	1.30	0.00
1.35	32.90	1.29	.42	.77	66.90	1.15	1.28	33.10	3.86	1.40	46.30
1.40	8.20	1.36	.11	.88	75.10	1.18	1.16	24.90	4.68	1.50	8.00
1.45	3.20	1.43	.05	.93	78.30	1.19	1.12	21.70	5.16	1.60	4.70
1.50	2.10	1.49	.03	.96	80.30	1.19	1.09	19.70	5.53	1.70	3.20
1.60	2.30	1.60	.04	1.00	83.10	1.21	1.04	16.90	6.18	1.80	2.20
1.70	1.90	1.56	.03	1.03	85.00	1.21	1.01	15.00	6.77	1.90	0.00
1.80	1.30	1.43	.02	1.05	86.30	1.22	1.00	13.70	7.27	2.00	0.00
1.90	.90	1.39	.01	1.06	87.20	1.22	.98	12.30	7.68	2.10	0.00
2.20	12.80	7.63	.93	2.05	100.00	2.05	0.00	.00	0.00	2.20	0.00

BIRTLEY ENGINEERING

THE CLASSICAL WASHABILITY CURVES

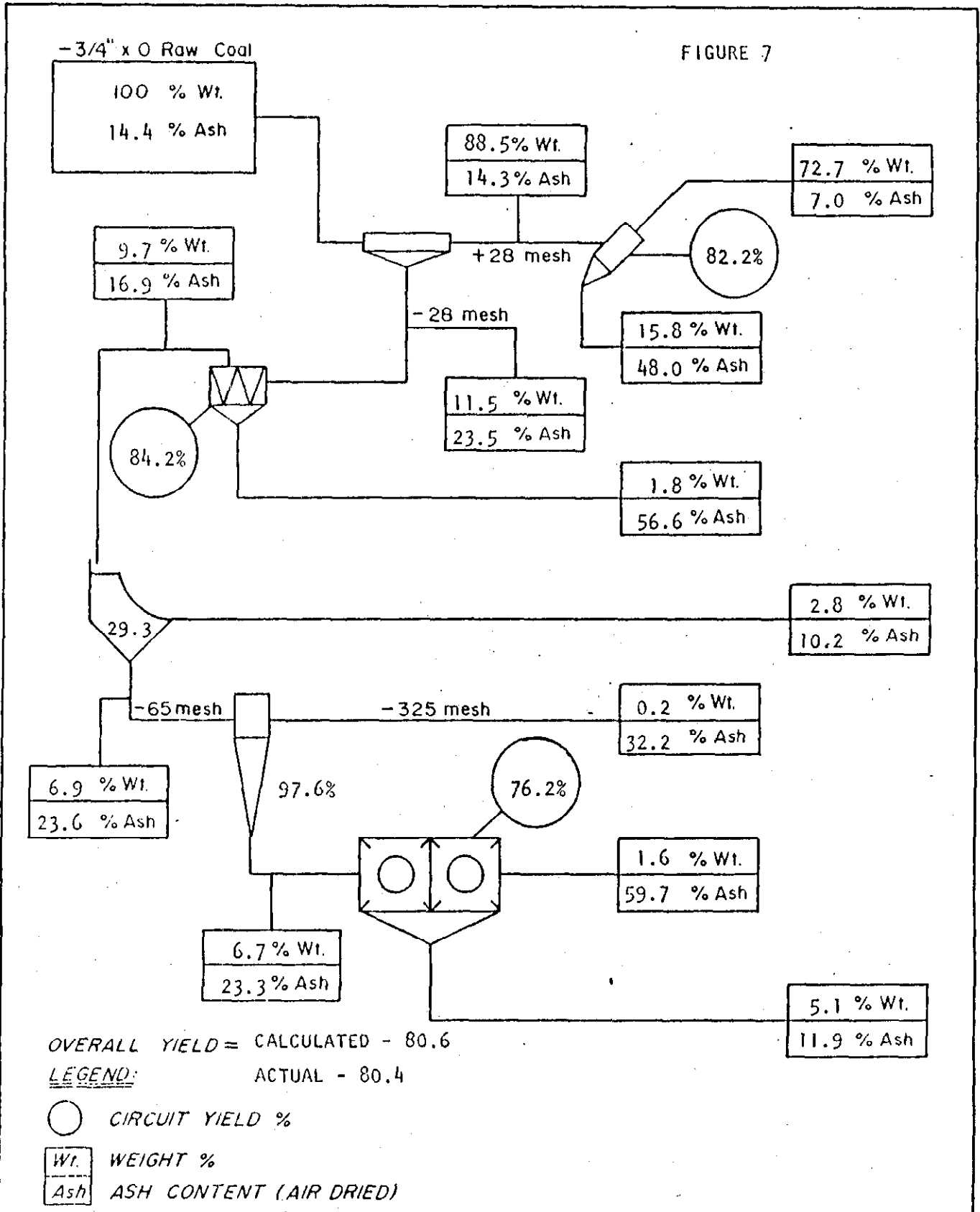


- A Primary Curve
- B Clean Coal Curve
- C Discard Curve
- D Specific Gravity-Yield Curve
- E ± 0.1 S. G. Distribution Curve

FIGURE 6

BIRTLEY ENGINEERING (CANADA) LTD.	
COAL SCIENCE & MINERALS TESTING	
CLIENT	WELDWOOD OF CANADA
ADIT/SEAM NO.	QUINSAM RIVER 28 M x 100F
DATE	APR. 27/1976
SIGNED	K. M. LAU

FIGURE 7



BIRTLEY ENGINEERING (CANADA) LTD.

Title

WELDWOOD OF CANADA LIMITED
 QUINSAM RIVER
 PLANT BALANCE SHEET

Date

APRIL 29, 1976.

Drawn

BIRTLEY ENGINEERING (CANADA) LTD.
Coal Science & Minerals Testing Div.

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA*

ADIT Quinsam River LAB. NO. 7314 DATE OF WASH April 21, 1976.

Raw Coal Analysis: A.D.M. 6.3 Ash% 14.4 F.S.I. 2 H.G.I.

Delivered Bulk Weight 6.345 Metric Tons

Washed Weight 5.823 Metric Tons

* All weight and analyses are on Air Dried Basis
unless otherwise indicated.

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

HEAVY MEDIUM CIRCUIT

ADIT Quinsam River LAB. NO. 7314

1. S.G. of Separation 1.45
2. Feed Ash Content 14.3 % F.S.I. 1 1/2
3. Clean Coal Estimated Weight 4.276 M.T.
4. Clean Coal Analysis - Ash 7 % F.S.I. 2
5. Reject Estimated Weight 0.971 M.T.
6. Reject Analysis - Ash 48.0 % F.S.I. N.A.
7. Estimated 3/4" X 28M in Circuit 5.247 M.T. 90.1 Wt.%
8. Yield Clean Coal (Weighted): $\frac{3}{3 + 5}$ 81.5 %
9. Yield Clean Coal
(Calculated Ash Balance) - $\frac{6 - 2}{6 - 4}$ 82.2 %

WELWOOD OF CANADA LIMITED

BULK WASHING DATA

WATER ONLY CYCLONE CIRCUIT

ADIT Quinsam River LAB. NO. 7314

1. Vortex Finder Clearance (VFC) 2.54 CM 1 Inches
2. Feed Pressure 1.4 KG/CM² 20 P.S.I.
3. Feed Rate 23.2 M³/Hr. 85 LG/Min.
4. Feed Pulp Density 120-180 g/l. 12-18 Solids W/V
5. Sample Analysis:-

	SCREEN SIZE	WT. %	ASH %	F.S.I.	CUM WT. %	CUM ASH %	HEAD ASH	HEAD F.S.I.
FEED							23.5	1 1/2
O'FLOW	+65M	29.3	5.8	3	29.3	5.8	16.9	2
	65M X 0	70.7	22.1	1 1/2	100.0	17.3		
U'FLOW							58.6	1/2
S B O							10.2	2 1/2
T C O*	+325M	10.1	21.8	1/2	10.1	21.8	32.2	N.A.
	325M X 0	89.9	34.3	N.A.	100.0	33.0		

6. Yield - Total W.O. Cyclone Circuit = 84.2
7. Est. Yield of 28 X 65 Mesh Coal = 24.7
(as % of 28 Mesh X 0 Feed)
8. Est. 28M X 0 in circuit (Plant Feed - HM Products) 0.576 M.T. 9.9 %

* Thickner Cyclone Overflow

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

FROTH FLOTATION CIRCUIT

ADIT Quinsam Creek LAB. NO. 7314

1. Reagents: Kerosene-Methylisobutylcarbinol (MIBC).
2. Feed Pulp Density 150-180 g/l 15-18 % Solids W/V
3. Sample Analysis:

	ASH	F.S.I.
FEED	23.3	1 1/2
CONC.	11.9	2 1/2
TAILS	59.7	1

4. Impeller Type - Birtley-Humboldt Multi-Wobble
5. Yield Calculated (Ash Balance) 76.2 %
6. Filter Cake (Sieve Bend O'Flow & Flotation Conc.)
Wt. Recovered 0.409 M.T.
7. Filter Cake - Ash% 11.3 F.S.I. 2 1/2

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

ADIT Quinsam River LAB. NO. 7314 DATE OF WASH April 21, 1976

a) Raw Coal

Delivered Weight	=	<u>6.345</u>
Ash %	=	<u>14.4</u>
F.S.I.	=	<u>2</u>
Estimated Washed Wt.	=	<u> </u>

b) Heavy Media Circuit

Estimated Proportion of +28 Mesh in Feed	=	<u>90.1%</u>
Effective S.G.	=	<u>1.45</u>
Raw Feed	<u>14.3</u>	%Ash <u>1 1/2</u> F.S.I.
Clean Coal	<u>7.0</u>	%Ash <u>2</u> F.S.I.
Reject	<u>48.0</u>	%Ash <u>N.A.</u> F.S.I.
Calculated Yield	=	<u>82.2</u>
Weighed Yield	=	<u>81.5</u>

c) Water-Only Cyclone Circuit

Raw Feed	<u>23.5</u>	%Ash <u>1 1/2</u> F.S.I.
Overflow	<u>16.9</u>	%Ash <u>2</u> F.S.I.
Underflow	<u>58.6</u>	%Ash <u>1/2</u> F.S.I.
Calculated Yield	=	<u>84.2</u>
% of +65 Mesh in O/F	=	<u>29.3</u>
Sieve Bend Overflow	<u>10.2</u>	%Ash <u>2 1/2</u> F.S.I.

d) Froth Flotation Circuit

Raw Feed	<u>23.3</u>	%Ash <u>1 1/2</u> F.S.I.
Concentrates	<u>11.9</u>	%Ash <u>2 1/2</u> F.S.I.
Tails	<u>59.7</u>	%Ash <u>1</u> F.S.I.
Calculated Yield	=	<u>76.2</u>

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

BULK WASHING SUMMARY (Cont.)

ADIT Quinsam River LAB. NO. 3714

e) Clean Coal Mix Analysis

(i) Proximate Analysis (Dry Basis)

ADM% RM% ASH% 7.5 VM% 37.7 FC% 54.8 S% 1.34 F.S.I. 2 BTU/LB 13425

(ii) Ultimate Analysis

*						
H ₂ O%	C%	H%	N%	S%	ASH%	O%
2.57	73.22	5.22	0.78	1.37	7.55	9.29

(iii) Rhur Dilatometer Test

Softening °C 383 Max. Dil. °C - Max. Cont. % 31@498°C

Max. Dil. % - G. No. = -

(iv) Gieseler Plastometer Test

Initial Softening Temp. °C	Max. Fluid Temp. °C	Solidification Temp. °C	Maximum Fluidity (DDM)
420	472	490	472

(v) Mineral Analysis of Ash

SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	CaO %	MgO %
44.32	30.11	10.67	8.40	0.20
Na ₂ O %	K ₂ O %	SO ₃ %	P ₂ O ₅ %	TiO ₂ %
0.71	0.11	N.A.	N.A.	1.97

(vi) Ash Fusion Temperatures °F

Atmosphere	Initial Deformation	Spherical	Hemispherical	Fluid
Oxidizing	2590	2650	-	-
Reducing	2450	2530	2560	2600

*Sulphur Forms

Sulphite-Trace, Sulphide-1.30%, Organic-0.07%, Total 1.37%

Birtley Engineering

Subsidiary of Great West Steel Industries

WELDWOOD OF CANADA LIMITED

BULK WASHING DATA

BULK WASHING SUMMARY (Cont.)

ADIT Quinsam River LAB. NO. 3714

(vii) Hardgrove Grindability Index 47

(f) Middlings Coal Analysis

(i) Proximate Analysis

AMD% RM% ASH% VM% FC% S% F.S.I. BTU/LB

(ii) Ultimate Analysis

H ₂ O%	C%	H%	N%	S%	ASH%	O%

(iii) Mineral Analysis of Ash

SiO ₂ %	Al ₂ O ₃ %	Fe ₂ O ₃ %	CaO %	MgO %

Na ₂ O %	K ₂ O %	SO ₃ %	P ₂ O ₅ %	TiO ₂ %

(iv) Ash Fusion Temperatures °F

Atmosphere	Initial Deformation	Spherical	Hemispherical	Fluid
Oxidizing				
Reducing				

WELDWOOD OF CANADA LIMITED

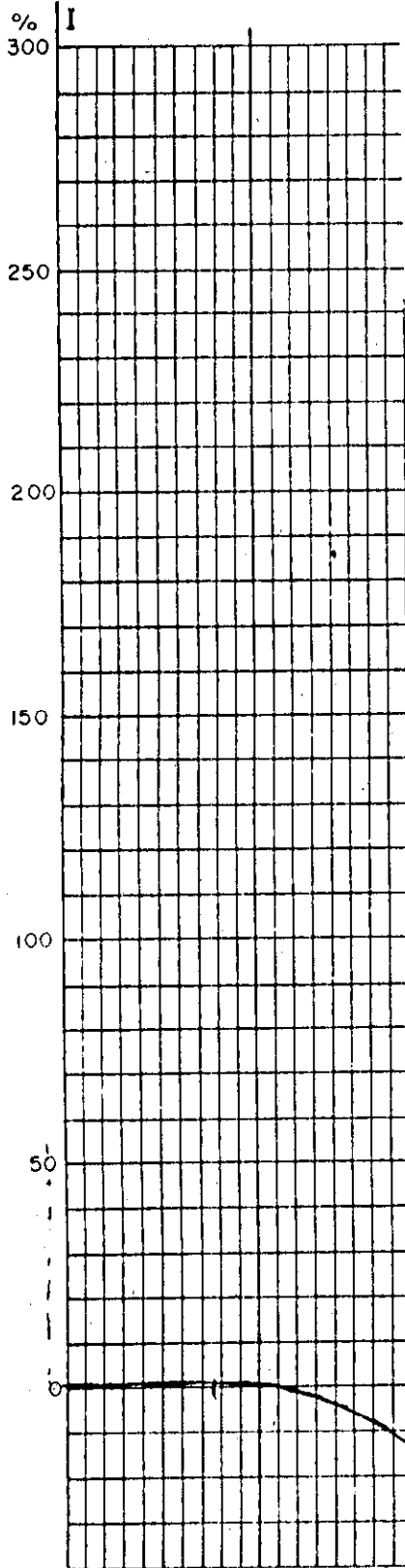
BULK WASHING DATA

BULK WASHING SUMMARY (Cont.)

ADIT Quinsam River LAB. NO. 7314

(g) Clean Coal Mix Make-Up

H. M. CLEAN COAL	FINES FILTER CAKE	CLEAN COAL MIX		SHIPPED		IN STOCK	
		BBLS.	M.T.	BBLS.	M.T.	BBLS.	M.T.
4.276	0.409		4.685				



Lab. No. 7314 Date April 29, 1976
 Client: Weldwood of Canada Limited
 Sample Identification: Clean Coal
 Starting Temperature °C: 360°
 Softening Temperature °C: 383°
 Max. Dilatation Temp °C: -
 Contraction %: 31% @ 498°
 Dilatation %: _____
 Rate of Heating: 3°/min.
 G. Factor: _____



BIRTLEY ENGINEERING (CANADA) LTD.

Title

RUHR DILATOMETER TEST

Date

MAY 17 1976

CABLE ADDRESS COMTECO
TELEX 04-35269

COMMERCIAL TESTING & ENGINEERING CO.

GENERAL OFFICES: 228 NORTH LA SALLE STREET, CHICAGO, ILLINOIS 60601 • AREA CODE 312 726-8434

Please address all correspondence to:
147 Riverside Dr., North Vancouver, B.C. V7H 1T6



Office: Tel. (604) 929-2213
Roberts Bank Tel. (604) 946-7021

May 13, 1976

WELWOOD OF CANADA
P.O. Box 2179,
Vancouver, B.C.
V6B 3V8

ATTENTION: MR. M. CURCIO

Sample Identification:

Report No. 64-12065

COAL SAMPLE
#7314

COAL PLASTICITY

	TEMP °C
0.1 D.D.P.M. @	420
1.0 D.D.P.M. @	454
5.0 D.D.P.M. @	---
Max. D.D.P.M. @	472
5.0 D.D.P.M. @	---
1.0 D.D.P.M. @	484
Solidification @	490
Max. Fluidity, 2.3 D.D.P.M. @	472

Respectfully submitted,
COMMERCIAL TESTING & ENGINEERING CO.

R.A. Houser
R.A. Houser,
District Manager

RAH/s1



FUEL RESEARCH & INSTRUMENT COMPANY
Charleston, West Virginia

WELDWOOD OF CANADA LTD.
COAL SAMPLE # 7314
REPORT # 64-12065

100000

10000

1000

100

10

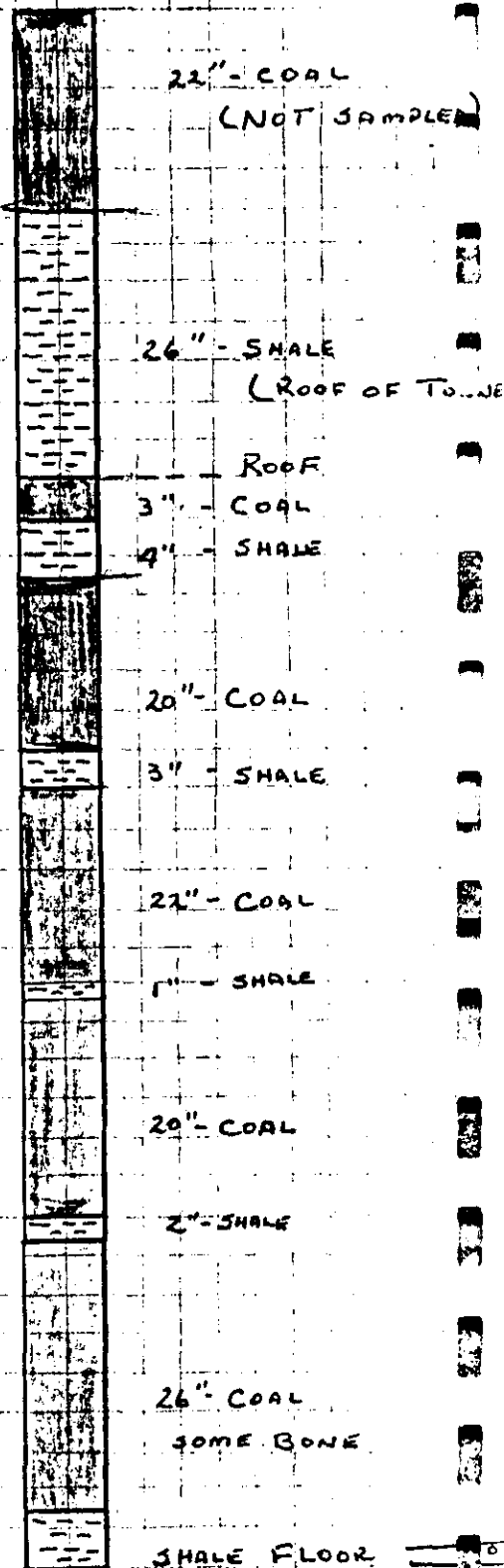
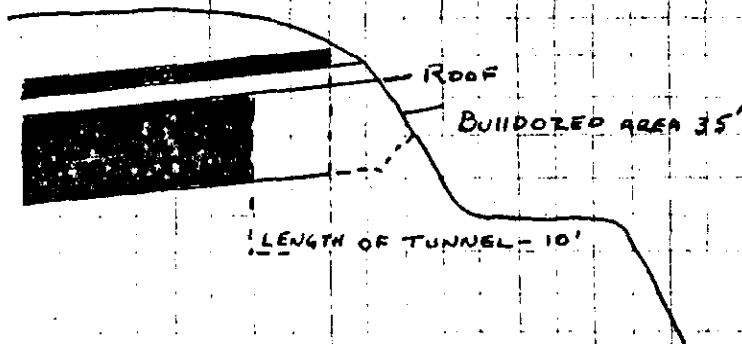
Maximum Fluidity -
2.3 D.D.P.M. @ 472°C



166-111-1
LOG IMIC
3 CYCLES 7 DIVISIONS
KEUFFEL & ESSER CO.

QUINSAM AREA

EXPLORATION TUNNEL



TOTAL SECTION - 149"
 TOTAL SECTION SAMPLED 103"
 TOTAL COAL 92"
 PARTINGS 11"

APRIL 1976
 MIKE CURCIO

COMOX BASIN
T'SABLE RIVER AREA
ANALYSIS DATA OTHER
THAN BOREHOLES.

00694 (4)

Canadian Collieries (Dunsmuir), Limited

INTER-DEPARTMENT CORRESPONDENCE

DATE February 23rd, 1945.

FILE _____

SUBJECT Samples from Table River Prospect No. 1

TO P.F. Grundy, Esq.,
Coal Preparation Engineer,
UNION BAY, B.C.

FROM R. Streehan,
Mining Engineer,

COPIES TO _____

Following are particulars of samples delivered to you today:

Samples taken 40 feet in from Portal on low side rib. Rock rolls in floor cause thinning of bottom coal bench. This has varied from 3'-6" at Portal and is entirely cut out at face at time of sampling.

SEAM SECTION at 40 feet.

Sandstone Roof.		
Top Clay.....	8"	- Sample No. 1
Top Bench Coal.....	21"	- " No. 2
Parting - Soft Coal and Dirt.....	3"	- " No. 3
Middle Bench Coal.....	21"	- " No. 4
Parting - Dirt.....	1"	- Not Sampled.
Bottom Bench Coal.....	15"	- Sample No. 5

No. 6 is sample of coal and dirt parting 12" thick taken at face of Tunnel - 56 feet in from Portal.

SEAM SECTION.

Coal.....	24"	- Not Sampled
Soft Coal and Dirt.....	12"	- Sample No. 6.
Coal.....	17"	- Not Sampled.

Please let me have results of analyses at your earliest convenience.



Mining Engineer.

00694

Table
902 Same

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., February 22nd, 1945.

Laboratory Number 45-600 to 45-605.

Sample of Tsable River Prospect #1. received February 22nd, 1945.

Marked Sampler taken by E. Strachan, at Tsable River Prospect #1, February 22nd, 1945.

Analysis:	Moisture	Volatile	F. Carbon	Ash	Sulphur	Calorific Value
Sample #1 Top Clay 8"	—	—	—	67.38 %	—	—
Sample #2 Top Coal Bench 21"	1.32 %	31.86 %	49.58 %	17.24 %	0.98 %	11,616 B. T. Us.
Sample #3 Parting Between top & middle coal 3"	—	—	—	46.22	—	—
Sample #4 Middle Coal Bench 21"	1.24	32.20	48.29	18.27	3.07	11,751 B. T. Us.
Sample #5 Bottom Coal Bench 15"	1.30	32.18	41.01	25.51	3.74	10,333 B. T. Us.
Sample #6 Soft Parting 12" at face of tunnel.	—	—	—	24.78	—	—

Remarks:

The three coal benches show the coal to be fairly good coking coal.

Respectfully Submitted,

T. J. Conroy
CHEMIST

To: E. Strachan Esq., 4 copies.

00694

Tsable River

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., February 28th, 1945.

Laboratory Number 45-600 to 45-605.

Sample of Tsable River Prospect #1. received February 22nd, 1945.

Marked Samples taken by R. Strachan, at Tsable River Prospect #1. February 22nd, 1945.

Analysis:

	Moisture	Volatile	F. Carbon	Ash	Sulphur	Calorific Value
Sample #1 Top Clay 8"	---	---	---	57.38 %	---	---
Sample #2. Top Coal Bench 21".	1.32 %	31.86 %	49.58 %	17.24 %	0.98 %	11,616 B. T. Us.
Sample #3. Parting Between top & middle coal 3".	---	---	---	46.22	---	---
Sample #4. Middle Coal Bench 21".	1.24	32.20	48.29	18.27	3.07	11,761 B. T. Us.
Sample #5. Bottom Coal Bench 15".	1.30	32.18	41.01	25.51	3.74	10,553 B. T. Us.
Sample #6. Soft Parting 12" at face of tunnel.	---	---	---	24.78	---	---

Remarks:

The three coal benches show the coal to be fairly good coking coal.

Respectfully Submitted,

R. J. Crundley
CHEMIST

To: R. Strachan Esq., 4 copies.

00694

W. Strachan

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., April 9th. 1945.

Laboratory Number 45-1127 & 1128

Sample of T'Sable River Prospect #1. received April 4th. 1945.

Marked Samples taken 120 ft. from Portal by R. Strachan, April 4th. 1945.

Analysis:

	Top Bench	Bottom Bench
Moisture	1.26 %	1.30 %
Volatile	33.21	31.60
F. Carbon	53.48	49.84
Ash	12.05	17.26
Sulphur	1.36	2.47
Calorific Value	13,020 B. T. Us.	11,543 B. T. Us.

Remarks:

Respectfully Submitted,

[Signature]
CHEMIST

To: H. Baird Esq., 4 copies.

00694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

creable
No 2 Seam

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., January 3rd. 1946.

Laboratory Number 45-4330

Sample of 1" Sable River Seam. received December 23th. 1945.

Marked Samples taken at face 250 feet from mouth of tunnel. December 23th. 1945.

Analysis:

	Moisture	Volatile	F. Carbon	Ash	Calorific Value.
Top Bench 12" Coal	1.06 %	33.41 %	55.15 %	10.36 %	13,197 B.T.Us.
Middle Bench 15" Coal	1.07	32.60	51.98	14.35	12,685 B.T.Us.
Bottom Bench 46" Coal	1.00	33.57	48.45	17.00	12,076 B.T.Us.

Remarks:

Respectfully Submitted,

[Signature]
CHEMIST

To: R. E. Smart Esq., ees, HRP.
JAC.
IS.

00694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

Isabelle No 2 Seam

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., February 19th, 1946.

Laboratory Number 46-390

Sample of Isabelle River Seam received January 30th, 1946.

Marked Samples taken at face 200 feet from mouth of tunnel January 30th, 1946.

Analysis:

	Moisture	Volatilo	F. Carbon	Ash	Calorific Value
Top Bench					
14" Coal	1.01 %	31.74 %	51.75 %	15.52 %	12,546 B.T.Us.
Middle Bench					
14" Coal	1.02	32.45	49.85	16.68	12,192
Bottom Bench					
48" Coal	1.04	33.45	50.82	14.61	12,721

Samples taken in Xcut at Counter Slope.

	Top Bench 34" Coal	Middle Bench 31" Coal	Bottom Bench 24" Coal
Ash	15.74 %	12.48 %	32.36 %

Remarks:

Respectfully Submitted,

[Signature]
CHEMIST

To: R. K. Smart Esq., ccs. HRP.
JAG.
IS. ✓

00694

Sable

No 2 Sea

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., October 20th. 1947.

Laboratory Number 47-3101 to 47-3110

Sample of T'Sable River Coal received September 29th. 1947.

Marked Samples taken by S. Lawrence at T'Sable River Mine September 29th, 1947.

Analysis:	<u>Main Slope.</u>					
	Moisture	Volatile	F. Carbon	Ash	Sulphur	Calorific Value
42" Coal	1.04 %	32.40 %	55.96 %	10.60 %	1.06 %	13,176 B.T.Us.
7" Shale	-	-	-	31.39	-	-
22" Coal	1.04	32.09	52.59	14.28	2.52	12,639
5" Shale	-	-	-	37.34	-	-
28" Coal	1.00	30.60	40.72	27.68	5.28	10,272
<u>#1 Level.</u>						
	Moisture	Volatile	F. Carbon	Ash	Sulphur	Calorific Value
18" Coal	1.05 %	30.86 %	53.06 %	15.03 %	1.04 %	12,517 B.T.Us.
5" Shale	-	-	-	23.25	-	-
28" Coal	1.06	31.95	52.77	14.22	2.84	12,654
6" Shale	-	-	-	27.91	-	-
Remarks: 50" Bone & Coal	1.01	29.67	40.86	28.46	3.65	10,028
Respectfully Submitted,						

CHEMIST

To: T. V. Smart Esq., 2 copies
cc. JAQ.

00694

Loft	12.04	14
In d	15.36	10
Brt	17.86	36
Coal only	13.25	29
13mc	29.18	7

No. 5

00694

Coal	12"	10.38%	Wet
Clay	1"		
Coal	15"	14.35%	
Clay	2"		
Coal	26"	17.00%	

Thin Section Analysis by
 J. Grundy Dec 28/45
 350 feet from Top of L.

Seable

00694

Lab. Report

Sample by P. L. Hardy taken 200
in slots on Dec 5th 1900

Top Bench	14"	Ash	12.04%
Middle	10"		15.36%
Bottom	36"		17.86%

Bottom bench made up of 29" Coal
with 7" bench in bottom.

Separate analysis of bottom bench

Coal	29"	13.25%
Bench	7"	29.18%

00694

Tsable River

Prospect No 1

Samples taken by P Grundy
April 11th 1945

Piece of coal from bottom of Seam
& split along parting

Ash	Sulphur
11.40 %	2.43 %
13.23 %	2.67 %

Piece of honey coal from floor of
Seam

Ash	Sulphur
20.01 %	1.74 %

00694

COMOX BASIN
CUMBERLAND
ANALYSES DATA
SOURCES OTHER THAN
BOREHOLES (IE. ADITS.)

00694 (5)

Cumberland, B.C.
April 15, 1936

A.A. Mathison, Esq.,
Washing Superintendent
UNION BAY, B.C.

Dear Sir:


I am forwarding you samples No. 1 and 2 of coal seam
at Prospect Tunnel, Allen Lakes for analysis.

Seam Section

Coal	1' 6"	Sample #2
Shale & Coal mixed	1' 4"	
Coal	8"	
Boney Coal	3"	Sample #1
Coal	1' 3"	
Black Shale	6"	

Sample was taken sixty feet from mouth of the Tunnel.

Yours truly,


Surveyor

RS:EH

694

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., January 11th, 1921.

Laboratory Number 21-3

Sample of Coal received January 6th, 1921

Marked Coal Creek, Cumberland.

Proximate Analysis	As Received	% Dry Basis	%
Moisture	1.81	"	"
Volatile Matter	"	25.75	"
Fixed Carbon	"	55.53	"
Ash	"	8.71	"
		<u>100.00</u>	
Sulphur	"	2.38	"

Heating Power of dry sample, B.T.U., per pound of coal 13,832

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks: Cokes - Good

Respectfully submitted,

A. A. Mathison
CHEMIST

Copies to Mr. Savage,
Mr. T. Graham
Mr. C. Graham
To: Mr. A. G. Lynn

694

Cumberland, B.S.
April 20, 1936.

Mr. R. Laird,
Manager #5 Mine,
Cumberland, B.S.

Dear Sir:

The following is analysis of coal samples taken at
Allen Lake Prospect on the 15th. instant. Samples were taken
sixty feet from mouth of Tunnel.

Exam Section

Coal	1' 6"	Sample #2
Shale & Coal	1' 4"	
Coal	8"	
Bony Coal	3"	Sample #1
Coal	1' 3"	
Black Shale	6"	

Sample #1

Moisture	1.40%
Volatile	32.70%
Fixed Carbon	49.40%
Ash	16.50%

B.T.U.'s 12,274
Coke good.

Sample #2

Moisture	1.60%
Volatile	30.60%
Fixed Carbon	45.80%
Ash	24.00%

B.T.U.'s 10,927

Yours truly,

694

E. S. Fisher

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

Allen Lake

CERTIFICATE OF ANALYSIS

UNION BAY, B. C., April 18th. 1936.

Laboratory Number 36-502

Sample of Coal received April 16th.

Marked Sample # 2. Allen Lake Prospect. Sample taken sixty feet from mouth of the tunnel.

Analysis:

Moisture	Volatile	F. Carbon	Ash.	B.T.U.s,
1.60 %	30.60 %	43.80 %	24.00 %	10,927

Remarks:

Seam Section Coal 1' 6" Sample # 2.
 Shale & Coal 1' 4"
~~Heavy~~ Coal 8")
 Heavy Coal 3 ") Sample # 1.
 Coal 1' 3 ")
 Black Shale 6")
 Respectfully submitted,

W. A. Mathison
CHEMIST

694

To:-

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

Allen Lake

CERTIFICATE OF ANALYSIS

UNION BAY, B. C., April 18th. 1936.

Laboratory Number 36-501

Sample of Coal received April 16th.

Marked Sample # 1. Allen Lake Prospect. Sample taken sixty feet from mouth of the tunnel
April 15th.

Analysis:

Moisture	Volatile	F. Carbon	Ash.	B.T.Us.
1.40 %	32.70 %	49.40 %	16.50 %	12,274

Coke Good.

Seam Section

Remarks:

Coal	1' 6"	
Shale & Coal	1' 4"	
Coal	8"	
Bony Coal	3"	Sample # 1.
Coal	1' 3"	
Black Shale	6"	

Respectfully submitted,

Al. Mathison
CHEMIST

To: _____

694

Cumberland, B.C., June 3rd, 1936.

A. A. Matheson, Esq.,
Washery Superintendent,
UNION BAY, B.C.

Dear Sir,

I am forwarding you the following samples for analysis.

Sample No.1	Cariboo Creek	Coal 22"
" " 2	" "	" 15"
" " 3	" "	" 17"
Sample	Oyster River	Coal 10"

Please return two canvas sacks.

Yours truly,


Surveyor

694

Li. 1000 (200) 49

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B. C. June 10th. 1936

Laboratory Number 36-830, 36-831, 36-832

Sample of Coals received June 5th.

Marked Cariboo Creek Prospect.

Analysis:

	Moisture	Volatile	F. Carbon	Ash.	B.T.Us,	Sulphur	Seam
Sample # 1.	5.10 %	38.00 %	45.70 %	11.20 %	10,848	0.78 %	22" Coal
" # 2.	4.70 "	37.80 "	51.40 "	6.30 "	11,894	0.96 "	15" "
# 3.	7.20 "	38.90 "	48.60 "	10.30 "	10,546	0.80 "	17" "

Remarks:

Coal Non-Caking. Black Powder.

Coal badly weathered, May show better coking qualities and higher B.T.Us, if samples was taken where oxidation has not taken place.

Respectfully submitted,

W. A. Mathison
CHEMIST

To:

694

Oyster River

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

June 10th. 1936.

36-833

UNION BAY, B. C.,

Laboratory Number..... Coal

June 5th.

Sample of *Oyster River Prospect.* received *Seam, coal 10 inches.*

Marked

Analysis:

Moisture	Volatile	F. Carbon	Ash.	B.T.Us,	Sulphur
3.50 %	39.30 %	52.90 %	4.30 %	13,080	0.90 %

Coke Poor. Shows tendency to coke.

Remarks:

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

Memorandum on Cariboo Creek Outcrops

Eng. Dept.,
Cumberland, B.C.,
January 30th, 1942

By H. A. Rose, July 3rd, 1922

Seam Section

Shale	--)	
Coal	9")	
Shale	4")	Coal 24"
Coal	9")	Shale 27"
Boney coal and shale	17")	
Shale	2")	
Coal	6")	
Shale	4")	

No analyses.

By R. Strachan, June 3rd, 1936

Location

On rising ground, north side of creek in vicinity of outcrops located by H. A. Rose. 3 Exposures of same seam.

Analyses

Sample	Moist.	Volat.	F. Car.	Ash	B. T. U.	Sulphur
No.1 Coal 22"	5.10	38.00	45.70	11.20	10,848	0.78
No.2 Coal 15"	4.70	37.60	51.40	6.30	11,894	0.96
No.3 Coal 17"	7.20	38.90	43.60	10.30	10,546	0.80

All non-coking.

By Beban Logging Co. (per R. K. Smart), January 1942

Location

In Block 28, Comox District (not definitely located at date Jan.30/42)

Analyses

Sample	Moist.	Volat.	F. Car.	Ash	B. T. U.	Sulphur
Coal 14"	4.24"	36.09	54.13	5.54	10,801	0.75
Shale 24"						
Coal 30"	2.54	35.98	54.04	7.44	11,353	1.03
Shale 24"						
Coal 24"	2.33	34.83	48.89	13.95	10,164	1.47
Rock 9"						
Coal 8")						
Rock 8")	4.01	35.26	51.97	8.76	9,818	1.02
Coal 8")						

All non-coking.

All seams dip northeast at 17° and are approximately 8 miles from Island Highway and may be reached by logging road from Oyster Bay

694

Cumberland, B.C., June 12th, 1936.

Robert Laird, Esq.,
Manager No.5 Mine,
CUMBERLAND, B.C.

Dear Sir,

The following is analysis of coal samples taken at Cariboo Creek
and Oyster River on June 5th last.

Cariboo Creek

		<u>Moisture</u>	<u>Volatile</u>	<u>Fixed Carbon</u>	<u>Ash</u>	<u>B.T.U's.</u>	<u>Sulphur</u>
Sample No.1	Seam 22"	5.10%	38.00%	45.70%	11.20%	10,848	0.78%
Sample No.2	Seam 15"	4.70	37.60	51.40	6.30	11,894	0.96
Sample No.3	Seam 17"	7.20	38.90	43.60	10.30	10,546	0.80

Coal - Non-coking. Black Powder.

Coal badly weathered, may show better coking qualities and higher B.T.U's if sample
was taken where oxidation has not taken place.

Oyster River

	<u>Moisture</u>	<u>Volatile</u>	<u>Fixed Carbon</u>	<u>Ash</u>	<u>B.T.U's</u>	<u>Sulphur</u>
Seam 10"	3.50%	39.30%	52.90%	4.30%	13,080	0.90%

Coke poor. Shows tendency to coke.

Yours truly,

R. S. Strachan
Surveyor.

RL:G.

694

McLean

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B. C., December 2nd, 1936

Laboratory Number 36-1741. 36-1742. 36-1743

Sample of 8 Mine Conex Coals received November 27th.

Marked Sample # 1 Top Coal. Sample # 1 Bottom Bench . Sample # 2 Top Coal.
 Lab. # 36-1741 Lab. # 36-1742 Lab. 36-1743

Analysis: Section Moisture Volatile F. Carbon. Ash B.T Us, Sulphur
 Lab. 36-1741 Sample # 1. Top Coal 14 inches 1.10 % 36.10 % 54.90 % 7.90 % 14,031 1.56 %

Lab. 36-1742 Shale 13 "
 Coal 7 "
 Bench 3 "
 Coal 11 " 1.10 % 32.50 % 42.00 % 24.40

Lab. 36-1743 Section
Sample # 2. Top Coal 14 1/2 inches 1.20 % 35.80 % 53.20 % 9.80 % 13,790 1.70 %
 Shale 12 "
 Coal 7 " } Not Sampled
 Boney Shale 4 1/2 "
Bottom Coal in Floor

Remarks:

Coal Good in Top Coal.

Bench. Lab. 36-1742 Specific Gravity 1.50. Will be very DIFFICULT to separate in washing.

Respectfully submitted,

A. A. Halpin
CHEMIST

McLean

To:

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR). LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B. C., December 2nd, 1936

Laboratory Numbers 36-1744, 36-1745

Sample of # 8 Mine Comox Coals received November 27th.

Marked Sample # 3. Top Coal. Sample # 3. Bottom Bench	Sample #4 Top Coal	Bottom #4 Coal	Bottom Coal # 4 in one piece
Lab # 36-1744	36-1746	36-1747	36-1748
	Lab # 36-1745		

Analysis:

Lab. 36-1744	Section	Moisture	Volatiles	F. Carbon	Ash	B.T.U's Sulphur
Sample # 3	Top Coal 14 inches	1.10 %	35.90 %	55.10 %	7.90 %	14,047 1.60 %
	Shale 14 "					
Lab. 36-1745	Boney Coal 4 "					
	Shale 6 "					
	Coal 13 "	1.00 %	35.50 %	44.80 %	18.60 %	12,488
XX						
Lab. 36-1746	Section					
Sample # 4	Top Coal 15 1/2 inches	1.10	34.80	50.60	13.50 %	13,219 1.60 %
	Shale 19 "					
	Coal 6 "					
Lab. 36-1747	Boney Coal 4 "	1.00	35.60	48.70	14.70	13,038
	Shale 13 "					
Lab. 36-1748	Bottom Coal 13 inches	1.20 %	38.50 %	52.20 %	8.10 %	14,229 2.04 %
	Taken in one piece					

Remarks: Coke Good

Respectfully submitted,

No. 3 Seam

A. H. Mathison
CHEMIST

694

To:

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B. C., December 2nd. 1936

36-1749. 36-1750. 36-1751. 36-1752. 36-1753

Laboratory Number.....

Sample of # 8 Mine Coamox Coals received November 27th.

Marked Sample # 5. Top Coal. Sample # 5. Sample # 6 Sample # 6 Bottom Bench. Sample # 7
 Lab # 36-1749 Bottom Bench. Top Coal Lab # 36-1750 36-1751 Lab # 36-1752 Top Coal
 Lab # 36-1753

Analysis:

Lab. #	Section	Moisture	Volatile	F. Carbon	Ash.	S.T. Us.	Sulphur
Lab. # 36-1749	Section						
Sample # 5.	Top Coal 14 inches	1.10 %	36.10 %	55.50 %	7.30 %	14,145	1.50 %
	Shale 14 "						
Lab. 1750	Coal 4 "						
	Bony Coal 6 "						
	not included in the sample	1.00 %	37.60 %	50.70 %	10.60 %	13,726	1.94 %
	Coal 13 "						
Lab 36-1751							
Sample # 6	Top Coal 14 inches	1.10 %	35.10 %	54.80 %	9.50 %	13,857	1.66 %
	Shale & Bone 11 "						
	Coal 7 "						
Lab # 36-1752	Bone 2 "	1.20 %	35.30 %	44.90 %	18.60 %	12,447	
	Coal 15 "						
Lab # 36-1755	Section	1.10 %	34.90 %	55.60 %	8.40 %	14,067	1.50 %
Sample # 7	Coal 14 inches						
	Remainer of the seam in floor						

Remarks: Coke Good in all the samples.

Top Coal appears to be lower in volatile and resembles nearer to # 4 Coal.

Bottom coal is more similar to # 5 Coals. Bone Coal will be very troublesome in washing

Some bone was noticed in Lab# 1750 when milling.

Respectfully submitted,

W. H. Matheson
CHEMIST

694

To:

No 2 Seam

Engineering Dept.,
CUMBERLAND, B.C.,
November 26th, 1936.

A. Mathison, Esq.,
Washery Supt.,
UNION BAY, B.C..

Dear Sir,

I am forwarding 12 sacks and one canvas wrapped package containing samples of No. 1 Seam, No. 6 Mine for analysis.

Samples were taken at seven different places in the workings and each sample is accompanied by a number and the section of the seam sampled.

The particulars are as follows:

No.	Section	
1	Coal	14" Sampled
	Shale	13")
	Coal	7")
	Stone	3") Sampled
	Coal	11")
2	Coal	14 $\frac{1}{2}$ " Sampled
	Shale	12")
	Coal	7")
	Boney Shale	4 $\frac{1}{2}$ ") Not Sampled
	Bottom coal in floor	-)

694

No.	Section.		
3	Coal	14"	Sampled
	Shale	14")	
	Coal	4")	
Boney	Shale	6")	Sampled
	Coal	13")	

No.	Section		
4	Coal	15 ¹ / ₂ "	Sampled
	Shale	19")	
	Coal	6")	
Boney	Shale	4")	Sampled
	Coal	13")	

Additional Sample of 13" bottom coal taken in one piece.

No.	Section.		
5	Coal	14"	Sampled
	Shale	14")	
	Coal	4")	
Bone &	Shale	6")	This Sample does not include
	Coal	13")	the 6" of Bone & Shale.

No.	Section		
6	Coal	14"	Sampled
Shale & Bone		11")	
	Coal	7")	
	Bone	2")	Sampled
	Coal	15")	

No.	Section		
7	Coal	14"	Sampled
	Remainder of Stone in floor.		

Please let me have the results as soon as convenient.

Yours truly,



SURVEYOR.

694

CONTINUED

ANALYSIS, No. 2 SEAM, No. 5 MINE. (COMOX).

Date.	Location.	Lab. No.	Moisture.	Volatile Matter.	Fixed Carbon.	Ash.	B. T. U.	Sulphur.	Remarks.
Jan. 25, 1939.	Face of Main Slope	39-160	1.10%	36.90%	49.50%	13.50%	13,260	4.12%	Coke.. Fair. Rock adhering to coal in sample.
Jan. 26, 1939.	Face No. 5 Slope.	39-181	1.10%	36.00%	52.10%	10.80%	13,410	3.24%	Coke.. Fair to Good.
Jan. 25, 1939.	Face # 2 W Slope.	39-161	1.00%	36.30%	49.20%	13.50%	12,935	2.68%	Coke.. Fair to Good. Rock was noted adhering to pieces of coal. Lab. Handpicked assayed 10.80% ash.
Jan. 26, 1939.	Face # 3 W Slope.	39-180	1.10%	35.20%	49.00%	14.70%	13,095	2.24%	Rock was noted adhering to pieces of coal.

ANALYSIS, No. 2 SEAM, No. 8 MINE. (COMOX).

Date.	Location.	Lab. No.	Moisture.	Volatile Matter.	Fixed Carbon.	Ash.	B. T. U.	Sulphur.	Remarks.
Jan. 9, 1939.	Face Main South Level.	39-55	1.00%	35.10%	52.00%	11.90%	13,348	2.19%	
Jan. 9, 1939.	Face of 1 Left Level No. 1 Incline	39-56	1.00%	35.00%	54.20%	9.80%	13,615	2.24%	
Jan. 9, 1939.	Face No. 1 Incline.	39-57	1.00%	35.40%	55.90%	7.70%	14,053	1.68%	

694

February 6th, 1940,
Engineering Department,
Cumberland, B.C.

P. Grundy, Esq.,
Preparation Engineer,
Canadian Collieries (Dunsmuir) Ltd.,
Union Bay, B.C.

Dear Sir,

We are forwarding coal samples from underground boreholes U 1,
U 2, and U 5, drilled from No. 2 seam No. 5 Mine, Cumberland, for
proximate analysis.

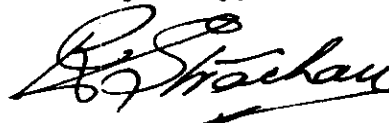
The samples are as follows:

Borehole U1.	No. 4 Seam.	Thickness 3'0"	Depth 223'6"
Borehole U2	No. 4 Seam	2'2"	178'2"
Borehole U5	No. 4 Seam.		
	Upper Bench	1'3"	176'
	Middle Bench	2'1"	179'4"
	Bottom Bench	3'2"	183'

The samples forwarded are all that could be saved from the
core.

We would be obliged if you would return the sample sacks from
this and the previous shipment (boreholes 185 and 186), as they are our
last.

Yours very truly,



R. S. Strachan,
Mining Engineer.

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., October 4th, 1940

Laboratory Number 4C-2572

Sample of Coal received October 2nd, 1940

Marked Sample of Coal from Prospect Tunnel Extension for Proximate Analysis

Analysis:

Moisture	Volatiles	F. Carbon	Ash
3.30 %	41.32 %	49.69 %	6.69 %

Remarks:

Respectfully Submitted,

Richard G. Dick

CHEMIST

To: _____

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., October 7th, 1940

Laboratory Number _____

Sample of _____ received _____

Marked Determination of B.T.U.s. on sample from Extension Prospect Tunnel
for Mr. Smart.

Analysis:

B.T.U.s.

13925

Remarks:

Respectfully Submitted,

Richard A. Dick

CHEMIST

To: _____

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

*Prospect.
on Logging Road.
from Suttons Rd
crossing with W.C.R.V.*

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., March 1st, 1941

Laboratory Number 41-360

Sample of Coal received

Marked Prospect near Allens Lake Elevation 750' . Proximate Analysis & B.T.Us.

Analysis:

Moisture	Volatile	F. Carbon	Ash	B.T.Us.
.46 %	36.20 %	53.90 %	7.44 %	14009

Remarks:

Respectfully Submitted,

W. S. ...
CHEMIST

To: _____

694

U-1
#5 Mine

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., March 1st, 1941

Laboratory Number 41-248

Sample of Borehole Core U-1 received

Marked Borehole core from underground boreholes #5 Mine. Proximate Analysis & B.T.U.s.

3' 0" dirty coal. Depth 225' 6"

Analysis:

Moisture	Volatile	F. Carbon	Ash	B.T.U.s.
1.66 %	27.62 %	36.07 %	34.65 %	9058

Remarks:

Respectfully Submitted,

[Handwritten Signature]

CHEMIST

To: _____

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

U 2
No 5 Mine

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., March 1st, 1941

Laboratory Number 41-249

Sample of Borehole Core U-2 received

Marked Borehole core from underground boreholes #5 Mine. Proximate analysis & B.T.Us.
2' 2" dirty coal, Depth 178' 2".

Analysis:

Moisture	Volatile	F. Carbon	Ash	B.T.Us.
1.38 %	31.68 %	41.10 %	25.74 %	10821

Remarks:

Respectfully Submitted,

A.A.S.

CHEMIST

694

To:

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

U 5
Hos Mine

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., March 1st, 1941

Laboratory Number 41-250 A/B/C.

Sample of Borehole Core U-5 received

Marked Borehole core from underground boreholes #5 Mine. Proximate analysis & B.T.Us.

A- Upper Bench 1' 3". B- Middle Bench 2' 1". C- Lower Bench 3' 2".

Analysis:

	Moisture	Volatile	F. Carbon	Ash	B.T.Us.
A-	1.17 %	36.17 %	49.76 %	12.90 %	13122
B-	1.12	34.65	53.60	10.63	13642
C-	1.26	32.20	46.33	20.21	11490

Remarks:

Respectfully Submitted,

[Signature]
CHEMIST

To: _____

694

*Union Mine
(Lamblands)*

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., March 18th, 1941

Laboratory Number _____

Sample of Coal received _____

Marked #8 Mine Extension Wellington Seam by R. Strachan Esq.

Analysis:

	Moisture	Volatile	F. Carbon	Ash	B.T.U.s.
Lump Coal - Top Bench	1.98 %	38.24 %	53.52 %	6.26 %	13616
Lump Coal - Bottom Bench	2.06	37.76	53.68	6.46	13721
Screenings				22.90	

Float and Sink Test on Screenings

	Wt. %	Ash %	Cumul. Wt. %	Cumul. Ash %
Floats 1.35	47.47	10.15	47.47	10.15
Sinks 1.35	Floats 1.50	25.70	17.44	73.17
Sinks 1.50	Floats 1.60	7.31	31.94	80.48
Sinks 1.60	19.52	57.65	100.00	22.84

Remarks:

The above figures show the screenings to contain a fairly large percentage of Bone Coal but no apparent difficulty should be experienced in washing the coal to 14.50 % ash, which would give around 80 % recovery, however owing to the large amount of Bone Coal considerable difficulty would be experienced if a product of less than 14.50% ash were required.

Respectfully Submitted,

A.H. King
CHEMIST

To: R. Strachan Esq., c.c. HB
FFG

694

COPY

Cariboo Creek
Block 28, Comox

Chemical Laboratory
of
Canadian Collieries (Dunsmuir) Ltd.

CERTIFICATE OF ANALYSIS

Union Bay, January 28th, 1942

Laboratory Number 42-086

Samples of Coal received for Proximate Analysis, Calorific value, Sulphur determination - from R. K. Smart, Esq.

Analysis

Seam#	Thickness	Moisture	Volatile	% Carbon	Ash	Calorific Value	Sulphur
Top	14"	4.24%	36.09%	54.13%	5.54%	10,801	0.75%
2nd.	2'6"	2.54	35.98	54.04	7.44	11,353	1.03
3rd.	2'0"	2.53	34.83	48.89	13.95	10,164	1.47
4,5,6	9' each	4.01	35.26	51.97	8.76	9,818	1.02

All seams non coking.

Seam Section, submitted by Behm Logging Co.

Sandstone Roof
 Coal 14"
 Shale 24"
 Coal 30"
 Shale 24"
 Coal 24"
 Rock 9"
 Coal 8"
 Rock 8"
 Coal 8"

Respectfully Submitted,

.....

(signed, A.N. Dick, Chemist)

694

C O P Y

Cariboo Creek
Block 28, Comox

Chemical Laboratory
of
Canadian Collieries (Dunsmuir) Ltd.

CERTIFICATE OF ANALYSIS

Union Bay, January 28th, 1942

Laboratory Number 42-086

Samples of Coal received for Proximate Analysis, Calorific value, Sulphur determination - from R. K. Smart, Esq.

Analysis

Seam#	Thickness	Moisture	Volatile	F. Carbon	Ash	Calorific Value	Sulphur
Top	14"	4.24%	36.09%	54.13%	5.54%	10,801	0.75%
2nd.	2'6"	2.54	35.98	54.04	7.44	11,353	1.03
3rd.	2'0"	2.35	34.83	49.89	13.95	10,164	1.47
4,5,6	9' each	4.01	35.26	51.97	8.76	9,818	1.02

All seams non coking.

Seam Section, submitted by Bohan Logging Co.

Sandstone Roof
Coal 14"
Shale 24"
Coal 30"
Shale 24"
Coal 24"
Rock 9"
Coal 8"
Rock 8"
Coal 8"

Respectfully Submitted,

.....

(signed, A.N. Dick, Chemist)

694

C O P Y

Cariboo Creek
Block 28, Comox

Chemical Laboratory
of
Canadian Collieries (Dunsmuir) Ltd.

CERTIFICATE OF ANALYSIS

Union Bay, January 28th, 1942

Laboratory Number 42-086

Samples of Coal received for Proximate Analysis, Calorific value, Sulphur determination - from R. K. Smart, Esq.

Analysis

Seam#	Thickness	Moisture	Volatile	F. Carbon	Ash	Calorific Value	Sulphur
Top	14"	4.24%	36.09%	54.13%	5.54%	10,801	0.75%
2nd.	2'6"	2.54	35.98	54.04	7.44	11,353	1.03
3rd.	2'0"	2.33	34.83	48.89	13.95	10,164	1.47
4,5,6	9' each	4.01	35.26	51.97	8.76	9,818	1.02

All seams non coking.

Seam Section, submitted by Behan Logging Co.

Sandstone Reef
 Coal 14"
 Shale 24"
 Coal 30"
 Shale 24"
 Coal 24"
 Rock 9"
 Coal 8"
 Rock 8"
 Coal 8"

Respectfully Submitted,

694

.....

(signed, A.N. Dick, Chemist)

C O P Y

Cariboo Creek
Block 28, Comox

Chemical Laboratory
of
Canadian Collieries (Dunsmuir) Ltd.

CERTIFICATE OF ANALYSIS

Union Bay, January 28th, 1942

Laboratory Number 42-086

Samples of Coal received for Proximate Analysis, Calorific value, Sulphur determination - from R. K. Smart, Esq.

Analysis

Seam#	Thickness	Moisture	Volatile	F. Carbon	Ash	Calorific Value	Sulphur
Top	14"	4.24%	36.09%	54.13%	5.54%	10,801	0.75%
2nd.	2'6"	2.54	35.98	54.04	7.44	11,353	1.03
3rd.	2'0"	2.33	34.83	48.89	13.95	10,164	1.47
4,5,6	9' each	4.01	35.26	51.97	8.76	9,818	1.02

All seams non coking.

Seam Section, submitted by Beban Logging Co.

Sandstone Roof
Coal 14"
Shale 24"
Coal 30"
Shale 24"
Coal 24"
Rock 9"
Coal 8"
Rock 8"
Coal 8"

Respectfully Submitted,

.....
(signed, A.N. Dick, Chemist)

694

*Cart Creek
Black 28
Cmap*

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., January 28th, 1942

Laboratory Number 42-086

Sample of Coal received

Marked Samples for Proximate analysis- Calorific value- Sulfur determination from

R.K. Smart Esq.

Analysis:

Seam #	Thickness	Moisture	Volatile	F. Carbon	Ash	Calorific Value	Sulfur
Top	14" <i>42-086-1</i>	14.24 %	36.09 %	54.13 %	5.54 %	10801 BTUs.	0.75 %
2nd	2' 6" <i>42-086-2</i>	2.54	35.98	54.04	7.44	11353 "	1.03
3rd	2' 0" <i>42-086-3</i>	2.33	34.83	48.89	13.95	10164 "	1.47
4,5,6.	9" each <i>42-086-4</i>	4.01	35.26	51.97	8.76	9818 "	1.02

All seams non coking.

Seam Section

Submitted by Belton Jan 25

Remarks:

- 5 Stone Pits*
- 1 1 Coal 14"
 - 2 2 Shale 24"
 - 3 3 Coal 30"
 - 4 4 Shale 24"
 - 5 5 Coal 24"
 - 6 6 Rock 5"
 - 7 7 Coal 8"
 - 8 8 Rock 8"
 - 9 9 Coal 8"

Respectfully Submitted,

[Signature]

CHEMIST

694

To: R.K. Smart Esq., 3 copies

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

*White Rapids
Wellington Seam*

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., October 23rd. 1944.

Laboratory Number 44-3774

Sample of Wellington Seam. received October 6th. 1944.

Marked White Rapids Mine, full height of seam 40" taken at face of Main Return Airway
being driven towards Air Shaft, and 410 feet in from Main Slope.

Analysis:

Moisture : 1.27 %

Volatile : 39.22 %

F. Carbon : 49.77 %

Ash : 9.74 %

Calorific Value : 13,262 B. T. Us.

Sulphur : .83 %

Remarks: Fairly good coking coal.

Respectfully Submitted,

H. G. Gundy

CHEMIST

To: R. Strachan Esq., cc H. Baird.

694

CHEMICAL LABORATORY

Thomas Rivers

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., June 30, 1922.

Laboratory Number 513

Sample of coal received June 27th, 1922.

Marked Sample from a branch of Brown River

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	1.10	" "
Volatile Matter - - -	15.90	" 16.08 "
Fixed Carbon - - -	55.30	" 55.91 "
Ash - - - -	27.70	" 28.01 "
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - -		" "

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Coke black powder

Respectfully submitted,

A. A. Mathison
CHEMIST

To:.....

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

FILE NUMBER
58

UNION BAY, B.C., June 30, 1922.

Laboratory Number **513**

Sample of **coal** received **June 27th, 1922.**

Marked **Sample from a branch of Brown River** *10. III. 10x10*

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	1.10	"	"	"
Volatile Matter - - - -	15.90	"	16.08	"
Fixed Carbon - - - -	55.30	"	55.91	"
Ash - - - -	27.70	"	28.01	"
	<u>100.00</u>		<u>100.00</u>	
Sulphur - - - -		"		"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coke black powder

Respectfully submitted,

A. A. Mathison
CHEMIST

To:-

694

Memorandum on Cariboo Creek Outcrops

Eng. Dept.,
Cumberland, B.C.,
January 30th, 1942

By H. A. Rose, July 3rd, 1933

Seam Section

Shale	---	
Coal	9"	
Shale	4"	Coal 24"
Coal	9"	Shale 27"
Boney coal and shale	17"	
Shale	2"	
Coal	5"	
Shale	4"	

No analyses.

By R. Strachan, June 3rd, 1934

Location

On rising ground, north side of creek in vicinity of outcrops located by H.A. Rose. 3 Exposures of same seam.

Analyses

Sample	Moist.	Volat.	F. Car.	Ash	B. T. U.	Sulphur
No.1 Coal 22"	5.10	38.00	45.70	11.20	10,848	0.78
No.2 Coal 15"	4.70	37.60	51.40	6.30	11,894	0.96
No.3 Coal 17"	7.20	38.90	43.60	10.30	10,546	0.80

All non-coking.

By Baban Logging Co. (via R. E. Smart), January 1942

Location

In Block 28, Comox District (not definitely located at date Jan. 30/42)

Analyses

Sample	Moist.	Volat.	F. Car.	Ash	B. T. U.	Sulphur
Coal 14"	4.24	36.09	54.13	5.54	10,801	0.75
Shale 24"						
Coal 30"	2.54	35.98	54.04	7.44	11,353	1.03
Shale 24"						
Coal 24"	2.33	34.83	48.89	13.95	10,164	1.47
Rock 9"						
Coal 8"						
Rock 8"	4.01	35.26	51.97	8.76	9,818	1.02
Coal 8"						

All non-coking.

*Copies to
M. Rose
M. Brown
M. Smart.*

694

All seams dip northeast at 17° and are approximately 8 miles from Island Highway and may be reached by logging road from Oyster Bay.

Canadian Collieries (Dunsmuir), Limited

INTER-DEPARTMENT CORRESPONDENCE

DATE February 14th, 1949.

FILE _____

SUBJECT BAYNES SOUND PROSPECTS.TO P.F. Grundy, Esq.,Coal Preparation Engineer,UNION BAY, B.C.FROM Engineering Department,CUMBERLAND, B.C.

COPIES TO _____

The following is seam section from which samples were taken and delivered to Laboratory on Friday, February 11th.

Sandstone Roof	
Shale	2"
Coal	6".....Sample No. 1
Shale	1"
Coal	4".....Sample No. 2
Sulphur Band	1"
Coal	7".....Sample No. 3
Shale	1"
Coal	2"
Shale	1"
Coal	6".....Sample No. 4
Shale	$\frac{1}{2}$ "
Coal	12".....Sample No. 5
Shale Floor	

Samples were taken at face of Old Baynes Sound Coal Company's Adit, a distance of 350 feet from Portal, at elevation of approximately 160 feet.

Please let me have results of analysis at your earliest convenience.



Mining Engineer.

694

Analysis

Average Dec 47

	Mo. of Ash	M	V.	FC	Ash	B.T. lbs
<u>No. 8 Mine</u>						
Lump	12.06	1.04	34.91	52.59	11.48	13.156
Cobble	9.38	1.04	35.68	53.74	9.54	13.394
No. 1 Nut	9.84	1.03	35.27	53.60	10.00	13.343
No. 2 Nut	12.96	1.03	34.00	51.90	13.07	12.877
Pea	16.21	1.01	32.26	50.68	16.05	12.565
W. Smalls	16.58	1.01	32.10	50.47	16.42	12.443
<u>No. 10 Mine</u>						
Lump	10.54	1.25	39.78	49.43	9.54	13.251
Nut	10.79	1.26	39.21	48.70	10.83	12.936
Pea	14.92	1.25	37.96	46.54	14.25	12.339
W. Smalls	17.82	1.24	37.10	45.32	16.34	12.127
B. Smalls	26.16	1.21	33.25	38.25	27.29	10.195
<u>White Rapids</u>						
Lump	11.38	1.19	37.83	50.74	10.24	13.127
Nut	8.89	1.18	38.20	51.45	9.17	13.300
Pea	10.48	1.18	37.28	50.23	11.31	12.866
Smalls	17.33	1.16	35.69	48.15	15.00	12.387

694

SECTION OF COAL SEAM IN CREEK ENTERING S.W. END
OF ALLEN LAKE, CUMBERLAND, B.C.

1. Coal, clean and hard	3")		5"
2. Coal, crushed	1½")	Coal	6½"
3. Coal, clean and hard	1' 11")	2' 3½"	
4. Brownish grey shale	6")		2' 11½"
5. Coaly shale	4")		3' 3½"
6. Coal	3")	Shale	3' 6½"
7. Coal, crushed	2")	1' 6½"	3' 8½"
8. Brownish grey shale	3½")		4' 0"
9. Coal	1' 0")		5' 0"
10. Coal crushed	1")	Coal	5' 1"
11. Coal, clean	1' 4")	2' 5"	6' 5"

00694

SECTION OF CLIFF OF CRETACEOUS ROCKS AT HAMILTON LAKE

GIMBERLAND, N.C.

Soil and till	1' 0"	1' 0"
Massive fine whitish sandstone even grained and faintly laminated, Typ. Comox	6' 0"	7' 0"
Plately jointed sandstone, the lower foot showing many stems and plant markings and coaly lenticles to 1/4"	2' 0"	9' 0"
Tough fine laminated brownish grey clay shale, a solid band	4' 7"	13' 7"
Coal clean and hard of excellent quality	5"	14' 0"
Coal, very soft	3"	14' 3"
Coal, excellent	1' 1 1/2"	15' 4 1/2"
Coal, dirty and soft	0 1/2"	15' 5"
Coal, excellent	1' 8"	17' 1"

Specimen No.1244 represents the above.

Section continued.

Hard black bony shale	4"	17' 5"
Coal, hard	4"	17' 9"
Grey hard tough laminated clay shale with streaks of lenticular coal to 4"	4' 11"	22' 8"
Coal, clean and hard	1' 4 1/2"	24' 0 1/2"
Brownish grey clay shale	7 1/2"	24' 8"
Coal, clean and hard, a fine bench		
The lower 3" soft and weathered	2' 1 1/2"	26' 9 1/2"

Specimen No.1245 represents the above

4' 10" coal
1' 4" shale

Section continued.

Grey lean shale	8 1/2"	27' 6"
Coal, clean and hard	1' 4"	28' 10"

Specimen No.1246 represents the above.

Section continued.

Grey shale	9"	29' 7"
Massive, fine laminated brownish grey sandstone full of plant stems, some of them forming 1/4" coal	3' 1"	32' 8"
Grey very hard clay shale with concretionary bands and nodules	8' 0"	40' 8"
Coal, a splendid solid bench with a parting 1' 4" from top	3' 0"	43' 8"

Lying on grey shale bottom not exposed .

Specimen No.1247 represents above.

Attitude of these measures is N. 30-35°E S°S.E. They are very regular, for the 40 yards of cliff exposed.

00694

SAMPLES OF COAL FROM HAMILTON LAKE 3 MILES WEST OF CUMBERLAND, VANCOUVER ISLAND

SUBMITTED BY THE GEOLOGICAL SURVEY PER J. D. MACKENZIE.

Sample mark	1246		1247	
Laboratory sample number	1902		1905	
Moisture condition of sample (see note)	R	D	R	D
Proximate analysis:				
Moisture	2.0		1.7	
Ash	7.2	7.3	8.2	8.4
Volatile Matter	31.0	31.6	31.2	31.7
Fixed carbon (by difference)	59.8	61.1	58.9	59.9
Ultimate analysis:				
Carbon	77.6	79.5	77.3	78.6
Hydrogen	5.1	4.9	5.0	4.9
Ash	7.2	7.3	8.2	8.4
Sulphur	0.8	0.8	0.9	0.9
Nitrogen	1.2	1.2	1.3	1.3
Oxygen (by difference)	8.1	6.5	7.3	5.9
Calorific Value:				
Determined in calories per gram				
Gross	7590	7750	7600	7740
" " B.T.U. lb. "	13660	13940	13690	13930
Fuel ratio, fixed carbon / volatile matter	1.95	1.95	1.90	1.90
Carbon-hydrogen ratio	15.3	16.0	15.5	16.1
Coking properties	Good coke		Good Coke	
	middle seam		lower seam	
	lower bench			

Figures in column "R" refer to fuel as received, in column "D" to fuel dried at 105° C.

00694

SAMPLE OF COAL FROM HAMILTON LAKE 3 MILES WEST OF CUMBERLAND, VANCOUVER ISLAND

SUBMITTED BY THE GEOLOGICAL SURVEY PER J.D. MACKENZIE.

Sample Mark	1244		1245	
Laboratory sample number	1900		1901	
Moisture condition of sample (see note)	R	D	R	D
Proximate analysis:				
Moisture	1.5		1.4	
Ash	17.5	17.7	15.2	15.5
Volatile matter	31.8	32.23	31.2	31.6
Fixed Carbon (by difference)	49.2	50.00	52.2	52.9
Ultimate analysis:				
Carbon	68.5	69.6	70.2	71.2
Hydrogen	4.8	4.7	4.8	4.7
Ash	17.5	17.7	15.2	15.5
Sulphur	2.6	2.7	2.2	2.2
Nitrogen	1.0	1.0	1.1	1.1
Oxygen (by difference)	5.6	4.3	6.5	5.3
Calorific value:				
Determined in calories per gram gross	6770	6870	6940	7040
" " B.T.U. " lb. "	12180	12370	12490	12670
Calculated from ultimate analysis calories				
" " " " gross.				
" " " " net.				
Fuel ratio, Fixed carbon / volatile matter	1.55	1.55	1.70	1.70
Carbon-hydrogen ratio	14.2	14.7	15.4	15.0
Coking properties, small lump coke, upper seam			good coke	middle seam

Figures in column "R" refer to fuel as received, in column "D" to fuel dried at 105° C.

00694

COAL RESOURCE STUDY
OF VANCOUVER ISLAND BY
H. CURCIO

COAL QUALITY

(1975)

(2 of 3)

694 (6)

00694 (6)

QUALITY OF COAL

108.

The coal in the Comox-Nanaimo series deposits on Vancouver Island is a High Volatile A, Bituminous classification.

Two main seams in the lower cyclothem of the Comox were analysed for their chemistry, and these are indicated as Seam A, being the lowest, and Seam B, the next coal measure above.

In the T'Sable River and Cumberland Areas, the two seams exist very consistently. These areas, have fairly uniform ash and sulphur contents in both seams. (Table I-IV)

Further north, into the Anderson Lake Area, post deposition disturbances, primarily in the form of Tertiary Intrusives, along with a higher Vancouver Lava, has resulted in very definite increases in both ash and sulphur content. (Table III-IV)

The Anderson Lake Area appears to have been influenced in the northern portions by Constitution Hill, and in the southern portions by both Constitution Hill and a Tertiary Intrusive north of Browns River.

During their period of occurrence they had a definite influence on the coal measures not only in quality but in depositional changes. In the later case, the coal measures were disturbed by faults. In two limited fault blocks, the coal seams are near surface and tilted. In the other blocks which were downfaulted, the Vancouver Lava displaced the coal, during the Tertiary Intrusive period.

These depositional disturbances have had a major influence on the coal chemistry.

From Constitution Hill north and west into the Campbell River and Quinsam areas, the quality of coal is much different. This shows up distinctly in both the ash and sulphur contents. (Table II.) Here they are much lower in percentum then those coal seams south of the Browns River.

00694

In addition only one coal seam is evident, comprising of 11 to 15 feet of coal with no separation.

As mentioned in the stratigraphy of the Anderson Lake Area, the sandstone changes in composition to coarse, quartzitic grains, and contains grains of Vancouver Lava, in all areas north of Constitution Hill.

Thus, the thickness of coal, (in one seam) the sandstone characteristics (Comox?) and the quality of coal would tend to support the theory that these areas are not part of the same depositions that occurred in the Cumberland and T'Sable River Areas.

A logical explanation for this phenomenon is that the area north of Constitution Hill was probably higher structure, and was not subject to deposition during the lagoon deposits in the Cumberland and T'Sable River Areas.

Thus, in summary, the physico-chemical properties of the coal, and the tectonical-volcanic action have been responsible for raising the rank, and bringing the coal seams in some areas to strippable limits.

The ash content variation in the areas has been caused by two processes--syngenetic and epigenetic with the coal formation.

Syngenetic: Here the fine ~~no~~ⁿ carbonaceous material was incorporated into the peat body before the consolidation into coal seams. This is reflected by the uniform distribution of ash throughout the various size ranges in the screen analyses.

Epigenetic: The tectonical and volcanic activities subsequent to coal formation have affected the rank of coal--by essentially raising its fixed carbon and reducing the volatile matter.

In order that such wide apparent variations in the ash content and consequently the fixed carbon can be equated to a common denominator for the purpose of rank classification and comparison between the seams or the same seam traced through different areas the Approximation Formula (ASTM D-388) was adopted. Here the fixed carbon is calculated on a dry mineral-matter-free basis (dry Mm-free basis) according to the following formula:

$$\text{Dry Mm-free FC} = \frac{\text{FC}}{[100 - (M + 1.1A + 0.1S)]} \times 100$$

Where: Mm = mineral matter
 FC = % of fixed carbon
 M = % of moisture
 A = % of ash, and
 S = % of sulphur

Seam 'A' the oldest and the most consistent seam in spatial distribution has been recorded in all the three areas. The dry Mm-free F.C. in the T'Sable River - Cumberland Area and the Anderson Lake Area are 60.13 and 60.90 respectively while that of Quinsam and Campbell River area is 54.82. A much greater depth of burial (300' to 636.0') and epigenetic effects in the former regions could be the main factors for the higher dry Mm-free F.C. However, the Quinsam-Campbell River area appears to be reflecting the more natural state of the coal seam.

Similarly, the Mm-free Calorific Value determination in the T'Sable River area appears to be unusually high both for Seam 'A' and the overlying seam 'B'. As such for the purposes of comparison, it was determined to restrict the comparables to mineral-matter-free fixed carbon only.

All the analytical data has been statistically verified by determining the standard deviation (σ) and the standard error, $S_{\bar{x}}$, in the determination of the arithmetic mean X_m .

111.

For example in the dry Mm-free Calorific Value determination of Seam 'B' (Table IV), the standard error is 2,762 and the standard deviation is 4.784. Hence, the validity of such a data is questionable.

Standard deviation (σ) is used as a statistical method for describing the variation in the values of observation from the arithmetic mean, and is calculated as follows:

$$\text{Standard deviation } (\sigma) = \sqrt{\frac{[(X_1 - X_m)^2 + (X_2 - X_m)^2 + \dots + (X_n - X_m)^2]}{n}}$$

Where X_1, X_2, X_3 are observations

X_m = Arithmetic mean of the observations

n = number of observations

Standard error, $S_{\bar{x}}$, determination gives in absolute terms the range within which the arithmetic mean, X_m , may vary

$$\text{Standard error } S_{\bar{x}} = \pm \frac{\sigma}{\sqrt{n}}$$

Where σ = Standard deviation

n = Number of observations

The analytical data, statistically compiled was not carried forward into the washability tests. All washabilities were conducted on the basis of after screening, the air dried samples, and can only be considered as an indication.

It is obvious that with variation differences over the northern and southern zones, numerous tests would be required to obtain meaningful results.

The best method to obtain reliable data on the coal washability would require bulk testing. It would be relatively simple to obtain bulk samples from the seams in Quinsam and Hamilton Lake as the Quinsam Area, and Cumberland Area have large exposed outcrops. This could be accomplished by blasting and tunnelling into the sections, to obtain bulk sample.

In the T'Sable River Area, the mine entry could be opened for very little cost, dewatered, and bulk sampled.

By doing this, a very definite coal recovery could be established across the total area.

In addition examination of the areas would prove to be beneficial for future mining, by examination of the coal seams in place, as well as hanging and footwall characteristics.

Composite float samples at 1.60 specific gravity were analysed for Ash Fusion on the T'Sable River Area.

The results of these were as follows:

ASH FUSION TEMPERATURES (°F)

	<u>Initial</u> <u>Deformation</u>	<u>Softening</u>	<u>Hemespherical</u>	<u>Fluid</u>
Oxidizing	2600	2600+		
Reducing	2480	2510	2540	2600

This coal would appear to be within acceptable limits, for some metalurgical processes.

113.

Sodium and potassium analysis of coals were in the range of 0.18% to 0.31% for Sodium, and 0.33% to 0.70% for potassium, across the total area. These were based on composite samples from each hole tested.

Analysis of all the ash composites produced the following averages of minerals present.

Na2O	1.05%	Al2O3	26.71%
K2O	1.38%	SiO2	43.40%
MgO	0.62%	SO3	6.48%
CaO	8.68%	P2O5	0.58%
Fe2O3	6.93%	TiO2	0.49%

The Alumina Oxide of 26.71% would be of economic importance, if a sufficient size coal operation were to proceed, allowing for the recovery of suitable quantities of Alumina Oxide to be economically interesting to Aluminum Producers.

T'SABLE RIVER & CUMBERLAND AREA:

SEAM 'A'

HOLE AND LAB NO.	DEPTH FT.	RESIDUAL MOISTURE %	ASH %	VOL. MATTER %	FIXED CARBON %	SULPHUR %	CAL. VAL BTU/lb.	DMMF FIXED CARBON %	DMMF CAL. VAL BTU/lb.
T'SABLE RIVER #1 3077	287.0-292.0	0.5	36.6	30.9	32.0	1.8	12,140	54.18	20,555
T'SABLE RIVER #2 3070-74	655.0-665.0	0.7	29.8	26.8	42.7	1.80	9,310	64.37	14,034
T'SABLE RIVER #3	577.0-585.0	1.5	34.6	26.1	37.8	1.13	9,106	62.66	15,094
TRENT RIVER #1 (3213)	636.0-644	0.6	47.7	22.2	29.5	1.45	9,280	63.05	19,835
TRENT RIVER #2 (3082-3083)	335.0-343.0	0.6	39.9	28.3	31.2	1.70	10,870	56.38	19,642
							Mean:	60.13	17,832
							Std. Deviation σ :	4.06	2,706
							Std. Error	1.815	1,210

QUINSAM AREA

SEAM 'A'

HOLE AND LAB NO.	DEPTH FT.	RESIDUAL MOISTURE %	ASH %	VOL. MATTER %	FIXED CARBON %	SULPHUR %	CAL.VAL BTU.lb.	DMMF FIXED CARBON %	DMMF CAL.VAL BTU/lb.
<u>ECHO LAKE #2</u> 7507-1409 <i>EL-2</i>	114.5-123.0	4.92	25.80	32.78	36.50	0.19	10,146	54.74	15,216
<u>ECHO LAKE #4</u> 7507-2311 <i>EL-4</i>	254.5-268.3	6.0	14.99	35.06	43.95	0.27	11,791	56.72	15,217
<u>ECHO LAKE #5</u> 7507-2311 <i>EL-5</i>	161.0-173.0	5.66	21.04	35.81	37.49	0.24	10,948	52.68	15,382
	*[161.0-170.5	5.67	13.56	38.43	42.34	0.20	12,180	53.33	15,341]
<u>ECHO LAKE #7</u> 7508-0612 <i>EL-7</i>	129.0-138.0	0.55	17.03	38.22	44.20	5.93	11,642	55.16	14,530
<u>ECHO LAKE #8</u> 7508-0612 <i>EL-8</i>	180.0-191.0	0.53	29.54	33.55	36.38	5.97	9,876	54.81	14,878
	**[180.0-186.0	0.55	20.50	36.37	42.58	4.37	11,142	55.69	14,572]

Mean	54.82	15,045
Std.Devn σ	1.29	305
Std.Error	0.58	136

* Bottom 2.5' eliminated from the seam--not considered in the mean determination

** Bottom 5.0' eliminated from the seam--not considered in the mean determination

ANDERSON LAKE AREA:

SEAM 'A'

HOLE AND LAB NO.	DEPTH FT.	RESIDUAL MOISTURE %	ASH %	VOL. MATTER %	FIXED CARBON %	SULPHUR %	CAL. VAL BTU/lb.	DMMF FIXED CARBON %	DMMF CAL. VAL BTU/lb.
<i>TSD-2</i> TSOLUM RIVER #2 7507-0708	535.0-541.0	2.0	69.96	17.58	10.46	4.21	4,075	50.72	19,760
BROWN RIVER #2 7507-0708 <i>BR-2</i>	229.5-234.5	1.8	59.18	15.92	23.10	6.03	5,548	71.08	17,071
							Mean:	60.90	18,415
							Std. Devn. σ	10.18	1,344
							Std. Error	7.2	951

T'SABLE RIVER & CUMBERLAND AREA:SEAM 'B'

HOLE AND LAB NO.	DEPTH FT.	RESIDUAL MOISTURE %	ASH %	VOL. MATTER %	FIXED CARBON %	SULPHUR %	CAL. VAL BTU/lb.	DMMF FIXED CARBON %	DMMF CAL. VAL BTU/lb.
T'SABLE RIVER #1 <i>TSR-1</i> 3076	181.0-186.0	0.9	47.3	26.4	25.4	2.10	11,775	54.20	25,128
T'SABLE RIVER #2	536.9-540.3	0.98	38.3	24.6	37.1	1.80	8,290	65.42	14,618
***[Seam 'C' <i>TSR-2</i>	405.5-409.5	0.80	28.2	27.6	43.4	1.75	10,110	63.82	14,867]
T'SABLE RIVER #3 <i>TSR-3</i>	474.0-484.0	1.50	37.9	25.5	35.1	1.19	8,723	61.91	15,387

Mean: 60.51 18,378

Std.Devn. σ 4.69 4,784

Std.Error 2.71 2,762

ANDERSON LAKE AREA:SEAM 'B'

ANDERSON LAKE #2 <i>AL-2</i>	11.0-15.5	1.90	40.74	14.99	42.37	4.28	8,669	80.16	16,400
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***Seam 'C' is a local development only.

QUINSAM AREA

WELWOOD OF CANADA

Vancouver Island Resource Study

LAB NO. 7508-0612

- INITIAL SAMPLES BEFORE SCREENING

On Dry Basis

	<u>Residual Moisture</u> %	<u>Ash</u> %	<u>Vol. Matter</u> %	<u>Fixed Carbon</u> %	<u>Sulfur</u> %	<u>Calorific Value</u> BTU/lb	<u>F.S.I.</u>
Echo Lake # 3 <i>EL-3</i> 320 - 325'	1.0	33.89	32.52	33.59	1.33	9,279	1/2
Echo Lake # 7 <i>EL-7</i> 129 - 133'	0.5	17.91	36.90	45.19	4.88	11,512	1
Echo Lake # 7 <i>EL-7</i> 133 - 138'	0.6	16.34	39.28	44.38	6.77	11,746	1
Echo Lake # 8 <i>EL-8</i> 180 - 183'	0.6	17.95	36.94	45.11	3.72	11,518	1
Echo Lake # 8 <i>EL-8</i> 183 - 186'	0.5	23.04	35.80	41.16	5.01	10,766	1
Echo Lake # 8 <i>EL-8</i> 186 - 191'	0.5	40.40	30.17	29.43	7.88	8,357	1/2

QUINSAM AREA

WELWOOD OF CANADA

Vancouver Island Resource Study

LAB NO. 7508-0612

- WASHABILITY TEST

	<u>Float Sink in 1.45 Sp. Gr.</u>		<u>Analysis of Float Portion on Dry Basis</u>					
	<u>Float</u> %	<u>Sink</u> %	<u>Ash</u> %	<u>Vol. Matter</u> %	<u>Fixed Carbon</u> %	<u>Sulfur</u> %	<u>Calorific Value</u> BTU/lb	<u>F.S.I.</u>
Echo Lake # 3 320 - 325'	EL-3 59.0	40.5	7.01	41.77	51.22	1.51	13,055	1
Echo Lake # 7 129 - 133'	EL-7 66.8	32.6	7.42	40.61	51.97	2.90	12,995	1-1/2
Echo Lake # 7 133 - 138'	EL-7 69.8	29.3	5.35	41.43	53.22	2.88	13,319	1
Echo Lake # 8 180 - 183'	EL-8 73.0	26.5	9.75	39.02	51.23	2.59	12,656	1
Echo Lake # 8 183 - 186'	EL-8 58.3	40.8	5.38	40.46	54.16	2.84	13,312	1
Echo Lake # 8 186 - 191'	EL-8 34.2	65.4	4.82	41.74	53.44	1.89	13,379	1

QUINSAM AREA

WELWOOD OF CANADA

Vancouver Island Resource Study

LAB NO. 7508-0612

- WASHABILITY TEST

	<u>Float Sink in 1.60 Sp. Gr.</u>		<u>Analysis of Float Portion on Dry Basis</u>					
	<u>Float</u>	<u>Sink</u>	<u>Ash</u>	<u>Vol. Matter</u>	<u>Fixed Carbon</u>	<u>Sulfur</u>	<u>Calorific Value</u>	<u>F.S.I.</u>
	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>%</u>	<u>BTU/lb</u>	
Echo Lake # 3 320 - 325' <i>EL-3</i>	60.9	38.6	8.88	40.76	50.36	1.53	12,845	1
Echo Lake # 7 129 - 133' <i>EL-7</i>	77.7	21.9	9.36	40.07	50.57	2.91	12,776	1-1/2
Echo Lake # 7 133 - 138' <i>EL-7</i>	81.6	18.1	5.74	41.67	52.59	3.18	13,286	1
Echo Lake # 8 180 - 183' <i>EL-8</i>	83.7	15.4	11.04	38.57	50.39	2.74	12,527	1
Echo Lake # 8 183 - 186' <i>EL-8</i>	63.8	35.9	6.71	39.63	53.66	3.43	13,148	1
Echo Lake # 8 186 - 191' <i>EL-8</i>	34.4	64.7	7.57	40.74	51.69	2.31	13,014	1

WELLDWOOD OF CANADA

QUINSAM AREA

Vancouver Island Resource Study

LAB. NO. 7507-2311/1

DRILL CORE SAMPLES	RESULTS ON DRY BASIS				REMARKS
	MOISTURE %	ASH %	VOLATILE MATTER %	FIXED CARBON %	
Echo Lake # 3 <i>EL-3</i> 368 - 371'	5.6	19.08	32.48	48.44	47% reject.
Echo Lake # 3 <i>EL-3</i> 371 - 375'	5.4	25.26	31.75	42.99	69.8% reject.
Echo Lake # 3 <i>EL-3</i> 375 - 377.5'	4.8	56.28	22.37	21.35	Low grade throughout, no reject.
Echo Lake # 4 <i>EL-4</i> 254.5 - 259'	5.2	7.99	37.18	54.83	No reject.
Echo Lake # 4 <i>EL-4</i> 259 - 263.2'	4.9	11.53	36.16	52.31	No reject.
Echo Lake # 4 <i>EL-4</i> 263.2 - 264.5'	5.3	10.83	36.55	52.62	No reject.
Echo Lake # 4 <i>EL-4</i> 264.5 - 268.3'	8.4	28.53	30.85	40.62	Box damaged in transit, core somewhat mixed. 61.5% reject.
Echo Lake # 5 <i>EL-5</i> 161 - 166'	5.3	11.36	39.90	48.74	No reject.
Echo Lake # 5 <i>EL-5</i> 166 - 170.5'	6.1	16.01	36.81	47.18	No reject.
Echo Lake # 5 <i>EL-5</i> 170.5 - 173'	5.6	49.46	25.83	24.71	Low grade throughout, no reject.

QUINSAM AREA

WELWOOD OF CANADA

Vancouver Island Resource Study

LAB NO. 7507-2311

- WASHABILITY TEST

	<u>Float Sink in 1.45 Sp. Gr.</u>		<u>Analysis of Float Portion on Dry Basis</u>					
	<u>Float %</u>	<u>Sink %</u>	<u>Ash %</u>	<u>Vol. Matter %</u>	<u>Fixed Carbon %</u>	<u>Sulfur %</u>	<u>Calorific Value BTU/lb</u>	<u>F.S.I.</u>
Echo Lake # 3 <i>EL-3</i> 368 - 371'	76.2	23.5	4.59	40.70	54.71	0.29	13,479	1/2
Echo Lake # 3 <i>EL-3</i> 371 - 375'	49.0	51.0	10.22	36.74	53.04	0.27	12,201	1/2
Echo Lake # 3 <i>EL-3</i> 375 - 377.5'	18.0	82.0	10.97	34.99	54.04	0.24	12,111	1/2
Echo Lake # 4 <i>EL-4</i> 254.5 - 259'	91.0	9.0	4.79	38.19	56.03	0.30	13,449	1
Echo Lake # 4 <i>EL-4</i> 259 - 263.2'	87.0	13.0	6.20	39.14	54.66	0.33	13,238	1
Echo Lake # 4 <i>EL-4</i> 263.2 - 264.5'	84.8	15.0	8.94	37.58	53.48	0.32	12,373	1/2
Echo Lake # 4 <i>EL-4</i> 264.5 - 268.3'	53.0	47.0	5.35	39.44	55.12	0.30	13,335	1/2
Echo Lake # 5 <i>EL-5</i> 161 - 166'	80.7	19.0	6.04	42.10	51.86	0.28	13,241	1
Echo Lake # 5 <i>EL-5</i> 166' - 170.5'	76.7	23.0	5.91	40.80	53.29	0.28	13,271	1
Echo Lake # 5 <i>EL-5</i> 170.5 - 173'	44.0	56.0	5.71	40.18	54.11	0.25	13,285	1

QUINSAM AREA

WELDWOOD OF CANADA

Vancouver Island Resource Study

LAB NO. 7507-2311

- WASHABILITY TEST

	<u>Float Sink in 1.60 Sp. Gr.</u>		<u>Analysis of Float Portion on Dry Basis</u>					
	<u>Float %</u>	<u>Sink %</u>	<u>Ash %</u>	<u>Vol. Matter %</u>	<u>Fixed Carbon %</u>	<u>Sulfur %</u>	<u>Calorific Value BTU/lb</u>	<u>F.S.I.</u>
Echo Lake # 3 368 - 371' <i>EL-3</i>	79.8	20.0	6.24	37.07	56.69	0.23	13,151	1/2
Echo Lake # 3 371 - 375' <i>EL-3</i>	84.0	16.0	14.99	38.56	46.45	0.21	11,545	1/2
Echo Lake # 3 375 - 377.5' <i>EL-3</i>	30.5	69.5	15.18	33.93	50.89	0.19	11,532	1/2
Echo Lake # 4 254.5 - 259' <i>EL-4</i>	93.6	6.2	5.47	38.86	55.67	0.28	13,257	1
Echo Lake # 4 259 - 263.2' <i>EL-4</i>	90.4	9.4	6.47	38.41	55.12	0.30	13,105	1
Echo Lake # 4 263.2 - 264.5' <i>EL-4</i>	94.5	5.3	9.36	38.30	52.34	0.30	12,499	1/2
Echo Lake # 4 264.5 - 268.3' <i>EL-4</i>	58.0	42.0	6.48	38.22	55.30	0.29	13,079	1/2
Echo Lake # 5 161 - 166' <i>EL-5</i>	88.2	11.5	6.45	41.44	52.11	0.28	13,083	1
Echo Lake # 5 166' - 170.5' <i>EL-5</i>	82.1	18.0	6.47	39.96	53.57	0.26	13,085	1
Echo Lake # 5 170.5 - 173' <i>EL-5</i>	54.2	45.6	7.88	38.55	53.57	0.23	12,709	1

ANDERSON LAKE AREA

WELWOOD OF CANADA

Vancouver Island Resource Study

LAB NO. 7507-0708

R E S U L T S O N D R Y B A S I S

DRILL CORE SAMPLES	MOISTURE %	ASH %	VOLATILE MATTER %	FIXED CARBON %	SULPHUR %	F.S.I.	CALORIFIC VALUE (BTU's/lb)
Anderson Lake #2 11 - 15.5' <i>AL-2</i>	1.9	40.74	14.99	44.27	4.28	1/2	8669
Tolsum River #2 535 - 541' <i>T30-2</i>	2.0	69.96	17.58	12.46	4.21	0	4075
Brown River #2 229.5 - 234.5' <i>BR-2</i>	1.8	59.18	15.92	24.90	6.03	1	5548
Brown River #2 78 - 81' <i>BR-2</i>	1.9	67.34	14.05	18.61	3.18	1	4431

FLOAT (Minus 3 Mesh, Plus 65 Mesh)

	<u>Specific Gravity 1.45</u>	<u>ASH</u>	<u>Specific Gravity 1.60</u>	<u>ASH</u>
Anderson Lake #2 11 - 15.5' <i>AL-2</i>	39.3%	8.14%	48.3%	10.93%
Tolsum River #2 535 - 541' <i>T30-2</i>	11.5%	10.40%	14.9%	15.11%
Brown River #2 229.5 - 234.5' <i>BR-2</i>	23.6%	7.45%	27.9%	9.20%
Brown River #2 78 - 81' <i>BR-2</i>	13.0%	9.66%	15.7%	11.79%

T'SABLE RIVER AREA

WELDWOOD OF CANADA

Vancouver Island Resources Study

T'Sable #3 Core Samples TR-3

LAB NO. 3237

DEPTH 196'-198'

SIZE AND RAW ANALYSES

<u>Size Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
1/4" X 65M	92.1	28.5	92.1	28.5						
65M X 0	7.9	43.8	100.0	29.7	1.6	25.6	29.0	3.12	7,750	2 1/2
	<u>R.M.</u>	<u>Ash %</u>	<u>Vol.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>			
Raw	1.6	30.0	31.7	36.7	3.87	10,025	4			

SINK-FLOAT ANALYSES 1/4" X 65M

<u>S.G. Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
-1.45	52.8	12.4	52.8	12.4	0.9	34.7	52.0	3.58	12,980	7 1/2
1.45-1.60	14.6	29.8	67.4	16.2	1.1	29.6	39.5	4.56	10,340	3
+1.60	32.6	54.1	100.0	28.5	1.1			4.02		

Above results are all on an air dried basis.

T'SABLE RIVER AREA

WELDWOOD OF CANADA

Vancouver Island Resources Study

T'Sable #3 Core Samples **TR-3**

LAB NO. 3241

DEPTH 354'-355'

SIZE AND RAW ANALYSES

<u>Size Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
1/4" X 65M	95.0	20.6	95.0	20.6						
65M X 0	5.0	22.7	100.0	20.7	1.4	30.9	45.0	1.80	10,930	5
	<u>R.M.</u>	<u>Ash %</u>	<u>Vol.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>			
Raw	1.5	19.4	28.7	50.4	1.13	11,775	5			

SINK-FLOAT ANALYSES 1/4" X 65M

<u>S.G. Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
-1.45	70.5	8.9	70.5	8.9	0.9	31.8	58.4	1.20	13,280	6 1/2
1.45-1.60	9.4	29.2	79.9	11.3	1.1	25.4	44.3	1.10	10,475	3 1/2
+1.60	20.1	57.5	100.0	20.6	1.3			1.03		

Above results are all on an air dried basis.

T'SABLE RIVER AREA

WELDWOOD OF CANADA

Vancouver Island Resources Study

T'Sable #3 Core Samples - "B" Seam *TR-3*

LAB NO. 3242

DEPTH 474'-479'

SIZE AND RAW ANALYSES

<u>Size Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
1/4" X 65M	90.1	40.3	90.1	40.3						
65M X 0	9.9	40.9	100.0	40.4	1.4	25.6	32.1	0.81	8,190	3 1/2

	<u>R.M.</u>	<u>Ash %</u>	<u>Vol.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
Raw	1.5	42.3	24.2	32.0	0.59	8,145	3 1/2

SINK-FLOAT ANALYSES 1/4" X 65M

<u>S.G. Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
-1.45	40.1	11.2	40.1	11.2	0.9	33.1	54.8	0.77	13,485	8
1.45-1.60	12.3	33.6	52.4	16.5	0.9	27.7	37.8	0.53	9,680	3
+1.60	47.6	66.5	100.0	40.3	1.2			0.44		

Above results are all on an air dried basis.

T'SABLE RIVER AREA

WELDWOOD OF CANADA

Vancouver Island Resources Study

T'Sable #3 Core Samples - "B" Seam

TR-3

LAB NO. 3243

DEPTH 479'-484'

SIZE AND RAW ANALYSES

<u>Size Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
1/4" X 65M	92.1	32.6	92.1	32.6						
65M X 0	7.9	42.5	100.0	33.4	1.5	25.4	30.6	1.74	7,615	3
	<u>R.M.</u>	<u>Ash %</u>	<u>Vol.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>			
Raw	1.4	33.5	26.7	38.4	1.80	9,300	4			

SINK-FLOAT ANALYSES 1/4" X 65M

<u>S.G. Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
-1.45	46.9	12.8	46.9	12.8	0.6	32.4	54.2	1.13	13,155	8
1.45-1.60	18.4	28.2	65.3	17.1	0.7	27.9	43.2	1.49	10,480	3 1/2
+1.60	34.7	61.8	100.0	32.6	0.7			2.90		

Above results are all on an air dried basis.

T'SABLE RIVER AREA

WELWOOD OF CANADA

Vancouver Island Resources Study

T'Sable #3 Core Samples - "A" Seam

TK-3.

LAB. NO. 3244

DEPTH 577'-580'

SIZE AND RAW ANALYSES

<u>Size Analyses</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
1/4" X 65M	92.1	28.4	92.1	28.4						
65M X 0	7.9	44.2	100.0	29.6	1.3	24.2	30.3	1.13	7,300	4
	<u>R.M.</u>	<u>Ash %</u>	<u>Vol.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>			
Raw	1.6	27.2	28.0	43.2	0.73	10,415	7			

SINK-FLOAT ANALYSES 1/4" X 65M

<u>S.G. Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
-1.45	56.7	10.5	56.7	10.5	0.9	32.0	56.6	0.68	13,435	8
1.45-1.60	18.8	28.8	75.5	15.1	0.9	28.1	42.2	0.62	10,245	4
+1.60	24.5	69.5	100.0	28.4	1.4			1.19		

Above results are all on an air dried basis.

T'SABLE RIVER AREA

WELDWOOD OF CANADA

Vancouver Island Resource Study

T'Sable #3 Core Samples - "A" Seam *TR-3*

LAB NO. 3245

DEPTH 580'-585'

SIZE AND RAW ANALYSES

<u>Size Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
1/4" X 65M	93.1	39.6	93.1	39.6						
65M X 0	6.9	36.8	100.0	39.4	1.2	27.6	34.4	1.80	8,310	4
	<u>R.M.</u>	<u>Ash %</u>	<u>Vol.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>			
Raw	1.4	39.1	25.0	34.5	1.37	8,320	4 1/2			

SINK-FLOAT ANALYSES 1/4" X 65M

<u>S.G. Fraction</u>	<u>Wt %</u>	<u>Ash %</u>	<u>Cum Wt %</u>	<u>Cum Ash %</u>	<u>R.M.</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
-1.45	31.8	13.4	31.8	13.4	0.9	31.1	54.6	0.75	12,990	8
1.45-1.60	19.0	29.2	50.8	19.3	0.8	27.3	42.7	0.83	10,195	4
+1.60	49.2	60.6	100.0	39.6	0.9			1.31		

Above results are all on an air dried basis.

ADDENDUM NUMBER ONE

WASTE SLACK PILES
COMOX DISTRICT
VANCOUVER ISLAND

WELDWOOD OF CANADA LIMITED
VANCOUVER, BRITISH COLUMBIA

00694 (7)

WASTE SLACK PILE

SUMMARY

Waste Slack Pile evaluation by test drilling and laboratory analysis has proven that there is commercially recoverable coal available, by processing the waste.

The evaluation of gross tonnage established by test drilling has proven that two separate types of piles were established through the earlier mining operation.

One type consisted of the fines from the washery tippie processing, and the other type consisted of rock from entry work and bone and rock from hand picking operations before tippie processing.

The laboratory analysis results bear out the matrix of the various piles. In the rock piles the ash content averaged 90%, while in the tippie fines, the ash content averaged 65%.

In working out a recovery of coal an ash level of 60%, and a specific gravity of 1.75 was used.

Based on those factors it was determined that the salvage would be 31% of the waste, containing 22% ash, and having an average calorific value of 11,300 B.T.U./lb.

SLACK PILE DATA

LOCATION	AREA (FT ³)	BULK RAW SPECIFIC GRAVITY	NET TONS (SHORT) 60% ASH	SALEABLE AT 1.75 S.G.-22% ASH (31% - RECOVERY) @ 13,000 B.T.U.
UNION BAY	24,746,725	2.0 = 125 #	1,546,670	479,468
BEVAN	11,414,709	2.0 = 125 #	713,419	221,160
CHINATOWN	4,082,480	2.0 = 125 #	255,155	79,098
PIDGEON LAKE:				
	S.W. All Rock			
	S.E. 8,868,155	2.0 = 125 #	554,260	171,820
	N.W. 53,536,832	2.0 = 125 #	3,346,052	1,037,276
	N.E. 1,514,835	2.0 = 125 #	94,677	29,349
COMOX LAKE	37,500,000	2.0 = 125 #	2,343,750	726,562
T O T A L			<u>8,853,983</u>	<u>2,744,733</u>

PROCEDURES AND METHODS FOR INVESTIGATION

A drilling program, using a Double Wall, reverse circulation drilling rig was employed.

The piles were grid patterned on a 100 to 200 foot spacing, and drilled through the waste matrix to ground elevation. All the material recovered was bagged, in two foot intervals, each hole, and shipped in plastic containers to a commercial laboratory for analysis and washability tests.

In addition to the drill holes, a cross section of test pits was conducted on each pile, using a backhoe, to obtain bulk samples of in place material. This was also submitted to the commercial laboratory for grindability, and subsequently run through a test pilot wash plant to establish the coal recovery, and chemical analysis of the final product.

Upon completion of the tests, it was determined that about 31% of the total product was recoverable at an ash content of 22%.

Mapped sections in the various piles (Maps 16,17,18 & 19) indicate a recovery of about 2.7 million tons of coal, along with a configuration of the piles, in place.

SYNOPSIS OF TESTS PERFORMED ON
UNION BAY, PIDGEON LAKE, BEVAN, COMOX AND CHINA AREAS
FOR WELWOOD OF CANADA LIMITED
BY BIRTLEY ENGINEERING - CALGARY, ALBERTA

The samples submitted were taken by reverse air drill and channel methods. The size consist of the reverse air samples dictated a modification of the initial work flow sheet which was intended for material more closely resembling the channel samples.

REVERSE AIR SAMPLE TREATMENT

The samples were sorted and composites made up for each hole drilled. Raw ash on a dry basis was determined for each hole. After assessing the ash contents it was decided to make 60% ash the cut-off point at which further work would be practical.

On the samples less than 60% ash screen analyses were performed and ash on a dry basis again determined to ascertain whether any meaningful variations in ash occurred in relation to size consist. Ash values remained fairly constant throughout the size range so float-sink separations were carried out on the raw reverse air samples.

From these recoveries it was decided that a cut point of approximately 1.75 S.G. a yield of 25 - 30% could be expected with content of 20 - 25% ash.

CHANNEL SAMPLE TREATMENT

Raw splits were taken of the channel samples for ash determination on a dry basis from Union Bay, Comox and China areas. Representative splits were not possible because of insufficient material but nevertheless an indication of ash was necessary to decide which samples merited the extra work. From the screen analyses data it was decided to crush the samples below 60% ash to minus 3/4" and float-sink this material. The data thus derived indicated a slightly higher yield at about 30% for a product of 20-25% ash.

PLANT WASH

For the plant wash the material left over from the reverse air and channel samples below 60% ash on which float sink was performed was thrown together without regard to proportion.

The heavy medium and water cyclone circuits were used and overall recovery of 31% at 22% ash was achieved which compared closely with the results washability program.

Surprisingly a Free Swelling Index of 3 1/2 was determined on the clean coal product unfortunately with a sulphur content of 1.8% although calorific values were excellent at 11,300 BTU's per lb.

WELWOOD OF CANADA

WATER-ONLY CYCLONE WASH (PRIMARY)

Date of Wash: June 6, 1975

Gauge Pressure - 20 psi

Vortex Finder Length - L - 4 3/4

Feed Pulp Density - + 10%

Feed - Ash 62.6 28M x 0 of Plant Feed = 46.4% weighted
- S. 1.56

Overflow - Ash 22.4 Ash % Yield - 26.3%

Underflow - Ash 73.1

<u>Filter Cake</u>	<u>R.M.</u>	<u>Ash</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>
28M x 0 350 lbs.		22.4	27.8	49.8	1.32	11,320

WELDWOOD OF CANADA

BULK WASHING DATA - Composite of Union Bay, China and Comox LAB NO. 3235

Date Sample Washed: June 6, 1975

Estimated Total Weight -- 2,500 lbs.
of Sample (air dried)

Air Dried Moisture -- 1%
of Sample

Ash % of Feed -- 59.7%

S% of Feed -- 2.13

Overall Yield -- 31% @ 22.2 Ash

Clean Mix (H.M. Clean Coal + W.O. Cyclone Clean Coal)

<u>Ash</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>
22.2	27.9	49.9	1.79	11.350

WELDWOOD OF CANADA

H.M. CYCLONE WASH

Date of Wash: June 6, 1975

S.G. of Separation: - 1.75

Ash Content of Feed (A.D.B.) - 57.2

Cleaned Coal (Wt. (A.D.)) - 460 lbs.

Cleaned Coal Ash Content - 22.1

Reject Wt. (A.D.) - 880

Reject Air Dried Moisture - 6%

Reject Ash Content - 77.5

Weighted Yield - 34.3%

Calc. Yield - 36.6%

<u>Clean Coal</u>	<u>R.M.</u>	<u>Ash</u>	<u>V.M.</u>	<u>F.C.</u>	<u>S.</u>	<u>B.T.U.</u>	<u>F.S.I.</u>
3/4 x 28M		22.1	28.0	49.9	2.10	11,370	3 1/2

% ASH vs. C.V. CURVE
WELDWOOD of CANADA
Project: UNION BAY

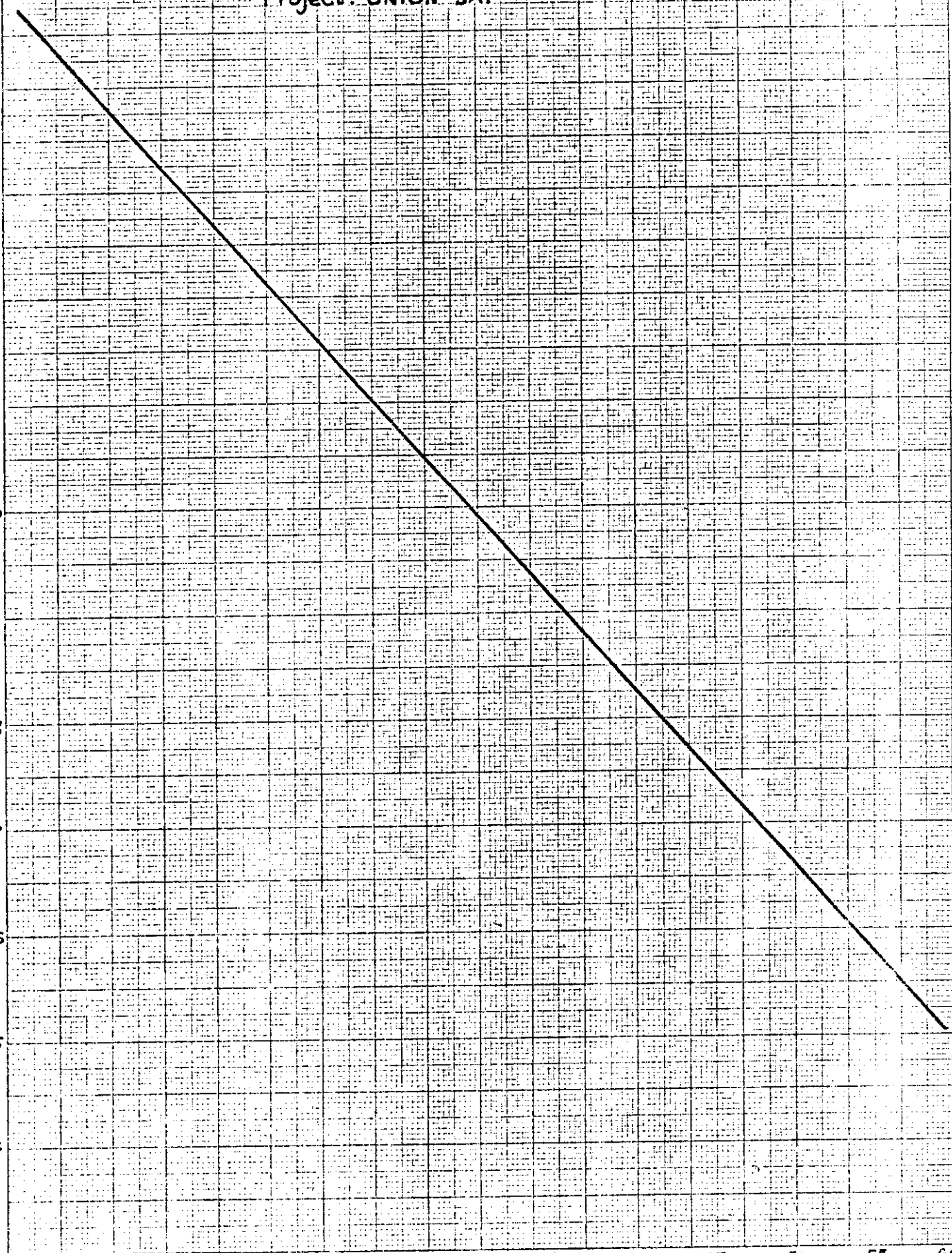
CALORIFIC VALUE, BTU/LB. ($\times 10^3$)

SCALE 10 X 10 TO THE CENTIMETER, 46 1512
KEUFFEL & ESSER CO.

14
13
12
11
10
9
8
7
6
5
4

0 5 10 15 20 25 30 35 40 45 50 55 60

% ASH (dry basis)



WELDWOOD OF CANADA

PROJECT: Union Bay Reverse Air Circulation Samples

Hole Composite Raw Samples

LAB NO.		MOIST	ASH %
2996		1.7	74.9
B-1	1' - 11'		76.2
2997		2.6	69.2
B-2	0' - 20'		71.0
2998		2.6	53.5
B-2, S-1	0' - 4'		54.9**
2999		2.1	66.9
B-3	5' - 31'		68.3
3000		2.7	61.8
B-3, S-1	0' - 10'		63.5
3001		3.6	65.9
B-3, N-1	3' - 31'		68.4
3002		2.7	63.7
B-4	5' 43'		65.5
3003		2.8	57.1
B-4, S-1	0' - 28'		58.7**
3004		2.5	48.5
B-4, S-2	2' - 6'		49.7**
3005		2.9	64.8
B-4, N-1	3' - 37'		66.7

** With Size Analyses

WELDWOOD OF CANADA

PROJECT: Union Bay Reverse Air Circulation Samples
Hole Composite Raw Samples

LAB NO.		MOIST	ASH %
3006		3.2	61.4
B-4, N-2	2' - 24'		63.4
3007		2.1	64.1
B-5	2' - 52'		
3008		2.2	60.4
B-5, S-1	0' - 34'		61.8
3009		2.2	57.3
B-5, S-2	2' - 23'		58.6**
3010		2.4	67.3
B-5, S-3	3' - 13'		69.0
3011		2.0	63.2
B-5, N-1	2' - 46'		64.5
3012		2.3	63.5
B-5, N-2	2' -		65.0
3013		2.3	58.0
B-5, N-3	0' - 22'		59.4**
3014		1.8	64.1
B-6	0' - 48'		65.3
3015		1.7	63.7
B-6, S-1	0' - 38'		64.8

WELWOOD OF CANADA

PROJECT: Union Bay Reverse Air Circulation Samples
Hole Composite Raw Samples

LAB NO.		MOIST	ASH %
3016		2.0	55.8
B-6, S-2	3' - 23'		56.9**
3017		2.5	57.3
B-6, S-3	3' - 17'		58.8**
3018		2.4	64.6
B-6, N-1	1' - 39'		66.2
3019		1.9	64.2
B-6, N-2	0' - 32'		65.4
3020		2.6	57.3
B-6, N-3	2' - 10'		58.8**
3021		2.1	61.8
B-7	2' - 30'		63.1
3022		2.2	58.8
B-7, S-1	0' - 26'		60.1
3023		2.0	49.0
B-7, S-2	0' - 23'		50.0**
3024		1.9	63.3
B-7, N-1	3' - 31'		64.5
3025		2.2	65.0
B-7, N-2	0' - 22'		66.5

** With Size Analyses

WELWOOD OF CANADA

PROJECT: Union Bay Reverse Air Circulation Samples
Hole Composite Raw Samples

LAB NO.		MOIST	ASH %
3026		2.9	58.5
B-7, N-3	4' - 14'		60.2
3027		1.4	67.0
B-8	2' - 18'		68.0
3028		2.0	46.7
B-8, S-1	0' - 18'		46.9**
3029		1.3	38.9
B-8, S-2	0' - 6'		39.4**
3030		3.1	59.8
B-8, N-1	2' - 20'		61.7
3031		2.1	63.1
B-8 cyclone sample			64.5
3032		1.8	59.8
B-6 N-1	cyclone sample		60.9

** With Size Analyses

WELDWOOD OF CANADA

Union Bay Reverse Air Circulation Samples

B-2, S-1, 0' - 4'

Lab No. 2998

SIZE ANALYSES (on hole composites having raw ash db 60%)

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
+ 1/4"	3.1	54.2 54.9	3.1	54.2	1.3	Air Dry Basis Dry Basis
1/4" x 6M	7.3	58.4 59.1	10.4	57.1	1.2	Air Dry Basis Dry Basis
6M x 28M	39.4	52.2 53.0	49.8	53.2	1.5	Air Dry Basis Dry Basis
28M x 100M	29.8	52.8 53.7	79.6	53.1	1.6	Air Dry Basis Dry Basis
100M x 0	20.4	55.4 56.4	100.0	53.4 54.4	1.8	Air Dry Basis Dry Basis

SINK-FLOAT ANALYSES (on hole composite - raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	4.2	6.2 6.3	4.2	6.2	1.5	Air Dry Basis Dry Basis
1.35 - 1.40	5.8	9.5 9.7	10.0	8.1	1.6	Air Dry Basis Dry Basis
1.40 - 1.50	6.2	17.2 17.5	16.2	11.6	1.5	Air Dry Basis Dry Basis
1.50 - 1.60	6.1	27.2 27.7	22.3	15.9	1.8	Air Dry Basis Dry Basis
1.60 - 1.80	21.9	45.7 48.2	44.2	30.6	5.1	Air Dry Basis Dry Basis
+ 1.80	55.8	69.9 74.1	100.0	52.5 55.5	5.7	Air Dry Basis Dry Basis

WELDWOOD OF CANADA

Union Bay Reverse Air Circulation Samples

B-4, S-1, 0' - 28'

LAB NO. 3003

SIZE ANALYSES (on hole composites having raw ash db 60%)

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
+ 1/4"	4.2	83.7 84.6	4.2	83.7	1.1	Air Dry Basis Dry Basis
1/4" x 6M	10.8	64.9 65.8	15.0	70.2	1.4	Air Dry Basis Dry Basis
6M x 28M	44.4	58.1 59.1	59.4	61.1	1.7	Air Dry Basis Dry Basis
28M x 100M	21.2	52.6 53.8	80.6	58.9	2.2	Air Dry Basis Dry Basis
100M x 0	19.4	55.9 57.3	100.0	58.3 59.4	2.6	Air Dry Basis Dry Basis

SINK-FLOAT ANALYSES (on hole composite - raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	12.3	9.9 10.0	12.3	9.9	.9	Air Dry Basis Dry Basis
1.35 - 1.40	2.3	23.2 23.4	14.6	12.0	1.0	Air Dry Basis Dry Basis
1.40 - 1.50	1.2	26.0	15.8	13.1	.9	Air Dry Basis Dry Basis
1.50 - 1.60	2.4	33.4 33.8	18.2	15.7	1.1	Air Dry Basis Dry Basis
1.60 - 1.80	6.0	47.3 48.0	24.2	23.6	1.4	Air Dry Basis Dry Basis
+ 1.80	75.8	73.1 76.1	100.0	61.1 63.5	3.9	Air Dry Basis Dry Basis

WELDWOOD OF CANADA

Union Bay Reverse Air Circulation Samples

B-4, S-2, 2' - 6'

LAB NO. 3004

SIZE ANALYSES (on hole composites having raw ash db 60%)

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
+ 1/4"	4.8	54.6 55.3	4.8	54.6	1.2	Air Dry Basis Dry Basis
1/4" x 6M	10.1	47.1 47.6	14.9	49.5	1.1	Air Dry Basis Dry Basis
6M x 28M	37.1	50.9 51.6	52.0	50.5	1.3	Air Dry Basis Dry Basis
28M x 100M	35.7	49.4 50.2	87.7	50.1	1.6	Air Dry Basis Dry Basis
100M x 0	12.3	49.4 50.3	100.0	50.0 50.7	1.8	Air Dry Basis Dry Basis

SINK-FLOAT ANALYSES (on hole composite - raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	8.2	8.8 8.9	8.2	8.8	1.4	Air Dry Basis Dry Basis
1.35 - 1.40	8.3	9.9 10.0	16.5	9.4	1.3	Air Dry Basis Dry Basis
1.40 - 1.50	7.4	19.4 19.6	23.9	12.5	1.2	Air Dry Basis Dry Basis
1.50 - 1.60	7.9	30.8 31.2	31.8	17.0	1.4	Air Dry Basis Dry Basis
1.60 - 1.80	20.3	46.3 48.4	52.1	28.4	4.3	Air Dry Basis Dry Basis
+ 1.80	47.9	69.4 74.5	100.0	48.1 51.0	6.9	Air Dry Basis Dry Basis

WELDWOOD OF CANADA

Union Bay Reverse Air Circulation Samples

B-5, S-2, 2' - 23'

LAB NO. 3009

SIZE ANALYSES (on hole composites having raw db ash 60%)

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
+ 1/4"	10.6	51.1 51.8	10.6	51.1	1.4	Air Dry Basis Dry Basis
1/4" x 6M	13.5	58.4 59.2	24.1	55.2	1.3	Air Dry Basis Dry Basis
6M x 28M	45.2	60.5 61.4	69.3	58.7	1.4	Air Dry Basis Dry Basis
28M x 100M	22.4	56.0 57.0	91.7	58.0	1.7	Air Dry Basis Dry Basis
100M x 0	8.3	55.2 56.3	100.0	57.8 58.7	1.9	Air Dry Basis Air Dry Basis

SINK-FLOAT ANALYSES (on hole composite - raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	4.2	6.5 6.6	4.2	6.5	1.3	Air Dry Basis Dry Basis
1.35 - 1.40	2.3	11.5 11.6	6.5	8.3	1.2	Air Dry Basis Dry Basis
1.40 - 1.50	3.1	19.5 19.8	9.6	11.9	1.3	Air Dry Basis Dry Basis
1.50 - 1.60	4.2	31.3 31.8	13.8	17.8	1.5	Air Dry Basis Dry Basis
1.60 - 1.80	14.0	52.5 53.5	27.8	35.3	1.9	Air Dry Basis Dry Basis
+ 1.80	72.2	67.4 70.9	100.0	58.5 61.1	4.9	Air Dry Basis Dry Basis

WELDWOOD OF CANADA

Union Bay Reverse Air Circulation Samples

B-6, S-2, 3' - 23'

LAB NO. 3016

SIZE ANALYSES (on hole composites having raw db ash 60%)

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
+ 1/4"	4.0	59.7 60.2	4.0	59.7	0.9	Air Dry Basis Dry Basis
1/4" x 6M	12.4	58.3 58.8	16.4	58.6	0.9	Air Dry Basis Dry Basis
6M x 28M	46.4	54.7 55.4	62.8	55.7	1.3	Air Dry Basis Dry Basis
28M x 100M	27.1	53.0 53.9	89.9	54.9	1.7	Air Dry Basis Dry Basis
100M x 0	10.1	51.8 52.7	100.0	54.6	1.8	Air Dry Basis Dry Basis

SINK-FLOAT ANALYSES (on hole composite - raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	9.7	9.6 9.7	9.7	9.6	1.2	Air Dry Basis Dry Basis
1.35 - 1.40	6.0	13.8 14.0	15.7	11.2	1.1	Air Dry Basis Dry Basis
1.40 - 1.50	5.6	21.7 21.9	21.3	14.0	1.1	Air Dry Basis Dry Basis
1.50 - 1.60	3.4	31.7 32.2	24.7	16.4	1.4	Air Dry Basis Dry Basis
1.60 - 1.80	10.6	41.9 42.6	35.3	24.1	1.7	Air Dry Basis Dry Basis
+ 1.80	64.7	70.6 72.6	100.0	54.2 55.6	2.8	Air Dry Basis Dry Basis

WELDWOOD OF CANADA

Union Bay Reverse Air Circulation Samples

B-6, S-3, 3' - 17'

LAB NO. 3017

SIZE ANALYSES (on hole composites having raw db ash 60%)

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
+ 1/4"	2.3	65.5 66.4	2.3	65.5	1.4	Air Dry Basis Dry Basis
1/4" x 6M	7.5	61.0 61.8	9.8	62.1	1.3	Air Dry Basis Dry Basis
6M x 28M	43.3	61.3 62.2	53.1	61.4	1.5	Air Dry Basis Dry Basis
28M x 100M	33.8	55.3 56.3	86.9	69.1	1.8	Air Dry Basis Dry Basis
100M X 0	13.1	55.2 56.4	100.0	58.5 59.5	2.1	Air Dry Basis Dry Basis

SINK-FLOAT ANALYSES (on hole composite - raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	6.0	9.1 9.2	6.0	9.1	1.6	Air Dry Basis Dry Basis
1.35 - 1.40	3.3	10.4 10.5	9.3	9.6	1.1	Air Dry Basis Dry Basis
1.40 - 1.50	7.2	14.8 15.0	16.5	11.8	1.3	Air Dry Basis Dry Basis
1.50 - 1.60	4.5	24.5 24.9	21.0	14.6	1.7	Air Dry Basis Dry Basis
1.60 - 1.80	10.4	41.7 42.5	31.4	23.5	1.9	Air Dry Basis Dry Basis
+ 1.80	68.6	70.6 73.1	100.0	55.8 57.7	3.4	Air Dry Basis Dry Basis

WELDWOOD OF CANADA
 Union Bay Reverse Air Circulation Analyses

B-6, N-3, 2' - 10' LAB NO. 3020

SCREEN ANALYSES (on hole composites having raw db ash 60%)

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
+ 1/4"	2.8	64.9 65.6	2.8	64.9	1.0	Air Dry Basis Dry Basis
1/4" x 6M	11.3	61.3 62.0	14.1	62.0	1.1	Air Dry Basis Dry Basis
6M x 28M	39.0	59.8 60.6	53.1	60.4	1.3	Air Dry Basis Dry Basis
28M x 100M	32.1	55.1 56.9	85.2	58.4	3.1	Air Dry Basis Dry Basis
100M x 0	14.8	55.3 57.4	100.0	57.9 59.2	3.6	Air Dry Basis Dry Basis

SINK-FLOAT ANALYSES (on hole composite - raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	2.7	8.2 8.3	2.7	8.2	1.1	Air Dry Basis Dry Basis
1.35 - 1.40	1.5	12.2 12.3	4.2	9.6	1.1	Air Dry Basis Dry Basis
1.40 - 1.50	2.5	19.5 19.7	6.7	13.3	1.1	Air Dry Basis Dry Basis
1.50 - 1.60	3.5	29.3 29.7	10.2	18.8	1.2	Air Dry Basis Dry Basis
1.60 - 1.80	6.3	44.3 45.0	16.5	28.5	1.5	Air Dry Basis Dry Basis
+ 1.80	83.5	68.4 71.8	100.0	61.8 64.7	4.8	Air Dry Basis Dry Basis

WELDWOOD OF CANADA
 Union Bay Reverse Air Circulation Samples

B-8, S-1, 0' - 18'

LAB NO. 3028

SIZE ANALYSES (on hole composites having raw db ash 60%)

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
+ 1/4"	6.3	41.0 41.5	6.3	41.0	1.1	Air Dry Basis Dry Basis
1/4" x 6M	9.1	44.6 45.1	15.4	43.1	1.0	Air Dry Basis Dry Basis
6M x 28M	35.4	49.6 50.2	50.8	47.6	1.1	Air Dry Basis Dry Basis
28M x 100M	29.8	48.0 48.6	80.6	47.8	1.2	Air Dry Basis Dry Basis
100M x 0	19.4	48.4 49.1	100.0	47.9 48.5	1.4	Air Dry Basis Dry Basis

SINK-FLOAT ANALYSES (hole comp. - raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	9.7	5.6 5.7	9.7	5.6	1.1	Air Dry Basis Dry Basis
1.35 - 1.40	9.8	11.4 11.6	19.5	8.5	1.3	Air Dry Basis Dry Basis
1.40 - 1.50	13.3	17.1 17.3	32.8	12.0	1.0	Air Dry Basis Dry Basis
1.50 - 1.60	6.5	28.9 29.3	39.3	14.8	1.4	Air Dry Basis Dry Basis
1.60 - 1.80	13.9	41.5 42.3	53.2	21.8	1.9	Air Dry Basis Dry Basis
+ 1.80	46.8	70.2 72.0	100.0	44.4 45.5	2.5	Air Dry Basis Dry Basis

WELDWOOD OF CANADA
 Union Bay Reverse Air Circulation Samples

B-8, N-1, 0' - 6'

LAB NO. 3029

SIZE ANALYSES (on hole composites having raw ash db 60%)

SIZE FRACTION	WT %	ASH %	CUM WT %	SUM ASH %	R.M. %	CALC. FACTORS
+ 1/4"	26.0	29.5 29.8	26.0	29.5	1.1	Air Dry Basis Dry Basis
1/4" x 6M	13.2	37.4 37.7	39.2	32.2	0.8	Air Dry Basis Dry Basis
6M x 28M	38.2	43.8 44.3	77.4	37.9	1.1	Air Dry Basis Dry Basis
28M x 100M	13.6	39.4 40.0	91.0	38.1	1.4	Air Dry Basis Dry Basis
100M x 0	9.0	37.2 37.8	100.0	38.0 38.4	1.6	Air Dry Basis Dry Basis

SINK-FLOAT ANALYSES (on hole composite - raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	26.1	6.1 6.2	26.1	6.1	1.4	Air Dry Basis Dry Basis
1.35 - 1.40	7.7	11.1 11.3	33.8	7.2	1.4	Air Dry Basis Dry Basis
1.40 - 1.50	10.9	20.5 20.7	44.7	10.5	1.2	Air Dry Basis Dry Basis
1.50 - 1.60	11.3	30.9 31.3	56.0	14.6	1.3	Air Dry Basis Dry Basis
1.60 - 1.80	17.2	42.2 42.8	73.2	21.1	1.5	Air Dry Basis Dry Basis
+ 1.80	26.8	68.2 69.5	100.0	33.7 34.3	1.9	Air Dry Basis Dry Basis

WELWOOD OF CANADA
Bulk Samples from Union Bay Site

LAB NO. 3042

SIZE AND RAW ANALYSES B4-N2

SIZE ANALYSES	ASH %	WT %	CUM WT %	CUM ASH %	R.M.	CALC. FACTORS
3" x 1 1/2"						
1 1/2" x 3/4"	15.8	64.2	15.8	64.2	4.5	Air Dry Basis Dry Basis
3/4" x 1/2"	6.5	60.5	22.3	63.1	2.3	Air Dry Basis Dry Basis
1/2" x 1/4"	20.4	59.9	42.7	61.6	4.7	Air Dry Basis Dry Basis
1/4" x 28M	44.3	54.5	87.0	58.0	2.9	Air Dry Basis Dry Basis
28M x 100M	8.4	51.9	95.4	57.4	5.2	Air Dry Basis Dry Basis
100M x 0	4.6	56.7	100.0	57.4	8.1	Air Dry Basis Dry Basis
Head Raw		58.9		59.7	3.2	
		60.8				

SINK-FLOAT ANALYSES (3/4" x 0 raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	5.3	6.5	5.3	6.5	1.1	Air Dry Basis Dry Basis
1.35 - 1.40	2.6	13.2	7.9	8.7	1.3	Air Dry Basis Dry Basis
1.40 - 1.50	5.2	20.9	13.1	13.5	1.4	Air Dry Basis Dry Basis
1.50 - 1.60	6.0	31.1	19.1	19.1	1.9	Air Dry Basis Dry Basis
1.60 - 1.80	14.5	50.5	33.6	32.6	2.5	Air Dry Basis Dry Basis
+ 1.80	66.4	71.2	100.0	58.2	5.2	Air Dry Basis Dry Basis
		75.1		61.1		

WELDWOOD OF CANADA
Bulk Samples from Union Bay Site

LAB NO. 3043

SIZE AND RAW ANALYSES B6-S2

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
3" x 1 1/2"	2.2	58.2	2.2	58.2	1.5	Air Dry Basis Dry Basis
1 1/2" x 3/4"	14.2	54.9	16.4	55.3	1.2	Air Dry Basis Dry Basis
3/4" x 1/2"	12.5	51.1	28.9	53.5	1.2	Air Dry Basis Dry Basis
1/2" x 1/4"	19.5	52.0	48.4	52.9	1.4	Air Dry Basis Dry Basis
1/4" x 28M	40.2	50.1	88.6	51.6	2.1	Air Dry Basis Dry Basis
28M x 100M	8.5	48.7	97.1	51.4	2.8	Air Dry Basis Dry Basis
100M x 0	2.9	48.4	100.0	51.3	5.2	Air Dry Basis Dry Basis
Head Raw		51.1		52.3		
		50.7			1.8	Air Dry Basis Dry Basis
		51.6				

SINK-FLOAT ANALYSES (3/4" x 0 raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	12.3	8.8	12.3	8.8	0.9	Air Dry Basis Dry Basis
1.35 - 1.40	3.3	13.3	15.6	9.8	0.9	Air Dry Basis Dry Basis
1.40 - 1.50	6.3	20.9	21.9	13.0	0.9	Air Dry Basis Dry Basis
1.50 - 1.60	7.4	34.6	29.3	18.4	1.1	Air Dry Basis Dry Basis
1.60 - 1.80	13.0	51.2	42.3	28.5	1.6	Air Dry Basis Dry Basis
+ 1.80	57.7	70.8	100.0	52.9	2.8	Air Dry Basis Dry Basis
		72.8		54.2		

WELDWOOD OF CANADA
Bulk Samples from Union Bay Site

LAB NO. 3044

SIZE AND RAW ANALYSES B6-N2

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
3" x 1 1/2"	5.1	73.7	5.1	73.7	1.8	Air Dry Basis Dry Basis
1 1/2" x 3/4"	15.1	66.5	20.2	68.3	1.6	Air Dry Basis Dry Basis
3/4" x 1/2"	11.6	61.6	31.8	65.9	1.5	Air Dry Basis Dry Basis
1/2" x 1/4"	19.0	60.8	50.8	64.0	1.8	Air Dry Basis Dry Basis
1/4" x 28M	36.7	56.7	87.5	60.9	2.6	Air Dry Basis Dry Basis
28M x 100M	8.8	52.7	96.3	60.2	4.4	Air Dry Basis Dry Basis
100M x 0	3.7	50.3	100.0	59.8	6.4	Air Dry Basis Dry Basis
+ 3" Head Raw	1.7	59.8		61.3	2.3	

SINK-FLOAT ANALYSES (3/4" x 0 raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	6.8	5.9	6.8	5.9	0.9	Air Dry Basis Dry Basis
1.35 - 1.40	2.3	13.5	9.1	7.8	1.1	Air Dry Basis Dry Basis
1.40 - 1.50	3.9	21.8	13.0	12.0	1.0	Air Dry Basis Dry Basis
1.50 - 1.60	4.1	30.7	17.1	16.5	1.1	Air Dry Basis Dry Basis
1.60 - 1.80	16.4	53.9	33.5	34.8	1.9	Air Dry Basis Dry Basis
+ 1.80	66.5	69.7	100.0	58.0	3.7	Air Dry Basis Dry Basis

WELDWOOD OF CANADA

Union Bay Samples from Old Stock (For BTU Only)

LAB NO.	R.M. %	B.T.U./lb.	CALC. FACTORS
3052 (BO-S9) Raw	2.0	6,605 6,740	Air Dry Basis Dry Basis
3053 (BO-S8) Raw	1.9	8,175 8,335	Air Dry Basis Dry Basis
3054 (BO-S7) Raw	2.4	7,215 7,390	Air Dry Basis Dry Basis
3055 (BO-S6) Raw	1.8	8,405 8,560	Air Dry Basis Dry Basis
3056 (BO-S10) Raw	1.7	4,925 5,010	Air Dry Basis Dry Basis

WELDWOOD OF CANADA

PROJECT: Bevan Reverse Air Circulation Samples

LAB NO.	CLIENT I.D.	MOIST	ASH %
2937R	Bevan B0 5' - 19'	1.3	76.7
2938	Bevan B1 3' - 14'	1.5	68.1
2939	Bevan B2 1' - 23'	1.7	65.2
2940	Bevan B2, N1 0' - 26'	1.4	66.7
2941	Bevan B3, N2 0' - 32'	2.0	67.0 68.4
2942	Bevan B3, N2 0' - 30'	1.4	72.7 73.7
2943	Bevan B3E 3' - 27'	1.3	71.7 72.6
2944	Bevan B4, N1 0' - 36'	1.2	75.2 76.1
2945	Bevan B4 0' - 26'	1.6	73.8 75.0
2946	Bevan B5, N1 1' - 37'	1.8	70.4 71.7
2947	Bevan B5 0' - 28'	1.8	72.1 73.4

WELDWOOD OF CANADA

Bevan Reverse Air Circulation Samples

LAB NO.	CLIENT I.D.	MOIST	ASH %
2948	Bevan Base 6 1' - 27'	1.1	74.4 75.2
2949	Bevan B6, N1 1' - 33'	2.8	70.2 72.2
2950	Bevan B6, N2 1' - 37'	2.0	70.9 72.3
2951	Bevan B6, N3 0' - 34'	1.0	75.2 76.0
2952	Bevan B7, N2 1' - 37'	1.6	68.8 69.9
2953	Bevan B7, N1 0' - 36'	1.4	73.2 74.2
2954	Bevan B7, N3 0' - 36'	1.4	67.6 68.6
2955	Bevan B7, N4 0' - 30'	1.3	75.7 76.7
2956	Bevan B7 0' - 34'	1.3	71.8 72.7
2957	Bevan B7, S1 0' - 24'	1.7	71.2 72.4
2958	Bevan B8 0' - 28'	1.8	77.1 78.5

WELDWOOD OF CANADA

PROJECT: Pidgeon Lake Reverse Air Circulation Samples

LAB NO.	CLIENT I.D.	MOIST	ASH %
2959	(S.E. BO) 1' - 15'	1.3	72.5 73.5
2960	(BO S.W.) 1' - 13'	2.0	60.9 62.1
2961	(BO N.E.) 0' - 26'	3.2	50.1 51.8
2962	(BO N.W.) 0' - 14'	1.4	57.8 58.6
2963	(B1 N.E.)	6.4	70.0 74.8
2964	(B1 S.E.) 1' - 7'	1.0	62.8 63.4
2965	(B1, N1, N.W.) 0' - 18'	3.1	63.1 65.1
2966	(B1 N.W.) 0' - 31'	2.2	69.0 70.6
2967	(B2 S.E.) 0' - 19'	2.4	63.5 65.1
2968	(B2 S.W.) 0' - 8'	1.2	66.6 67.4
2969	(B2 N.E.) 0' - 12'	2.1	62.0 63.3

WELLDWOOD OF CANADA

PROJECT: Pidgeon Lake Reverse Air Circulation Samples

LAB NO.	CLIENT I.D.	MOIST	ASH %
2970	(N.E. B2 E1) 0' - 18'	2.3	71.8 73.5
2971	(B2, N1) 0' - 20'	2.7	64.3 66.1
2972	(B2, N2) 0' - 6'	1.6	89.1 90.5
2973	(B2 N.W.) 1' - 3'	1.7	66.6 67.8
2974	(B3 S.E. 1W) 0' - 4'	2.3	70.8 72.5
2975	(B3 S.E. 2W) 0' - 10'	1.8	68.2 69.5
2976	(B3 S.E.) 0' - 32'	1.5	61.5 62.4
2977	(B3 S.W.) 0' - 8'	1.2	75.2 76.1
2978	(B3 N.E. E1) 0' - 24'	2.4	72.1 73.9
2979	(B3 N.E.) 0' - 24'	2.8	64.1 65.9
2980	(B3 N.W.) 1' - 13'	2.4	64.4 68.0

WELDWOOD OF CANADA

PROJECT: Pidgeon Lake Reverse Air Circulation Samples

LAB NO.	CLIENT I.D.	MOIST	ASH %
2981	(B3 N.W. N1) 0' - 42'	4.8	65.2 68.5
2982	(B3 N2) 0' - 26'	4.7	62.3 65.4
2983	(B4 S.E.) 0' - 34'	3.4	60.5 62.6
2984	(B4 S.W.) 0' - 8'	1.0	67.1 67.8
2985	(B4 N.E.) 0' - 26'	5.3	65.5 69.2
2986	(B4 N.E. E1) 0' - 28'	4.8	63.8 67.0
2987	(B4 N.E. E2) 0' - 10'	3.1	71.3 73.6
2988	(B4 N.W.) 2' - 44'	3.2	64.2 66.3
2989	(B4 N.W.) cyclone sample	1.3	69.5 70.4
2990	(B4 N.W. N1) 3' - 21'	5.1	67.0 70.6
2991	(B4 N2) 0' - 24'	3.9	60.4 62.9

WELDWOOD OF CANADA

PROJECT: Pidgeon Lake Reverse Air Circulation Samples

LAB NO.	CLIENT I.D.	MOIST	ASH %
2992	(B4 Ne) 0' - 6'	3.7	90.5 94.0
2993	(B5 N.W.) 3' - 43'	3.4	65.0 67.3
2994	(B5 N.E.) 0' - 14'	2.2	68.5 70.0
2995	(B5 S.E.) 0' - 12'	2.6	70.5 72.4

WELDWOOD OF CANADA
Bulk Samples from Comox Site

LAB NO. 3039

SIZE AND RAW ANALYSES Comox #1

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
3" x 1 1/2"	23.7	71.8 72.3	23.7	71.8	0.7	Air Dry Basis Dry Basis
1 1/2" x 3/4"	16.5	70.1 70.7	40.2	71.1	0.9	Air Dry Basis Dry Basis
3/4" x 1/2"	7.0	66.0 66.6	47.2	70.3	0.9	Air Dry Basis Dry Basis
1/2" x 1/4"	13.1	64.3 65.0	60.3	69.0	1.1	Air Dry Basis Dry Basis
1/4" x 28M	32.4	54.9 55.8	92.7	64.1	1.7	Air Dry Basis Dry Basis
28M x 100M	5.1	49.2 51.3	97.8	63.3	4.1	Air Dry Basis Dry Basis
100M x 0	2.2	54.8 57.0	100.0	63.1 64.0	3.9	Air Dry Basis Dry Basis
+ 3" Head Raw	7.6	57.4			1.6	

SINK-FLOAT ANALYSES (on 3/4" x 0 Raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	12.8	6.1 6.2	12.8	6.1	0.9	Air Dry Basis Dry Basis
1.35 - 1.40	3.9	11.6 11.7	16.7	7.4	0.6	Air Dry Basis Dry Basis
1.40 - 1.50	3.3	20.0 20.1	20.0	9.5	0.6	Air Dry Basis Dry Basis
1.50 - 1.60	3.5	31.6 31.8	23.5	12.8	0.7	Air Dry Basis Dry Basis
1.60 - 1.80	7.7	46.6 47.0	31.2	21.1	0.9	Air Dry Basis Dry Basis
+ 1.80	68.8	78.8 79.9	100.0	60.8 61.6	1.4	Air Dry Basis Dry Basis

WELDWOOD OF CANADA
Bulk Samples from Comox Site

LAB NO. 3040

SIZE AND RAW ANALYSES Comox #2

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
3" x 1 1/2"	16.1	71.3	16.1	71.3	1.9	Air Dry Basis Dry Basis
1 1/2" x 3/4"	8.0	68.6 69.8	24.1	70.4	1.7	Air Dry Basis Dry Basis
3/4" x 1/2"	6.6	66.2 67.5	30.7	69.5	1.9	Air Dry Basis Dry Basis
1/2" x 1/4"	16.0	63.4 64.5	46.7	67.4	1.7	Air Dry Basis Dry Basis
1/4" x 28M	37.8	54.1 55.1	84.5	61.5	1.9	Air Dry Basis Dry Basis
28M x 100M	10.4	56.8 58.1	94.9	60.9	2.2	Air Dry Basis Dry Basis
100M x 0	5.1	65.6 68.2	100.0	51.2 62.4	3.8	Air Dry Basis Dry Basis
+ 3" Head Raw	8.1	54.7			5.6	

SINK-FLOAT ANALYSES (on 3/4" x 0 Raw)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	14.6	6.4 6.5	14.6	6.4	0.9	Air Dry Basis Dry Basis
1.35 - 1.40	2.5	10.5 10.6	17.1	7.0	0.8	Air Dry Basis Dry Basis
1.40 - 1.50	5.4	17.0 17.2	22.5	9.4	0.9	Air Dry Basis Dry Basis
1.50 - 1.60	2.9	31.0 31.3	25.4	11.9	1.0	Air Dry Basis Dry Basis
1.60 - 1.80	4.8	52.3 52.9	30.2	18.3	1.2	Air Dry Basis Dry Basis
+ 1.80	69.8	81.1 83.0	100.0	62.1 63.5	2.3	Air Dry Basis Dry Basis

WELDWOOD OF CANADA

Sample: Bulk from China Site

LAB NO. 3036

SIZE AND RAW ANALYSES China #1

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
3" x 1 1/2"	17.4	74.5	17.4	74.5	0.7	Air Dry Basis Dry Basis
1 1/2" x 3/4"	15.6	63.1	33.0	69.1	1.1	Air Dry Basis Dry Basis
3/4" x 1/2"	7.4	57.0	40.4	66.9	1.3	Air Dry Basis Dry Basis
1/2" x 1/4"	14.8	53.5	55.2	63.3	1.4	Air Dry Basis Dry Basis
1/4" x 28M	36.1	49.1	91.3	57.7	1.1	Air Dry Basis Dry Basis
28M x 100M	5.5	48.0	96.8	57.1	2.2	Air Dry Basis Dry Basis
100M x 0	3.2	54.1	100.0	57.0	2.3	Air Dry Basis Dry Basis
+ 3" Head Raw	9.9	53.1		57.7	1.9	

SINK-FLOAT ANALYSES (on 3/4" x 0 Raw*)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	17.1	5.0	17.1	5.0	1.4	Air Dry Basis Dry Basis
1.35 - 1.40	4.5	10.5	21.6	6.1	1.1	Air Dry Basis Dry Basis
1.40 - 1.50	5.1	18.1	26.7	8.4	0.9	Air Dry Basis Dry Basis
1.50 - 1.60	4.0	29.3	30.7	11.1	0.9	Air Dry Basis Dry Basis
1.60 - 1.80	5.1	44.3	35.8	15.9	1.0	Air Dry Basis Dry Basis
+ 1.80	64.2	77.0	100.0	55.1	1.4	Air Dry Basis Dry Basis

* All +3/4" material crushed down to pass 3/4" screen

WELDWOOD OF CANADA
 Sample: Bulk from China Site

LAB NO. 3041

SIZE AND RAW ANALYSES China #2

SIZE FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
3" x 1 1/2"	13.6	44.0	13.6	44.0	1.0	Air Dry Basis Dry Basis
1 1/2" x 3/4"	13.4	44.4 46.5	27.0	45.2	1.0	Air Dry Basis Dry Basis
3/4" x 1/2"	8.9	47.0 47.6	35.9	45.8	1.0	Air Dry Basis Dry Basis
1/2" x 1/4"	17.0	48.1 47.2	52.9	46.3	1.1	Air Dry Basis Dry Basis
1/4" x 28M	39.6	47.7 42.3	92.5	44.6	1.2	Air Dry Basis Dry Basis
28M x 100M	5.6	42.8 41.2	98.1	44.4	1.6	Air Dry Basis Dry Basis
100M x 0	1.9	41.9 47.0	100.0	44.4	5.0	Air Dry Basis Dry Basis
+ 3"	12.1	49.5		44.9		Dry Basis
Head Raw		51.2			1.4	Air Dry Basis

SINK-FLOAT ANALYSES (on 3/4" x 0 Raw*)

S.G. FRACTION	WT %	ASH %	CUM WT %	CUM ASH %	R.M. %	CALC. FACTORS
- 1.35	21.0	5.5	21.0	5.5	1.4	Air Dry Basis Dry Basis
1.35 - 1.40	8.0	5.6 9.4	29.0	6.6	1.2	Air Dry Basis Dry Basis
1.40 - 1.50	11.6	9.5 18.0	40.6	9.8	1.5	Air Dry Basis Dry Basis
1.50 - 1.60	5.1	18.3 29.8	45.7	12.1	1.4	Air Dry Basis Dry Basis
1.60 - 1.70	5.9	30.2 42.5	51.6	15.6	1.7	Air Dry Basis Dry Basis
+ 1.80	48.4	43.2 74.3	100.0	44.0	1.7	Air Dry Basis Dry Basis
		75.6		44.7		Dry Basis

*All +3/4" material crushed down to pass 3/4" screen

COHOX BASIN
TSABLE AREA.
BOREHOLE ANALYSES
TR-SERIES.

00694 (8)

TR-41

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., October 12th, 1921.

Laboratory Number 483

Sample of Coal received October 10th, 1921.

Marked Bore Hole #41, Section A, Table River.

Proximate Analysis	As Received $\frac{1}{2}$ %	Dry Basis %
Moisture - - - -	1.05	"
Volatile Matter - - - -	32.47	32.01
Fixed Carbon - - - -	57.04	57.65
Ash - - - -	9.44	9.54
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - -	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13,766

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Take Good

Sample as received size pea to bird seed, weight 79 gr.

Respectfully submitted,

A. A. Mathieson
CHEMIST

To:

00694

B.H.5
Tsable River
TR-5

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., May 13th, 1919.

Laboratory Number 565, 566, 567, 568, 578.

Sample of Coal and washings received May 9th, 1919.

Marked Tsable River No. 5 Bore Hole

Analysis:

Marked	Proximate Analysis		Dry Basis		
	Moisture	Volatile	F. Carbon	Ash	Coke
Top Bench # 565	1.90	34.15	52.30	13.55	Good
Bottom Band 566	0.73	35.28	40.17	24.55	Fair
Lower Bench 567	0.95	35.04	40.10	23.86	"
Washings 568-578	1.55	33.26	32.63	34.11	Poor
(1) 46.98%	(2) 30.94%	(3) 44.35%	(4) 33.80%	(5) 46.04%	
(6) 41.74%	(7) 33.78%	(8) 40.92%	(9) 23.38%	(10) 22.24%	
(11) 41.48% Ash					

Remarks: Samples received small.

Copies to Mr. Fleming,
Mr. Savage
Mr. T. Graham
Mr. C. Graham
Mr. A. Lynn.

Respectfully submitted

A. A. Thomson
Chemist.

To:

00694

B. H. F.
Tsable River
TR-7

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., July 20th, 1919.

Laboratory Number 798

Sample of Coal received July 24th.

Marked Bottom bench, borehole #7

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	0.88	"	"	"
Volatile Matter - - -	"	"	38.13	"
Fixed Carbon - - - -	"	"	50.87	"
Ash - - - - -	"	"	14.20	"
	-----		<u>100.00</u>	
Sulphur - - - - -	1.21	"	"	"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. G. MacIsaac
CHEMIST

To:.....

00694

TR-7

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., July 30th, 1919.

Laboratory Number 789

Sample of Coal received July 24th

Marked Top bench, borehole #7

Proximate Analysis	As Received	% Dry Basis	%
Moisture - - - -	1.21	"	"
Volatile Matter - - -		33.39	"
Fixed Carbon - - - -		46.92	"
Ash - - - - -		20.69	"
<hr/>			
Sulphur - - - - -	3.25	"	"

Heating Power of dry sample, B.T.U., per pound of coal

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathison
CHEMIST

To:-

00694

B. H. 15,
Tsable River
TR-15

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., January 5th, 1920

Laboratory Number 20 - 2

Sample of Coal received January 2nd, 1920

Marked Tsable River 6' 8" seam at 600 ft. in Tsable River Bore 15
Sample #2 Bottom Bench.

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	1.65	"	"	"
Volatile Matter - - - -	"	"	29.52	"
Fixed Carbon - - - -	"	"	26.34	"
Ash - - - -	"	"	44.14	"
	"	"	100.00%	"
Sulphur - - - -	"	"	"	"

Heating Power of dry sample, B.T.U., per pound of coal

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mahler
CHEMIST

To:

00694

TR-15

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

BH# 15

UNION BAY, B.C., January 5th, 1920

Laboratory Number 30 - 1

Sample of Coal received January 2nd

Marked Tsable River 6' 6" seam at 500 ft.

Sample #1 Top Bench

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	1.57	"	"	"
Volatile Matter	"	"	30.10	"
Fixed Carbon	"	"	54.77	"
Ash	"	"	35.13	"
			<u>100.00</u>	
Sulphur	"	"	"	"

Heating Power of dry sample, B.T.U., per pound of coal

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Matheson
CHEMIST

To:

00694

B.H. 17-
Tsable River.
TR-17

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., February 3rd, 1920.

Laboratory Number 20 - 65

Sample of Coal received January 30th, 1920.

Marked Tsable River Field, Sample #1. Top Bench.

Lower seam Bore #17

Proximate Analysis	As Received %	Dry Basis %
Moisture	1.75	" "
Volatile Matter	32.46	33.03
Fixed Carbon	48.61	49.47
Ash	17.20	17.50
	100.00	100.00
Sulphur	1.78	" "

Heating Power of dry sample, B.T.U., per pound of coal 12284

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Coke Good.

Respectfully submitted,

A. A. Harrison
CHEMIST

To: *Mr. Lynn*

00694

TR-17

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., February 3rd, 1920.

Laboratory Number 20-66

Sample of Coal received January 30th, 1920.

Marked Esable River Field Sample #2, Bottom Bench Lower seam Bore #17.

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	1.65	"	"	"
Volatile Matter - - -	30.59	"	31.11	"
Fixed Carbon - - - -	40.49	"	41.16	"
Ash - - - -	27.27	"	27.73	"
	<u>100.00</u>		<u>100.00</u>	
Sulphur - - - -	2.01	"	"	"

Heating Power of dry sample, B.T.U., per pound of coal 10 548

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

- Coke fair -

Respectfully submitted,

A. A. Allison
CHEMIST

To: Mr. Lynn.

00694

B.H. 18,
Tsable River

TR-18

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., **March 13th, 1920**

Laboratory Number **270**

Sample of **Coal** received **March 13th, 1920**

Marked **Tsable River No. #10**
at 1022 ft. 8ft. 4" seam.

Proximate Analysis	As Received	% Dry Basis
Moisture - - - -	1.20	" "
Volatile Matter - - -	34.40	34.82 "
Fixed Carbon - - - -	53.66	54.25 "
Ash - - - -	10.72	10.85 "
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - -	2.78	" "

Heating Power of dry sample, B.T.U., per pound of coal **13470**

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks: **GOOD GOOD.**

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

00694

CHEMICAL LABORATORY

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

B.H 23,
Tsable River.
TR-23

UNION BAY, B.C., January 29th, 1921.

Laboratory Number 21-38

Sample of Coal received January 25th

Marked Bore #23 Sample from 7 ft of core, thickness of seam 14'8".

Proximate Analysis	As Received	% Dry Basis	%
Moisture - - - -	1.3	"	"
Volatile Matter - - -	33.7	"	32.90
Fixed Carbon - - -	46.46	"	47.07
Ash - - - -	19.77	"	20.03
	<u>100.00</u>		<u>100.00</u>
Sulphur - - - -	0.92	"	"

Heating Power of dry sample, B.T.U., per pound of coal 12,273

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathison
CHEMIST

To:-

00694

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., June 14th, 1951.

Laboratory Number 230

Sample of Coal received June 7th, 1951

Marked Castle River Field Core #35

Depth 781'2" - 786'0"

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	1.25	" "
Volatile Matter - - -	35.70	36.13
Fixed Carbon - - - -	47.68	48.56
Ash - - - - -	15.42	15.61
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - - -	"	"

Heating Power of dry sample, B.T.U., per pound of coal 12750

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. A. Mathison CHEMIST

To:-

00694

CHEMICAL LABORATORY

TR-33

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., June 14th, 1931.

Laboratory Number 331

Sample of Co. 1 received June 7th, 1931.

Marked Cusbe River No. 435

Dr. L. 30047 - 342

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	<u>1.7</u>	" "
Volatile Matter - - -	<u>35.30</u>	" <u>35.91</u> "
Fixed Carbon - - -	<u>38.60</u>	" <u>38.27</u> "
Ash - - - -	<u>24.40</u>	" <u>24.92</u> "
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - -	"	"

Heating Power of dry sample, B.T.U., per pound of coal 11159

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Thomson
CHEMIST

To:

00694

B. H. 36,
Tsable River.
TR-36

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., June 14th, 1921.

Laboratory Number 329

Sample of Coal received June 7th, 1921.

Marked Tsable River Field Bore 36

Depth 257' - 260'

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	1.45	"
Volatile Matter - - -	36.25	36.78
Fixed Carbon - - -	47.68	48.38
Ash - - - -	14.63	14.84
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - -	"	"

Heating Power of dry sample, B.T.U., per pound of coal 12588

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

00694

B.H. 41,
Tasle River
TR-41

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., October 10th, 1921.

Laboratory Number 489

Sample of Coal received October 10th, 1921

Marked Tasle River Bone #41 Section B.

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	1.14	"
Volatile Matter - - -	32.59	32.96
Fixed Carbon - - - -	55.92	56.57
Ash - - - -	10.35	10.47
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - -	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13,662

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coal good.

Sample as received per size part dust, weight 173 gr.

Respectfully submitted,

A. A. Morrison
CHEMIST

To:

00694

**BORE HOLE
COMPUTER
LISTING
COMOX**

00694 (9)

BOREHOLE RECORD - DESCRIPTION OF STRUCTURE

to be used to interpret printout

(TYPE OF CHARACTER [A = ALPHA, N = NUMERIC, A/N = ALPHANUMERIC])
 (TAB INDICATES THE CODE TABLE NUMBER ASSOCIATED WITH THE DATA FIELD)

FIELD NO.	INFO. IN DATA FIELD	CHAR. LENG. OF FIELD	TYPE OF CHAR.	POS. FIELD IN RECORD
1	STATUS OF ASSESS REPORT (TAB 001)	1	A	1
2	YEAR OF THE REPORT	2	N	2-3
3	UNIQUE PROP. IDENT (TAB 022)	5	A/N	4-8
4	LETTER OF REPORT (IE A,B,C,D)	1	A	9
5	RECORD TYPE, BOREHOLE = L	1	A	10
6	BOREHOLE NO.	3	N	11-13
7	NO. OF ANALYSES	3	N	14-16
8	UNUSED FIELD	9	-	17-25
9	PROPERTY NAME CODE (TAB 022)	8	A/N	26-33
10	AREA NAME CODE (TAB 003)	8	A/N	34-41
11	BOREHOLE IDENTIFIER	12	A/N	42-53
12	LICENCE NO.	4	A/N	54-57
13	TYPE OF DRILLING (TAB 013)	4	A	58-61
14	UTM EASTING	6	N	62-67
15	UTM NORTHING	7	N	68-74
16	UTM ZONE	2	N	75-76
17	ELEVATION (COLLAR)	4	N	77-80
18	DEPTH OF HOLE	4	N	81-84
19	DIP DIRECTION OF HOLE	3	N	85-87
20	SURFACE DIP OF HOLE	3	N	88-90
	DRILLING YEAR	2	N	91-92

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22	DRILLING MONTH	2	N	93-94
23	DRILLING DAY	2	N	95-96
24	HOLE DIAMETER	5	A/N	97-101
25	CORE TYPE (TAB 009)	2	A	102-105
26	MATERIAL FILLING HOLE (TAB 016)	1	A	106
27	FLY ANALYSES (Y OR N)	1	A	107
28	NO. OF COAL INTERSECTIONS	3	N	108-110
29	NO. OF SAMPLES TAKEN	3	N	111-113
30	FIRST CONTRACTOR	8	A/N	114-121
31	SECOND CONTRACTOR IF APPLICABLE	8	A/N	122-129
32	GEOPHYSICAL LOG TYPES (TAB 017)	5X12	A	130-189
33	CORE STORAGE	12	A/N	190-201
34	UNUSED FIELD	29	-	202-230

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COMOX BASIN BOREHOLES...DEC. 1987

*** CONTROL CARD *** RECORD TYPE = 6 OPERATOR IS = START POSITION = 010 FIELD VALUE = L

000	087CX011AL001001	COMOX B TSABLE	TR-1	1908	3605625492884100125032600009009
100	002	LITH			
000	087CX011AL002	COMOX B TSABLE	TR-2	1909	3596165492829100176027400009009
100	001	LITH			
000	087CX011AL003006	COMOX B TSABLE	TR-3	1910	3572615492762100279025400009010
100	005	LITH			
000	087CX011AL004	COMOX B TSABLE	TR-4	1909	3563165491883100292006700009009
100	000	LITH			
000	087CX011AL005004	COMOX B TSABLE	TR-5	1919	35973854884911002620128000090190425
100	004004	LITH			
000	087CX011AL006	COMOX B TSABLE	TR-6	1919	359449548827141002620194000090190603
100	005	LITH			
000	087CX011AL007002	COMOX B TSABLE	TR-7	1919	35902554887751002600214000090190704
100	005002	LITH			
000	087CX011AL008	COMOX B TSABLE	TR-8	1919	35950254874091003030060000090190625
100	001	LITH			
000	087CX011AL009	COMOX B TSABLE	TR-9	1919	3588145487773100359007300009019
100	003	LITH			
000	087CX011AL010	COMOX B TSABLE	TR-10	1919	35878354890391002480122000090190809
100	006	LITH			
000	087CX011AL011	COMOX B TSABLE	TR-11	1919	35923254880991002730131000090190812
100	005	LITH			
000	087CX011AL012	COMOX B TSABLE	TR-12	1919	35888254885281002870060000090191111
100	002	LITH			
000	087CX011AL013	COMOX B TSABLE	TR-13	1919	35791754888621002650034000090190825
100	000	LITH			
000	087CX011AL014	COMOX B TSABLE	TR-14	1919	36119254877581002350066000090190917
100	003	LITH			
000	087CX011AL015002	COMOX B TSABLE	TR-15	1919	36069054885591002880191000090200105
100	005002	LITH			
000	087CX011AL016	COMOX B TSABLE	TR-16	1919	35902554887751002600122000090191213
100	007	LITH			

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000 087CX011AL017002 100 005002	COMOX B TSABLE LITH	TR-17	1920	36259654874571001600110000090200122	
000 087CX011AL018001 100 003001	COMOX B TSABLE LITH	TR-18	1920	35996054893311003650322000090200309	
000 087CX011AL019 100 002	COMOX B TSABLE LITH	TR-19	1920	36193254880381002000080000090200219	
000 087CX011AL020 100 005	COMOX B TSABLE LITH	TR-20	1920	36178754888041002280135000090200320	
000 087CX011AL021 100 003	COMOX B TSABLE LITH	TR-21	1920	35936754902121004210525000090200709	
000 087CX011AL022 100 008	COMOX B TSABLE LITH	TR-22	1920	36344654876381001070448000090200821	
000 087CX011AL023001 100 006001	COMOX B TSABLE LITH	TR-23	1920	36323254887081001200253	210119
000 087CX011AL024 100 002	COMOX B TSABLE LITH	TR-24	1920	36209754876581001940038	200804
000 087CX011AL025 100 000	COMOX B TSABLE LITH	TR-25	1920	36399754876901000980137000090201108	
000 087CX011AL026 100 005	COMOX B TSABLE LITH	TR-26	1920	36346854871601000590315000090201028	
000 087CX011AL027 100 002	COMOX B TSABLE LITH	TR-27	1920	36127354876341002320044	210115
000 087CX011AL028 100 002	COMOX B TSABLE LITH	TR-28	1921	36134054875121002170047	210205
000 087CX011AL029 100 007	COMOX B TSABLE LITH	TR-29	1921	36286354897241001400196	210309
000 087CX011AL030 100 001	COMOX B TSABLE LITH	TR-30	1921	36137754873401002060043	210220
000 087CX011AL031 100 004	COMOX B TSABLE LITH	TR-31	1921	36038254881121003010089	210308
000 087CX011AL032 100 001	COMOX B TSABLE LITH	TR-32	1921	36154854883561002940046	210323
000 087CX011AL033002 100 006002	COMOX B TSABLE LITH	TR-33	1921	36268054900861001460259	210521

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000 100	087CX011AL034 001	COMOX B TSABLE LITH	TR-34	1921	36090954879931002640027	2104
000 100	087CX011AL035 001	COMOX B TSABLE LITH	TR-35	1921	36082754882501002820073	210430
000 100	087CX011AL036001 003001	COMOX B TSABLE LITH	TR-36	1921	1002420083	210528
000 100	087CX011AL037 005	COMOX B TSABLE LITH	TR-37	1921	36279654886311001480133	210629
000 100	087CX011AL038 000	COMOX B TSABLE LITH	TR-38	1921	36126154884881002610038000090210611	
000 100	087CX011AL039 005	COMOX B TSABLE LITH	TR-39	1921	36021354885961003100265000090210726	
000 100	087CX011AL040 000	COMOX B TSABLE LITH	TR-40	1921	36156654913231001540356	211211
000 100	087CX011AL041 005002	COMOX B TSABLE LITH	TR-41	1921	35980654890241003360317	210924
000 100	087CX011AL042 002	COMOX B TSABLE LITH	TR-42	1943	36219754874051001690047	430608
000 100	087CX011AL043 002	COMOX B TSABLE LITH	TR-43	1943	36241754872501001590026	430521
000 100	087CX011AL044 001	COMOX B TSABLE LITH	TR-44	1943	36224354875531001630043	430716
000 100	087CX011AL045 001	COMOX B TSABLE LITH	TR-45	1943	36193554875531001870011	430806
000 100	087CX011AL046 004	COMOX B TSABLE LITH	TR-46		35963154891721009580361	
000 100	087CX011AL047 004	COMOX B TSABLE LITH	TR-47		36027754889461003260309	
000 100	087CX011AL048 005	COMOX B TSABLE LITH	TR-48		36386854851811001210243	
000 100	087CX011AL049 005	COMOX B TSABLE LITH	TR-49		36350654856191001180233000090	
000 100	087CX011AL050 003	COMOX B TSABLE LITH	TR-50/50A		36222354869141001370117000090	

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000 087CX011AL051 100 003	COMOX B TSABLE LITH	TR-51	36394154857081001060363
000 087CX011AL052 100 004	COMOX B TSABLE LITH	TR-52	36329554849411001580160
000 087CX011AL053 100 001	COMOX B TSABLE LITH	TR-53X	36327354850641001550020
000 087CX011AL054	COMOX B TSABLE	TR-54	3626265485658100180
000 087CX011AL055 100 005	COMOX B TSABLE LITH	TR-55	36366654848521001380206
000 087CX011AL056 100 006	COMOX B TSABLE LITH	TR-56	36276654857261001770192
000 087CX011AL057 100 005	COMOX B TSABLE LITH	TR-57	36526054839801000980281
000 087CX011AL058 100 002	COMOX B TSABLE LITH	TR-58	36415054834001002080078000090
000 087CX011AL059 100 001	COMOX B TSABLE LITH	TR-59	36649054822001001680127000090
000 087CX011AL060	COMOX B TSABLE	TR-60	3650205482045100232
000 087CX011AL061 100 005	COMOX B TSABLE LITH	TR-61	35992554817501002040170000090
000 087CX011AL062 100 003	COMOX B TSABLE LITH	TR-62	36762054832401000760562000090
000 087CX011AL063 100 007	COMOX B TSABLE LITH	TR-63	36595054820901002000236000090
000 087CX011AL064 100 005	COMOX B TSABLE LITH	TR-64	36359854853321001300197
000 087CX011AL065	COMOX B TSABLE	TR-65	3683605480140100155
000 087CX011AL066 100 000	COMOX B TSABLE LITH	TR-66	36227454863001001780059
000 087CX011AL067 100 002	COMOX B TSABLE LITH	TR-67	36239654862751001600061
000 087CX011AL068 100 001	COMOX B TSABLE LITH	TR-68	36248354862361001600056

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000 087CX011AL069 100 002	COMOX B TSABLE LITH	TR-69	36257254862321001920072
000 087CX011AL070 100 002	COMOX B TSABLE LITH	TR-70	36265654859971001880220
000 087CX011AL071 100	COMOX B TSABLE LITH	TR-70X	3625535486057100200
000 087CX011AL072 100 007	COMOX B TSABLE LITH	TR-71	36314254859641001300242
000 087CX011AL073 100 005	COMOX B TSABLE LITH	TR-72	36298854854811001660161000090
000 087CX011AL074 100 006	COMOX B TSABLE LITH	TR-73	36287154852811001820173000090
000 087CX011AL075 100 002	COMOX B TSABLE LITH	TR-74	36271454848801001980098000090
000 087CX011AL076 100 008	COMOX B TSABLE LITH	TR-75	36306154856871001520195
000 087CX011AL077 100 002	COMOX B TSABLE LITH	TR-76	36402554833251002100156000090
000 087CX011AL078 100 004	COMOX B TSABLE LITH	TR-77	36392554838101002000158000090
000 087CX011AL079 100 006	COMOX B TSABLE LITH	TR-78	36432554835501002050197000090
000 087CX011AL080 100 002	COMOX B TSABLE LITH	TR-79	36381054836901002210103000090
000 087CX011AL081 100 007	COMOX B TSABLE LITH	TR-80	36405054842001001800203000090
000 087CX011AL082 100 002	COMOX B TSABLE LITH	TR-81	36389054843901000700078
000 087CX011AL083 100 005	COMOX B TSABLE LITH	TR-82	36350254852631001420196
000 087CX011AL084 100 003	COMOX B TSABLE LITH	TR-83	36422554843001001400154
000 087CX011AL085 100 003	COMOX B TSABLE LITH	TR-84	36355054853501001400172

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000 087CX011AL086 100 004	COMOX B TSABLE LITH	TR-85		36340054838951002000182	
000 087CX011AL101 100 000	COMOX B TSABLE LITH	RW-1	1975	ROT036875054802501000960029	7505
000 087CX011AL105 100 000	COMOX B TSABLE LITH	CWC-1	1975	ROT036519054818601002100017	7508
000 087CX011AL106 100 000	COMOX B TSABLE LITH	CWC-2A	1975	ROT036616054820401001780013	7508
000 087CX011AL107	COMOX B TSABLE	CWC-2B	1975	ROT0366290548205010	75
000 087CX011AL110 100 000	COMOX B TSABLE LITH	CCR-1	1975	ROT03719555477750100146	
000 087CX011AL115 100 000	COMOX B TSABLE LITH	CC-1	1975	ROT036815054820001000910118	7507
000 087CX011AL116 100 6 000	COMOX B TSABLE LITH	CC-2 GAMA NEUT	1975	ROT036771054816001001550065	75080812.0
000 087CX011AL117 100 000	COMOX B TSABLE LITH	CC-3	1975	ROT036720054811001001830016	7508
000 087CX011AL118 100 000	COMOX B TSABLE LITH	CC-4	1975	ROT036704554810101001840069	7508
000 087CX011AL120	COMOX B TSABLE	ATR-1		365313548639110	
000 087CX011AL121	COMOX B TSABLE	ATR-2		364329548907510	
000 087CX011AL125 100 0 004	COMOX B TSABLE LITH	BL-1 GAMA DBUL CAL	1975	ROT035540554922911002970117	75050613.0
000 087CX011AL126 100 000	COMOX B TSABLE LITH	BL-2	1975	ROT035659454928891002050017	75
000 087CX011AL130 100 9 000	COMOX B TSABLE LITH	BC-1 GAMA DBUL CAL	1975	35971654948111000970164	75060312.6
000 087CX011AL135 100 9 001	COMOX B TSABLE LITH	LL-1 GAMA DBUL CAL	1975	ROT036122554912641001460183	75052012.6
000 087CX011AL136 100 6 000	COMOX B TSABLE LITH	LL-2 GAMA DBUL CAL	1975	ROT036305854881801001120217	75052812.0
000 087CX011AL140001 100 6 002	COMOX B TSABLE LITH	TSR-1 GAMA DBUL CAL	1975	ROT036276054876441001400109	75051412.0

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000 087CX011AL141001 100 9 005	COMOX B TSABLE TSR-2 LITH GAMA DBUL CAL	1975	ROT036307154860621001060257	75052212.6
000 087CX011AL142001 100 003	COMOX B TSABLE TSR-3 LITH GAMA DBUL CAL	1975	ROT036343154856981001150235	750502
000 087CX011AL150 100 006	COMOX B CUMBERLDCX-1 LITH	1889	35380154986211001490157000090891005	
000 087CX011AL151 100 004	COMOX B CUMBERLDCX-2 LITH	1889	35366554981491001600162000090891105	
000 087CX011AL152 100 006	COMOX B CUMBERLDCX-3 LITH	1889	3529565498067100172	891207
000 087CX011AL153 100 004	COMOX B CUMBERLDCX-4 LITH	1890	35295054984781001830169	900108
000 087CX011AL154 100 004	COMOX B CUMBERLDCX-5 LITH	1890	35252654981301001840122	900227
000 087CX011AL155 100 008	COMOX B CUMBERLDCX-6 LITH		10 0276	
000 087CX011AL156 100 001	COMOX B CUMBERLDCX-7 LITH	1890	35043254997181001490040000090900613	
000 087CX011AL157 100 002	COMOX B CUMBERLDCX-8 LITH	1890	35073554996071001660045000090900901	
000 087CX011AL158 100 004	COMOX B CUMBERLDCX-8D LITH	1890	34947055030621001320060	90
000 087CX011AL159 100 004	COMOX B CUMBERLDCX-9 LITH	1890	35070054999051001520067000090900917	
000 087CX011AL160 100 007	COMOX B CUMBERLDCX-9D LITH	1890	34970355032221001290095	90
000 087CX011AL161 100 007	COMOX B CUMBERLDCX-10 LITH	1892	3518875498467100185011200009092	
000 087CX011AL162 100 009	COMOX B CUMBERLDCX-10D LITH	1906	3499095503344100126019400009006	
000 087CX011AL163 100 005	COMOX B CUMBERLDCX-11 LITH	1892	3518055498675100185012300009092	
000 087CX011AL164 100 013	COMOX B CUMBERLDCX-11D LITH	1906	35032555036271001140220	06

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COMOX BASIN BOREHOLES....DEC. 1987

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000 087CX011AL165 100 007	COMOX B CUMBERLDCX-12 LITH	1893	35194354990811001820139	930126
000 087CX011AL166 100 009	COMOX B CUMBERLDCX-12D LITH	1906	35070855039461000980268	060512
000 087CX011AL167 100 012	COMOX B CUMBERLDCX-13 LITH	1893	352436549910410017901540000909304	
000 087CX011AL168 100 013	COMOX B CUMBERLDCX-13D LITH	1906	35091455043601000930302	060723
000 087CX011AL169 100 007	COMOX B CUMBERLDCX-14 LITH	1893	35263254992681001700203000090930623	
000 087CX011AL172 100 005	COMOX B CUMBERLDCX-17 LITH	1896	354375549889810013801630000909603	
000 087CX011AL173 100 007	COMOX B CUMBERLDCX-18 LITH	1896	35484254983191001350167000090960430	
000 087CX011AL174 100 008	COMOX B CUMBERLDCX-19 LITH	1896	35358054971891001720114	9605
000 087CX011AL175 100 003	COMOX B CUMBERLDCX-20 LITH	1896	35412354976621001420125	9606
000 087CX011AL176 100 009	COMOX B CUMBERLDCX-21 LITH	1896	3547525498456100136017900009096	
000 087CX011AL177 100 008	COMOX B CUMBERLDCX-22 LITH	1897	35454454995371001340322	970209
000 087CX011AL178 100 005	COMOX B CUMBERLDCX-23 LITH	1987	353188549785110014901700000908706	
000 087CX011AL179 100 015	COMOX B CUMBERLDCX-24 LITH	1897	3528255501462100109034500009097	
000 087CX011AL260 100 010	COMOX B CUMBERLDCX-101 LITH	1910	35239555024311000870283000090101028	
000 087CX011AL261 100 009	COMOX B CUMBERLDCX-102 LITH	1910	35111255029281000980309000090101209	
000 087CX011AL262 100 012	COMOX B CUMBERLDCX-103 LITH	1911	35219255038541000820416000090110408	
000 087CX011AL263 100 011	COMOX B CUMBERLDCX-104 LITH	1911	35282055026711000790359000090110124	

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000	087CXO11AL264	COMOX B CUMBERLDCX-105	1911	3495305508889100105	110329
100	012	LITH			
000	087CXO11AL265001	COMOX B CUMBERLDCX-106	1911	3525805501881100098	000090110404
100	009	LITH			
000	087CXO11AL266	COMOX B CUMBERLDCX-107	1911	34995155073741000810168	110506
100	004	LITH			
000	087CXO11AL267001	COMOX B CUMBERLDCX-108	1911	35297855041061000660331000090110502	
100	006	LITH			
000	087CXO11AL268	COMOX B CUMBERLDCX-109	1911	34907555073601000840088	110530
100	001	LITH			
000	087CXO11AL269	COMOX B CUMBERLDCX-110	1911	35000255063641001060232	110615
100	010	LITH			
000	087CXO11AL270	COMOX B CUMBERLDCX-111	1911	34844555074981001180141	110710
100	005	LITH			
000	087CXO11AL271	COMOX B CUMBERLDCX-112	1911	35104255047751000770328000090110726	L
100	010	LITH			
000	087CXO11AL272	COMOX B CUMBERLDCX-113	1911	35106355064891000610354	110807
100	010	LITH			
000	087CXO11AL273	COMOX B CUMBERLDCX-114	1911	34809655077591001180171	111026
100	009	LITH			
000	087CXO11AL274	COMOX B CUMBERLDCX-115	1911	35189255050001000710365	110922
100	005	LITH			
000	087CXO11AL275003	COMOX B CUMBERLDCX-116	1911	34950055052001001140207	110909
100	009	LITH			
000	087CXO11AL276	COMOX B CUMBERLDCX-117	1911	34756655094651001220275	111005
100	010	LITH			
000	087CXO11AL277001	COMOX B CUMBERLDCX-118	1911	34863755061841000910178	111001
100	008	LITH			
000	087CXO11AL278002	COMOX B CUMBERLDCX-119	1911	35228455032751000860317000090111114	
100	008	LITH			
000	087CXO11AL279	COMOX B CUMBERLDCX-120	1911	34840655100731000910397	111228
100	008	LITH			
000	087CXO11AL280	COMOX B CUMBERLDCX-121	1911	34853455067911000830195	111205
100	007	LITH			

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000	087CX011AL281002	COMOX B CUMBERLDCX-122	1912	35159155025901001070280	120103
100	007	LITH			
000	087CX011AL282	COMOX B CUMBERLDCX-123	1912	35445255023471000870480000090120317	
100	013	LITH			
000	087CX011AL283	COMOX B CUMBERLDCX-124	1912	35424454979511001420152000090120423	
100	006	LITH			
000	087CX011AL284	COMOX B CUMBERLDCX-125	1912	35419054983301001510119000090120516	
100	007	LITH			
000	087CX011AL285002	COMOX B CUMBERLDCX-126	1912	35342154994511001480260000090120629	
100	004	LITH			
000	087CX011AL286	COMOX B CUMBERLDCX-127	1912	35176955014871001570241000090120505	
100	007	LITH			
000	087CX011AL287	COMOX B CUMBERLDCX-128	1914	34963655040871001250202	140709
100	009	LITH			
000	087CX011AL288	COMOX B CUMBERLDCX-129	1914	34977955037731001140187	140731
100	004	LITH			
000	087CX011AL289	COMOX B CUMBERLDCX-130	1914	34957055042921001240158	140824
100	003	LITH			
000	087CX011AL290	COMOX B CUMBERLDCX-131	1914	34957055042921001230182000090140923	
100	005	LITH			
000	087CX011AL291	COMOX B CUMBERLDCX-132	1914	34937155040591001320152	140928
100	006	LITH			
000	087CX011AL292	COMOX B CUMBERLDCX-133	1914	34924155041951001310113000090141129	
100	007	LITH			
000	087CX011AL293	COMOX B CUMBERLDCX-134	1915	1001350117000090150108	
100	002	LITH			
000	087CX011AL294	COMOX B CUMBERLDCX-135	1916	34868955032891001410084000090160706	
100	004	LITH			
000	087CX011AL295	COMOX B CUMBERLDCX-136	1916	34852555035681001520093000090160728	
100	003	LITH			
000	087CX011AL296	COMOX B CUMBERLDCX-137	1916	34855055039951001520159	160919
100	005	LITH			
000	087CX011AL297	COMOX B CUMBERLDCX-138	1916	34814755041251002060178	161223
100	004	LITH			

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000 100	087CX011AL298 006	COMOX B CUMBERLDCX-139 LITH	1917	35356454974271001710128	170714
000 100	087CX011AL299 002	COMOX B CUMBERLDCX-140 LITH	1917	35094054995331001660036000090170124	
000 100	087CX011AL300 002	COMOX B CUMBERLDCX-141 LITH	1917	35078854994281001690024000090170206	
000 100	087CX011AL301 008	COMOX B CUMBERLDCX-142 LITH	1917	35155155000101001570149000090170313	
000 100	087CX011AL302 008	COMOX B CUMBERLDCX-143 LITH	1917	35016555034651001200179	170502
000 100	087CX011AL303 001	COMOX B CUMBERLDCX-144 LITH	1917	34944055021671001510082	170515
000 100	087CX011AL304 003	COMOX B CUMBERLDCX-145 LITH	1917	34971755018451001510139000090170931	
000 100	087CX011AL305 000	COMOX B CUMBERLDCX-146 LITH	1917	34947555018801001520094	171023
000 100	087CX011AL306 005	COMOX B CUMBERLDCX-147 LITH	1917	35001755016111001570118	171126
000 100	087CX011AL307 001	COMOX B CUMBERLDCX-148 LITH	1918	35016555034651001190175	18
000 100	087CX011AL308 003	COMOX B CUMBERLDCX-149 LITH	1918	34966555014811001560116000090180115	
000 100	087CX011AL309 008	COMOX B CUMBERLDCX-150 LITH	1918	35200155020511001090261000090180711	
000 100	087CX011AL310 009	COMOX B CUMBERLDCX-151 LITH	1918	35192355005221001630240	181008
000 100	087CX011AL312 006	COMOX B CUMBERLDCX-153 LITH	1919	34927955039031001330117	190208
000	087CX011AL313	COMOX B CUMBERLDCX-154	1919	349079550370010	19
000 100	087CX011AL314001 003	COMOX B CUMBERLDCX-155 LITH	1919	34933255043571001330175	190403
000 100	087CX011AL315001 002	COMOX B CUMBERLDCX-156 LITH	1919	34930155017701001530060	190512
000 100	087CX011AL316 004	COMOX B CUMBERLDCX-157	1921	35421054986571001430080	210607

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000 087CXO11AL317001 100 004	COMOX B CUMBERLDCX-158 LITH	1921	35417154985021001440104	210630
000 087CXO11AL318 100 004	COMOX B CUMBERLDCX-159 LITH	1921	35421654988081001420112	210627
000 087CXO11AL319 100 004	COMOX B CUMBERLDCX-160 LITH	1921	35400054984241001500129000090210814	
000 087CXO11AL320 100 003	COMOX B CUMBERLDCX-161 LITH	1921	35459454985861001390082000090210908	
000 087CXO11AL321004 100 008	COMOX B CUMBERLDCX-162 LITH	1921	35444654990561001340230000090211021	
000 087CXO11AL322002 100 008	COMOX B CUMBERLDCX-163 LITH	1921	354544549932810013403150000090211223	
000 087CXO11AL323002 100 006	COMOX B CUMBERLDCX-164 LITH	1922	35555054990311001370371000090220402	
000 087CXO11AL324002 100 009	COMOX B CUMBERLDCX-165 LITH	1922	35484454993281001350349000090220222	
000 087CXO11AL325001 100 011	COMOX B CUMBERLDCX-166 LITH	1922	35489655001071001340394000090220609	
000 087CXO11AL326008 100 010	COMOX B CUMBERLDCX-167 LITH	1922	35710554991181000950448	221015
000 087CXO11AL327002 100 010	COMOX B CUMBERLDCX-168 LITH	1922	35533955012531001030568000090221123	
000 087CXO11AL328001 100 010	COMOX B CUMBERLDCX-169 LITH	1923	35645155007001000840498	230105
000 087CXO11AL329001 100 008	COMOX B CUMBERLDCX-170 LITH	1923	35700554977811001190411	230227
000 087CXO11AL330001 100 010	COMOX B CUMBERLDCX-171 LITH	1923	35557354998431001130440000090230414	
000 087CXO11AL331001 100 004	COMOX B CUMBERLDCX-172 LITH	1923	35312854991401001550123	230202
000 087CXO11AL332002 100 006	COMOX B CUMBERLDCX-173 LITH	1923	35378654992221001420243000090230310	
000 087CXO11AL333 100 008	COMOX B CUMBERLDCX-174 LITH	1923	35337555000651001460309	230417

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000 087CX011AL334003 100 003	COMOX B CUMBERLDCX-175 LITH	1923	35415754962291001720135	230416
000 087CX011AL335 100 008	COMOX B CUMBERLDCX-176 LITH	1923	35407855007291001220418	230621
000 087CX011AL336002 100 008	COMOX B CUMBERLDCX-177 LITH	1923	35606754994261000970426	230728
000 087CX011AL337004 100 007	COMOX B CUMBERLDCX-178 LITH	1923	35498254965711001830192	230512
000 087CX011AL338002 100 005	COMOX B CUMBERLDCX-179 LITH	1923	35605454973731001340287	230703
000 087CX011AL339003 100 007	COMOX B CUMBERLDCX-180 LITH	1923	35527654980011001350225	230906
000 087CX011AL340 100 007	COMOX B CUMBERLDCX-181 LITH	1926	3500315500684100146008800009026	
000 087CX011AL341 100 004	COMOX B CUMBERLDCX-182 LITH	1926	34982055009941001510077	26
000 087CX011AL342 100 000	COMOX B CUMBERLDCX-183 LITH	1931	3493365501142100138001500009031	
000 087CX011AL343005 100 003	COMOX B CUMBERLDCX-184 LITH	1931	34965355011271001580061	31
000 087CX011AL344001 100 012	COMOX B CUMBERLDCX-185 LITH	1940	35309155042261000650403000090401021	
000 087CX011AL345001 100 008	COMOX B CUMBERLDCX-186 LITH	1941	35379955032501000740344000090410110	
000 087CX011AL346001 100 010	COMOX B CUMBERLDCX-187 LITH	1941	35312255032001000840382000090410331	
000 087CX011AL347004 100 011	COMOX B CUMBERLDCX-188 LITH	1941	35833755021321000100594	411103
000 087CX011AL348 100 008	COMOX B CUMBERLDCX-189 LITH	1945	35660855023951000450587	450426
000 087CX011AL349 100 007	COMOX B CUMBERLDCX-190 LITH	1945	36021455001401000050503	450911
000 087CX011AL350 100 010	COMOX B CUMBERLDCX-191 LITH	1946	35802355005261000630573	460511

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000 087CX011AL351 100 007	COMOX B CUMBERLDCX-192 LITH	1946	35875954993031000660443	461113
000 087CX011AL352003	COMOX B CUMBERLDCX-193		3504485502959100107	
000 087CX011AL353	COMOX B CUMBERLDCX-194		3506745502142100146	
000 087CX011AL354	COMOX B CUMBERLDCX-195		3512715501740100157	
000 087CX011AL355	COMOX B CUMBERLDCX-196		3512975503390100093	
000 087CX011AL357	COMOX B CUMBERLDCX-198		3510605495000100503	
000 087CX011AL358	COMOX B CUMBERLDCX-199		3498415495834100549	
000 087CX011AL359	COMOX B CUMBERLDCX-200		3494285495716100555	
000 087CX011AL360	COMOX B CUMBERLDCX-201		3495855495691100560	
000 087CX011AL361	COMOX B CUMBERLDCX-202		3495345495516100576	
000 087CX011AL362	COMOX B CUMBERLDCX-203		3491705495577100548	
000 087CX011AL363	COMOX B CUMBERLDCX-204		3490655495348100582	
000 087CX011AL400 100 6 002	COMOX B CUMBERLDAL-1 LITH GAMA DBUL	1975	ROT03445195509189100402025300009075061612.0	
000 087CX011AL401001 100 6 004	COMOX B CUMBERLDAL-2 LITH GAMA DBUL	1975	ROT03438145506419100439012200009075062312.0	
000 087CX011AL402 100 6 004	COMOX B CUMBERLDAL-3 LITH GAMA NEUT	1975	ROT03440515507220100430011000009075072612.0	
000 087CX011AL403 100 6 007	COMOX B CUMBERLDAL-4 LITH GAMA NEUT CAL DBUL	1975	ROT03436845507964100462013700009075072312.0	
000 087CX011AL404 100 6 005	COMOX B CUMBERLDAL-5 LITH GAMA NEUT CAL DBUL	1975	ROT03436285508238100454016700009075072312.0	
000 087CX011AL405 100 6 002	COMOX B CUMBERLDAL-6 LITH GAMA RES CAL DBUL	1975	ROT03437705506895100494011300009075072612.0	
000 087CX011AL406 100 002	COMOX B CUMBERLDAL-7 LITH GAMA RES CAL DBUL	1975	ROT034441655089101004560058000090750726	
000 087CX011AL408 100 000	COMOX B CUMBERLDAL-9 LITH	1975	ROT034568855062971002590037	7508
000 087CX011AL409 100 000	COMOX B CUMBERLDAL-10 LITH	1975	34494455068331002910015	7508

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000 100	087CX011AL410 000	COMOX B CUMBERLDAL-11 LITH	1975	34580155083071002530016	7508
000 100	087CX011AL415 003	COMOX B CUMBERLDALL-1 LITH GAMA CAL DBUL	1975	ROT035413354960661001980158	75
000 100	087CX011AL420 007	COMOX B CUMBERLDBR-1 LITH GAMA CAL DBUL	1975	ROT034905955060101001230218000090750611	
000 100	087CX011AL421002 002	COMOX B CUMBERLDBR-2 LITH GAMA CAL DBUL	1975	ROT03468575506540100189012900009075	
000 100	087CX011AL422 004	COMOX B CUMBERLDBR-3 LITH GAMA RES CAL DBUL	1975	ROT03469865507814100149013100009075	
000 100	087CX011AL430 6 005	COMOX B CUMBERLDDC-1 LITH GAMA DBUL	1975	ROT03472015508813100131018200009075051412.0	
000 100	087CX011AL435 001	COMOX B CUMBERLDTRR-1 LITH GAMA DBUL CAL	1975	ROT035605154949131001400202000090750504	
000 100	087CX011AL436 003	COMOX B CUMBERLDTRR-2 LITH GAMA DBUL CAL	1975	ROT03548625494594100232016300009075	
000 100	087CX011AL440 000	COMOX B CUMBERLDHC-1 LITH GAMA DBUL CAL	1975	ROT034732555140251000760219	75
000	087CX011AL501	COMOX B QUINSAM CR-1 LITH		340350554087510	
000 100	087CX011AL502 000	COMOX B QUINSAM CR-2 LITH		33535055440751000180113	
000 100	087CX011AL503 002	COMOX B QUINSAM CR-3 LITH		33304555432151001280160	
000 100	087CX011AL504 000	COMOX B QUINSAM CR-4 LITH		33610055442101000360200	
000 100	087CX011AL505 002	COMOX B QUINSAM CR-5 LITH		33379055427251000750157	
000 100	087CX011AL506 002	COMOX B QUINSAM CR-6 LITH		33437555429001000670205	
000 100	087CX011AL507 001	COMOX B QUINSAM CR-7 LITH		33328055420001001110166	
000 100	087CX011AL508 003	COMOX B QUINSAM CR-8 LITH		33201055319101001600283000090	
000 100	087CX011AL509 002	COMOX B QUINSAM CR-9 LITH		33492555385101000820321000090	

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000 087CX011AL510 100 000	COMOX B QUINSAM CR-10 LITH	33000555338251001990071
000 087CX011AL511 100 004	COMOX B QUINSAM CR-11 LITH	33085555312751001790196
000 087CX011AL512 100 003	COMOX B QUINSAM CR-12 LITH	33387055383251001000322000090
000 087CX011AL513 100 011	COMOX B QUINSAM CR-13 LITH	33660055278501001140413
000 087CX011AL514 100 003	COMOX B QUINSAM CR-14 LITH	33245055381001001040292000090
000 087CX011AL515 100 004	COMOX B QUINSAM CR-15 LITH	34034555216001001070129
000 087CX011AL516 100 002	COMOX B QUINSAM CR-16 LITH	33484055401801000900381
000 087CX011AL517 100 003	COMOX B QUINSAM CR-17 LITH	33205055379001001250182
000 087CX011AL518 100 003	COMOX B QUINSAM CR-18 LITH	33162555378501001370125
000 087CX011AL519 100 001	COMOX B QUINSAM CR-19 LITH	33112555365951001210069
000 087CX011AL520 100 000	COMOX B QUINSAM CR-20 LITH	33152555387501001130054
000 087CX011AL521 100 002	COMOX B QUINSAM CR-21 LITH	33130055365251001220059
000 087CX011AL522 100 003	COMOX B QUINSAM CR-22 LITH	33192555388001001310145
000 087CX011AL523 100 004	COMOX B QUINSAM CR-23 LITH	33182555370251000950109000090
000 087CX011AL524 100 002	COMOX B QUINSAM CR-24 LITH	33239055371751001110184000090
000 087CX011AL525 100 008	COMOX B QUINSAM CR-25 LITH	32315055366501002820208000090
000 087CX011AL526 100 000	COMOX B QUINSAM CR-26 LITH	33139055370051001080026000090

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000 087CX011AL527 100 005	COMOX B QUINSAM CR-27 LITH	32412555335001002990197000090
000 087CX011AL528 100 002	COMOX B QUINSAM CR-28 LITH	33195055363751001250116
000 087CX011AL529 100 004	COMOX B QUINSAM CR-29 LITH	32463055325901002980203000090
000 087CX011AL530 100 007	COMOX B QUINSAM CR-30 LITH	33131555354251001370036
000 087CX011AL531 100 003	COMOX B QUINSAM CR-31 LITH	33131055344501001520128
000 087CX011AL550 100 0 001 MCAULEY	COMOX B QUINSAM EL-1 1975 GAMA DBUL LITH	ROT03214805534975100329006200009075070312.7
000 087CX011AL551001 100 0 001001MCAULEY	COMOX B QUINSAM EL-2 1975 GAMA DBUL LITH	ROT03221805534000100350006200009075070712.7
000 087CX011AL552001 100 6 Y002001MCAULEY	COMOX B QUINSAM EL-3 1975 GAMA CAL RES DBUL LITH	ROT03222255535745100310013200009075072512.0
000 087CX011AL553001 100 6 Y003001MCAULEY	COMOX B QUINSAM EL-4 1975 GAMA CAL RES DBUL LITH	ROT03225805534380100315009300009075072512.0
000 087CX011AL554002 100 6 Y001002MCAULEY	COMOX B QUINSAM EL-5 1975 GAMA CAL RES DBUL LITH	ROT03218105534460100317007300009075072512.0
000 087CX011AL555 100 000 MCAULEY	COMOX B QUINSAM EL-6 1975 LITH	ROT032040055343801003320066 750724
000 087CX011AL556001 100 6 Y003001MCAULEY	COMOX B QUINSAM EL-7 1975 GAMA CAL RES DBUL NEUT LITH	ROT03241505532800100317009100009075072412.0
000 087CX011AL557002 100 6 Y001002MCAULEY	COMOX B QUINSAM EL-8 1975 GAMA CAL RES DBUL LITH	ROT03239505533325100289009400009075072512.0
000 087CX011AL560 100 6 002 MCAULEY	COMOX B QUINSAM MC-1 1975 GAMA CAL RES DBUL LITH	ROT03240255538610100231028400009075081112.0
000 087CX011AL561 100 6 000 MCAULEY	COMOX B QUINSAM MC-2 1975 GAMA CAL DBUL LITH	ROT031955055392451003040067 75081112.0
000 087CX011AL562 100 6 000 MCAULEY	COMOX B QUINSAM MC-3 1975 GAMA CAL RES DBUL LITH	ROT0322090553867510028001220000907508 12.0
000 087CX011AL565 100 001	COMOX B QUINSAM CAM-1 1975 LITH GAMA RES CAL DBUL	ROT0333860553842510010403080000907507

.....+.....1.....+.....2.....+.....3.....+.....4.....+.....5.....+.....6.....+.....7.....+.....8.....+.....9.....+.....10

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VERSION 2.0

COAL RESOURCES SECTION

COMOX BASIN BOREHOLES...DEC. 1987

....+....1....+....2....+....3....+....4....+....5....+....6....+....7....+....8....+....9....+....10

000 087CX011AL566 COMOX B QUINSAM CAM-2 1975 ROT033134055380301001370062 7507
100 000 LITH

000 087CX011AL570 COMOX B QUINSAM TSO-1 3405505520225100137 000090
100 GAMA DBUL CAL

000 087CX011AL571001 COMOX B QUINSAM TSO-2 33956055245901001220237
100 002 GAMA DBUL CAL

000 087CX011AL575 COMOX B QUINSAM OR-1 1975 ROT033692555281101001220203 7506
100 001 LITH CAL GAMA DBUL

000 087CX011AL576 COMOX B QUINSAM OR-2 1975 ROT033382555325801001460230 7506
100 003 LITH

000 087CX011AL580 COMOX B QUINSAM QR-1 1975 ROT0335380553494510011902080000907507
100 000 LITH

000 087CX011AL585 COMOX B QUINSAM QL-1 1975 ROT0331100553195010020702220000907507
100 001 LITH

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VERSION 2.0

COAL RESOURCES SECTION

COMOX BASIN BOREHOLES....DEC. 1987

NUMBER OF RECORDS 303

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COMOX BASIN
CUMBERLAND
BOREHOLE ANALYSIS
DATA FOR
CX-SERIES.

00694 (10)

B.H. 116

CX-116

CHEMICAL LABORATORY OF CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., March 25th, 1916.

Laboratory Number 1067 A.

Sample of Coal received March 1st, 1916.

Marked Clean coal from washing test of crushed drill core from bore # 116, depth 648'9" to 646' 1 1/2". (For Assay of unwashed core see Labor. No 1067).

648.9
646.1

2.8

Table with 4 columns: Proximate Analysis, As Received %, Dry Basis %, and Sulphur. Rows include Moisture, Volatile Matter, Fixed Carbon, and Ash.

Heating Power of dry sample, B. T. U. per pound of coal 13,724

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B. T. U. supplied by United States Bureau of Standards.

Remarks: In this Laboratory washing test the dividing point was selected at spec. gravity 1.35, the coal being crushed to pass through 20 mesh screen. Evidently this coal would be very hard to wash clean, a large amount of bony material being present. The amount of recovery in the washing test was 54.5% Coal and 45.5% Refuse. Assay of Refuse: Laborat. #1067B. Respectfully submitted

Richard H. ... Chemist.

694

J.R. Lockard, Gen. Superintendent.

To:

CX-116

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

**FUEL
CERTIFICATE OF ANALYSIS**

UNION BAY, B.C., March 25th, 1916.

Laboratory Number 1067B.

Sample of Refuse Slate received March 22nd, 1916.

Marked Refuse Slate from Laboratory washing test of crushed drill core
from bore # 116, depth 648' 9" to 646' 1 1/2". (Assay of original core: #1067.)

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - -	1.10	"	.....	"
Volatile Matter - - -	.....	"	25.33	"
Fixed Carbon - - -	.....	"	39.34	"
Ash - - - - -	.....	"	35.33	"
			<u>100.00</u>	
Sulphur - - - - -	.....	"	1.00	"

Heating Power of dry sample, B. T. U. per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter
calibrated with Benzoic Acid having 11376 B. T. U. supplied by United
States Bureau of Standards.

Remarks: The percentage of refuse was 45.5 %, for assay of recovered clean
coal see Laboratory # 1067 A.

Respectfully submitted

Richard Y. ...
Chemist.

To: Mr. J. R. Lockard, Gen. Superintendent.

694

CX-126

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 15th, 1922.

Laboratory Number 761

Sample of coal received August 11th, 1922.

Marked Bore Hole 126 Lower seam #4 seam.

Proximate Analysis	As Received %	Dry Basis %
Moisture	3.90	"
Volatile Matter	35.50	36.94
Fixed Carbon	47.20	49.11
Ash	13.40	13.95
	<u>100.00</u>	<u>100.00</u>
Sulphur	"	"

Heating Power of dry sample, B.T.U., per pound of coal 12472

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coke Good
Seam at 759'3"
Section
Boney coal 4'0"
coal 1'9"

Note 2'10" of core missing
A.L.L.

Respectfully submitted,

A. A. Mathison
CHEMIST

To:-

694

B.H. 126
CX-126

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 15th, 1922.

Laboratory Number 762

Sample of coal received August 11, 1922

Marked Bore Hole 126, Farm seam # 2 Seam

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	4.30	"	"	"
Volatile Matter - - -	37.00	"	39.66	"
Fixed Carbon - - -	42.44	"	44.34	"
Ash - - - -	16.26	"	17.00	"
	<u>100.00</u>		<u>100.00</u>	
Sulphur - - - -		"		"

Heating Power of dry sample, B.T.U., per pound of coal 11646

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Seam at 804'6"
Section
Coal 0'10"
Sand 1"
Coal 1'0"

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

B. H. 155

CX-155

UNION BAY, B.C. April 10th, 1919.

BORE 155. LABORATORY #422

	Height given in core box	Distance spaces were when received at U.B. Laboratory	% Ash
1	433'6" - up	1' 11"	91.80%
2	433'6" - 435'4"	8 $\frac{1}{2}$ "	57.04%
3	435'4" - 438'10"	3' 2"	90.20%
4	438'10" - 441'	1' 1"	31.54%
5	441' - 441'10"	8"	81.64%
6	441'10" - 443'6"	10"	32.12%
7	443'6" - 445'	1' 2 $\frac{1}{2}$ "	83.84%
8	445' - 447'	1' 10"	88.36%
9	447' - 449' 2"	2' 2"	28.32%
10	449'10" - 452' 3"	1' 7"	80.32%
11	452' 3" - 453'	9"	23.62%
12	453' - down	3' 6"	88.34%

Respectfully submitted,

Chas. A. Mathison

694

B. H. 156.

CX-156

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., May 22nd, 1919.

Laboratory Number 604

Sample of Coal received May 19th, 1919.

Marked Bore Hole #156. Lower seam at 180 ft.

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	1.34	" "
Volatile Matter - - -	"	31.58 "
Fixed Carbon - - -	"	55.58 "
Ash - - - -	"	12.84 "
		<u>100.00</u>
Sulphur - - - -	"	" "

Heating Power of dry sample, B.T.U., per pound of coal

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

- Copies to: Mr. Fleming,
- Mr. Savage,
- Mr. T. Graham,
- Mr. C. Graham,
- Mr. Lynn.
- File.

Respectfully submitted,

A. G. Mathison
CHEMIST

To:

694

B.H. 158

CHEMICAL LABORATORY

CX-158

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., July 11th, 1921.

Laboratory Number 21-586

Sample of Coal received July 7th, 1921.

Marked Bore Hole 158, Comox District. Section of seam coal 1'4" Shale 2'6"

Coal 6" Shale 4", Coal 1'4", shale 8" Coal 3'

Proximate Analysis	As Received %	Dry Basis %
Moisture	1.20	" "
Volatile Matter	37.40	37.85
Fixed Carbon	51.30	51.92
Ash	10.10	10.22
	<u>100.00</u>	<u>100.00</u>
Sulphur	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13,621

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

CX-162

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., November 9th 1921.

Laboratory Number 532

Sample of Coal received November 4th, 1921

Marked Sample #2 ^{No 2} Seam Middle Bench.

Bore Hole #162 Comox District

Proximate Analysis	As Received, %	Dry Basis %
Moisture - - - -	1.70	"
Volatile Matter - - -	31.60	"
Fixed Carbon - - - -	53.95	"
Ash - - - -	12.75	"
	<u>100.00</u>	<u> </u>
Sulphur - - - -	"	"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathison
CHEMIST

694

To:

CHEMICAL LABORATORY

CX-162

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., November 9th, 1921

Laboratory Number 531

Sample of Coal received November 4th, 1921

Marked Sample No.1, ^{No 2} ~~Lower~~ seam, top bench

Bore-hole No. 162, Comox District

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	1.60	"	"	"
Volatile Matter	31.75	"	"	"
Fixed Carbon	56.54	"	"	"
Ash	10.11	"	"	"
	<u>100.00</u>			
Sulphur		"		"

Heating Power of dry sample, B.T.U., per pound of coal

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathies
CHEMIST

694

To:

CX-162.

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., November 9th, 1921

Laboratory Number 533

Sample of Coal received November 4th, 1921

Marked Sample No. 3, ^{No 2} lower seam, bottom bench

Bore-hole No. ~~162~~ 162, Comox District

Proximate Analysis	As Received %	Dry Basis %
Moisture	1.90	"
Volatile Matter	31.10	"
Fixed Carbon	53.63	"
Ash	13.37	"
	<u>100.00</u>	<u> </u>
Sulphur	"	"

Heating Power of dry sample, B.T.U., per pound of coal

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathison
CHEMIST

694

To:-

B.H. 162
CX-162

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., November 9th, 1921

Laboratory Number 534

Sample of Coal received November 4th, 1921

Marked Composite analysis of Lab.Nos. 531, 532, 533

Bore-hole No.162, Comox District

Proximate Analysis	As Received %	Dry Basis %
Moisture	1.70	" "
Volatile Matter	31.60	32.14 "
Fixed Carbon	54.12	55.06 "
Ash	12.58	12.80 "
	<u>100.00</u>	<u>100.00</u>
Sulphur	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13,336

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathison
CHEMIST

694

To:

B.H. 163

CX-163

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C. ~~December~~ 16th, 1921.

Laboratory Number 632

Sample of Coal received December 13th, 1921.

Marked Bore Hole #163 Top Bench 2' 10"

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	1.80	"	"	"
Volatile Matter - - -	55.80	"	39.91	"
Fixed Carbon - - - -	55.95	"	56.98	"
Ash - - - - -	8.95	"	9.11	"
<hr style="width: 50%; margin: 0 auto;"/>				
Sulphur - - - - -	"	"	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13,053

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

CX-163

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., December 16th, 1921.

Laboratory Number **633**

Sample of **Coal** received **December 13th, 1921.**

Marked **Bore Hole #163 Bottom Bench 2' 2"**

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	1.90	" "
Volatile Matter - - -	32.25	32.97
Fixed Carbon - - -	55.10	56.17
Ash - - - -	10.75	10.86
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - -	"	"

Heating Power of dry sample, B.T.U., per pound of coal **13,418**

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathies
CHEMIST

To:

694

BH 164
CX-164

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., May 15, 1922.

Laboratory Number 313

Sample of coal received May 9th

Marked ~~Top bench~~ #164 depth 1069'

Proximate Analysis	As Received %	Dry Basis %
Moisture	0.70	" "
Volatile Matter	37.70	37.97 "
Fixed Carbon	53.57	55.94 "
Ash	6.03	8.09 "
	<u>100.00</u>	<u>100.00</u>
Sulphur	"	2.28 "

Heating Power of dry sample, B.T.U., per pound of coal 14,189

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coke good.

Respectfully submitted,

W. A. Mathies
CHEMIST

To:

694

CHEMICAL LABORATORY

CX-164

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., May 15, 1922.

Laboratory Number **314**

Sample of **coal** received **May 9, 1922**

Marked **Bottom bench bore #164 depth 1074'**

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	1.10	" "
Volatile Matter - - -	53.30	" 53.67 "
Fixed Carbon - - - -	50.50	" 51.14 "
Ash - - - - -	15.02	" 15.19 "
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - - -		" 2.86 % "

Heating Power of dry sample, B.T.U., per pound of coal **12,687**

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coke Good.

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

W. P. ...

CX-116

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

**FUEL
CERTIFICATE OF ANALYSIS**

UNION BAY, B.C., March 11th, 1916.

Laboratory Number 1087

Sample of Coal received March 1st, 1916.

Marked Drill Core from Bore # 116, from Depth 642'9" to 646' 1 1/2".

(3'4 1/2" of Coal.)

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - -	1.61	"	.....	"
Volatile Matter - - -	"	28.55	"
Fixed Carbon - - -	"	50.12	"
Ash - - -	"	21.33	"
		<u>100.00</u>	
Sulphur - - -	"	0.95	"

Heating Power of dry sample, B. T. U. per pound of coal... 12,044....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B. T. U. supplied by United States Bureau of Standards.

Remarks: Coke: Poor. This Coal will not coke in beehive oven.

Average Specific Gravity of Core as received: 1.332

694

Respectfully submitted

R. Thomson
.....
Chemist.

To: J.R. Lockard, Gen. Superintendent.

B H 156
CX-166

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., June 16, 1922.

Laboratory Number **465**

Sample of **Coal** received **June 12th**

Marked **Sample of Middle bench of new seam, Bore hole #166 Depth 1064'5"**

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	1.35	"		"
Volatile Matter - - -	36.95	"	57.45	"
Fixed Carbon - - - -	53.02	"	53.75	"
Ash - - - -	8.68	"	8.80	"
	<u>100.00</u>		<u>100.00</u>	
Sulphur - - - -		"		"

Heating Power of dry sample, B.T.U., per pound of coal **14,055**

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Coke good, Coal 1'- 10"
Bone 0 - 2"
Coal 1'- 2"

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

CHEMICAL LABORATORY

CX-167

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., October 26th, 1922.

Laboratory Number 1056

Sample of Coal received Oct. 23, 1922

Marked Bore hole #167 Dept. 1327'7" upper bench

Proximate Analysis	As Received %	Dry Basis %
Moisture	1.10	"
Volatile Matter	36.10	"
Fixed Carbon	51.50	"
Ash	11.30	"
	<u>100.00</u>	<u> </u>
Sulphur	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13684

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks: Coke Good

Section

Dirty coal 3"

Clean " 2'6" - Sample assayed

Shale 2'

Coal & shale 3"

Coal 1'

W. A. Mathison
Respectfully submitted,

W. A. Mathison
CHEMIST

To:

10-26-22

694

CHEMICAL LABORATORY

CX-167

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., October 26th, 1922.

Laboratory Number 1057

Sample of Coal received Oct. 23rd, 1922

Marked Core hole #167 Dept. 1327ft. 7" Lower bench

Proximate Analysis	As Received %	Dry Basis %
Moisture	1.30	" "
Volatile Matter	36.60	" "
Fixed Carbon	55.80	" "
Ash	8.40	" "
	<u>100.00 %</u>	<u> </u>
Sulphur	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13640

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks: Coke Good

Section

- Dirty Coal 3"
- Clean " 2'6"
- Shale 2'
- Coal & Shale 3"
- Coal 1' - this is above assay

No 2 seam

Respectfully submitted,

A. A. Mathies
CHEMIST

To:

694

CX-167

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., November 6, 1922

Laboratory Number 1079

Sample of Coal bore hole 167 received October 31, 1922

Marked Sample #4 Core from 4

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	1.17	"	"	"
Volatile Matter	32.76	"	"	"
Fixed Carbon	52.59	"	"	"
Ash	13.48	"	"	"
	<u>100.00</u>			
Sulphur		"	"	"

Heating Power of dry sample, B.T.U., per pound of coal

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Section see back Lab. 1076

Respectfully submitted,

A. D. Mathison
CHEMIST

To:

694

CX-167

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., Nov. 6, 1922

Laboratory Number 1080

Sample of Coal bore hole #167 received Oct. 31, 1922

Marked Sample #5 Core from #0

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	1.29	" "
Volatile Matter - - - -	32.48	" "
Fixed Carbon - - - -	51.54	" "
Ash - - - -	14.69	" "
	<u>100.00</u>	
Sulphur - - - -		" "

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Section See back Lab. 1076

Respectfully submitted,

A. L. Mathison
CHEMIST

To:.....

694

CX-167

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., November 6, 1922.

Laboratory Number **1077 B**

Sample of **Coal Bore Hole 167** received **October 31st, 1922.**

Marked **Sample #2 washings from 4 #2 sample**

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	0.90	" "
Volatile Matter - - - -	33.23	" "
Fixed Carbon - - - -	48.47	" "
Ash - - - -	17.40	" "
	100.00	
Sulphur - - - -		" "

Heating Power of dry sample, B.T.U., per pound of coal **8**

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Section see back Lab. 1076

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

CHEMICAL LABORATORY

3H 167
CX-167

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., November 6, 1922

Laboratory Number 1077 A

Sample of Coal received October 31, 1922.

Marked Sample #2 washings from #4 #1 sample

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	0.89	" "
Volatile Matter - - -	31.70	" "
Fixed Carbon - - -	47.21	" "
Ash - - - -	20.20	" "
<hr/>		
Sulphur - - - -		" "

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Section see back Lab. 1076

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

B. H. 167

694

CX-167

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., Nov. 6, 1922

Laboratory Number 1076

Sample of Coal received October 31, 1922

Marked Sample #1 washings from #2 bore hole 167

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	1.86	"	"	"
Volatile Matter	32.35	"	"	"
Fixed Carbon	48.29	"	"	"
Ash	17.50	"	"	"
Sulphur		"	"	"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Section see back of Lab. 1076

Respectfully submitted,

W. J. Mathian
CHEMIST

694

To:.....

CX-167

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., Nov. 6th, 1922.

Laboratory Number **1078**

Sample of Coal Bore hole #167 received October 31st, 1922

Marked **Sample #3 washings from 6**

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	1.56	" "
Volatile Matter - - -	27.76	" "
Fixed Carbon - - - -	45.30	" "
Ash - - - -	25.38	" "
	100.00	
Sulphur - - - -		" "

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Section see back Lab. 1076

Respectfully submitted,

A. A. Mathies
CHEMIST

To:.....

694

CX-168

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., November 16th, 1922

Laboratory Number 1120

Sample of Coal received October 15th, 1922

Marked Bore hole 168 #4 seam upper bench sample #1
(Section see back)

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	1.38	"	"	"
Volatile Matter	32.90	"	"	"
Fixed Carbon	50.52	"	"	"
Ash	15.20	"	"	"
	<u>100.00</u>			
Sulphur		"	"	"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coal Good

Respectfully submitted,

A. J. Mathison
CHEMIST

To:.....

694

BH 168
CX-168

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., November 16, 1922

Laboratory Number 1121

Sample of Coal received October 13, 1922

Marked Bore Hole #168 #4 seam Lower bench Sample #2

(section see back Lab. 1120)

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	1.15	"	"	"
Volatile Matter	35.18	"	"	"
Fixed Carbon	45.47	"	"	"
Ash	20.20	"	"	"
	<u>100.00</u>			
Sulphur		"	"	"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coal Good

Respectfully submitted,

A. G. Mathies
CHEMIST

694

To:.....

BH 169
CX-169

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., January 22nd, 1923

Laboratory Number 25-51

Sample of Seam No. 4 Mine coal received January 22nd, 1923

Marked Bore hole No. 169, Depth 1577 ft.-1583 ft.

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	1.05	"	"	"
Volatile Matter	35.10	"	"	"
Fixed Carbon	52.25	"	"	"
Ash	11.60	"	"	"
	<u>100.00</u>			
Sulphur		"	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13462

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. A. Mathies
CHEMIST
694

To:

BH 170.
CX-170

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., January 30th, 1923

Laboratory Number 23-69

Sample of coal received January 27th, 1923

Marked Farm seam, bore-hole 170, depth 1148 ft

Proximate Analysis	As Received	% Dry Basis	%
Moisture	1.00	"	"
Volatile Matter	35.52	"	"
Fixed Carbon	50.28	"	"
Ash	13.20	"	"
	<u>100.00</u>		
Sulphur		"	"

Heating Power of dry sample, B.T.U., per pound of coal 15324

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. A. Mathison
CHEMIST

694

To:-

BH 171
CX-171

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., April 26th, 1923

Laboratory Number 326

Sample of Coal received April 23rd, 1923

Marked Bore hole No. 171 Depth 1165' 0"

Proximate Analysis	As Received	% Dry Basis	%
Moisture - - - -	<u>1.10</u>	"	"
Volatile Matter - - - -	<u>36.60</u>	"	<u>37.01</u> "
Fixed Carbon - - - -	<u>52.77</u>	"	<u>53.35</u> "
Ash - - - -	<u>9.53</u>	"	<u>9.64</u> "
	<u>100.00</u>		<u>100.00</u>
Sulphur - - - -		"	"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Section: - Coal 1' 10"
Brown Shale 2"
Coal 2' 10"

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

B H 172
CX-172

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., February 7th. 1923.

Laboratory Number 32-92

Sample of Coal received February 5th. 1923.

Marked Bore Hole #172 Depth 391' 6" to 393' 11"

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	1.15	"	"	"
Volatile Matter	34.58	"	34.98	"
Fixed Carbon	50.31	"	50.90	"
Ash	13.96	"	14.12	"
	<u>100.00 %</u>		<u>100.00 %</u>	
Sulphur		"		"

Heating Power of dry sample, B.T.U., per pound of coal 13251

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

BH 173
CX-173

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., ~~March 15th, 1928~~

Laboratory Number 185

Sample of Coal received March 9th, 1928

Marked Core hole No. 173, No. 2 Seam, No. 4 Sample 596' 9" to 599' 9"

(Section of seam - Coal 8' 10" Depth 600' Dirty coal 2')

Proximate Analysis	As Received	% Dry Basis	%
Moisture	1.11	"	"
Volatile Matter	56.89	"	"
Fixed Carbon	55.88	"	"
Ash	6.80	"	"
	<u>100.00</u>		
Sulphur		"	"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Sample No. 1	Cuttings,	Depth 596' to 597'	ash in sample	23.30 %
" No. 2	"	" 597' to 598'	"	25.00 %
" No. 3	"	" 598' to 599'	"	18.40 %

Respectfully submitted,

A. A. Mathison
CHEMIST

694

To:.....

CX-173

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., May 22nd, 1925

Laboratory Number 405

Sample of Coal received May 18th, 1925

Marked Bore Hole No. 178, Lower Seam, 601' - 604'

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	2.00	"	"	"
Volatile Matter	33.90	"	34.59	"
Fixed Carbon	48.06	"	49.04	"
Ash	16.04	"	16.37	"
	<u>100.00</u>		<u>100.00</u>	
Sulphur		"		"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. A. Mathison
CHEMIST

694

To:.....

CX-175

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., May 22nd, 1923

Laboratory Number 400

Sample of Coal received May 18th, 1923

Marked Bore Hole No. 175, No.2 Seam, Top Bench, 249' 9"

Proximate Analysis	As Received %	Dry Basis %
Moisture	1.95	" "
Volatile Matter	35.25	35.95
Fixed Carbon	50.20	51.19
Ash	12.60	12.86
	<u>100.00</u>	<u>100.00</u>
Sulphur	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13,221

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

W. A. Mathies
CHEMIST

694

To:

CX-175

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., May 22nd 1923

Laboratory Number 401

Sample of Coal received May 18th, 1923

Marked Bore Hole No. 175, No.2 Seam, Middle Beach, 252' 9"

Proximate Analysis	As Received	% Dry Basis	%
Moisture	1.65	"	"
Volatile Matter	36.65	"	37.26
Fixed Carbon	48.26	"	49.07
Ash	15.44	"	15.67
	<u>100.00</u>		<u>100.00</u>
Sulphur		"	"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. A. Metherson
CHEMIST

694

To:.....

BH 175
CX-175

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., April 26th, 1923

Laboratory Number 325

Sample of Coal received April 23rd, 1923

Marked Sample of coal found at 432 ft. in Bore hole No. 175 #4?

Proximate Analysis	As Received	% Dry Basis	%
Moisture	1.90	"	"
Volatile Matter	32.60	"	"
Fixed Carbon	43.70	"	"
Ash	22.80	"	"
Sulphur	"	"	"

Heating Power of dry sample, B.T.U., per pound of coal

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Section:	Shale	10' 0"
	Shale and coal	1' 0"
	Coal (dirty)	4' 0"
	Shale	1' 0"

Respectfully submitted,

A. D. Mathison
CHEMIST

694

To:

BH 177
CX-177

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., August 9th, 1923.

Laboratory Number **702**

Sample of **Coal** received

Marked **Bore Hole No. 177 No. 2 Seam**

Top Bench 1195 - 5" - 1198 - 4"

Proximate Analysis	As Received % Dry Basis %	
Moisture	1.10	" "
Volatile Matter	36.20	36.60 "
Fixed Carbon	50.20	50.76 "
Ash	12.50	12.64 "
	<u>100.00</u>	<u>100.00</u>
Sulphur		" "

Heating Power of dry sample, B.T.U., per pound of coal **13273**

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. G. Mathison
CHEMIST

694

To:

34 177
CX-177

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., August 9th, 1923.

Laboratory Number 705

Sample of Coal received

Marked Bere Hole No. 177 No. 2 Seam

Bottom Bench

Proximate Analysis	As Received	% Dry Basis	%
Moisture	1.20	"	"
Volatile Matter	32.10	"	32.49
Fixed Carbon	49.42	"	50.02
Ash	17.28	"	17.49
	<u>100.00</u>		<u>100.00</u>
Sulphur	"	"	"

Heating Power of dry sample, B.T.U., per pound of coal 12395

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

W. A. Mathison
CHEMIST

694

To: _____

B.H. 178
CX-178

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., May 22nd, 1923

Laboratory Number 402

Sample of Coal received May 18th, 1923

Marked Core Hole No. 178, No. 2 Seam, Top Bench, 524' 6" -- 525'

Proximate Analysis	As Received %	Dry Basis %
Moisture	1.80	"
Volatile Matter	36.30	36.96
Fixed Carbon	49.94	50.36
Ash	11.96	12.18
	<u>100.00</u>	<u>100.00</u>
Sulphur	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13528

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

W. A. Mathison
CHEMIST

694

To:

BH 165
CX-165

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., March 9th, 1922

Laboratory Number 149

Sample of Coal received March 6th 1922

Marked bore hole #165 top bench lower seam

Proximate Analysis	As Received	% Dry Basis
Moisture - - - -	1.30	" "
Volatile Matter - - -	35.31	" 35.78 "
Fixed Carbon - - -	53.69	" 54.39 "
Ash - - - -	9.70	" 9.82 "
Sulphur - - - -		" "

Heating Power of dry sample, B.T.U., per pound of coal

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

CX-165

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., ~~March 9th,~~ 1922.

Laboratory Number 150

Sample of coal received March 6th, 1922.

Marked More hole #165 middle bench lower seam

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	1.10	"	"	"
Volatile Matter - - -	35.24	"	35.63	"
Fixed Carbon - - - -	54.36	"	53.96	"
Ash - - - -	10.30	"	10.41	"
	<u>100.00</u>		<u>100.00</u>	
Sulphur - - - -		"		"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Respectfully submitted,


 CHEMIST

To:

694

184

CX-184
[Signature]

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., January 9th, 1932

Laboratory Number 32-10

Sample of Coal. bore hole - 184 received January 9th.

Marked Top Seam, depth 77 feet to 87 feet 6 inches.

Proximate Analysis	As Received %	Dry Basis %
Moisture	1.0	" "
Volatile Matter	32.4	" "
Fixed Carbon	51.20	" "
Ash	13.80	" "
	<u>100.00</u>	
Sulphur	2.44	" "

Heating Power of dry sample, B.T.U., per pound of coal 12,945

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coal good.

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

CX-184

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., January 9th. 1932

Laboratory Number 82-11

Sample of Coal Base Hole # 184 received January 6th.

Marked Lower Seam, Top Bench depth 172 feet. eight 392 grams.

Proximate Analysis	As Received %	Dry Basis %
Moisture	1.80	"
Volatile Matter	22.70	"
Fixed Carbon	55.90	"
Ash	9.60	"
	<u>100.00</u>	
Sulphur	1.60	"

Heating Power of dry sample, B.T.U., per pound of coal 13,675

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Good coal.

Respectfully submitted,

A. L. Mathison
CHEMIST

To: _____

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., January 9th, 1934

Laboratory Number 32-12

Sample of Coal bore hole 184 received January 6th.

Marked Lower seam Middle bench depth 176 ft. eight 445 grms.

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	2.20	"	"	"
Volatile Matter	31.10	"	"	"
Fixed Carbon	57.00	"	"	"
Ash	9.70	"	"	"
	<u>100.00</u>			
Sulphur	0.76	"	"	"

Heating Power of dry sample, B.T.U., per pound of coal 13,600

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coke food.

Respectfully submitted,

A. L. Mathison
CHEMIST

To:

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., January 9th. 1932

Laboratory Number 32,15

Sample of Coal from Hole # 184 received January 4th. 1932

Marked Lower seam, Bottom bench depth 179 ft. Weight 715 gms.

Proximate Analysis	As Received %	Dry Basis %
Moisture	2.50	"
Volatile Matter	31.70	"
Fixed Carbon	54.50	"
Ash	11.50	"
Sulphur	0.90	"

Heating Power of dry sample, B.T.U., per pound of coal 13,270

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Good coal.

Respectfully submitted,

A. G. Mathison
CHEMIST

To:

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., January 9th, 1932

Laboratory Number ~~22-11, 22-12, 22-13~~

Sample of Coal, Base No 104 received January 6th.

Marked Composite (A.S.P. 1001).

Proximate Analysis	As Received	% Dry Basis	%
Moisture - - - -	2.19	"	"
Volatile Matter - - - -	31.76	"	"
Fixed Carbon - - - -	58.62	"	"
Ash - - - -	10.41	"	"
	<u>100.00</u>		
Sulphur - - - -		"	"

Heating Power of dry sample, B.T.U., per pound of coal 12,479

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

~~Results calculated from lab. 22-11, 22-12, and 22-13.~~

Respectfully submitted,

A. H. Mathison
CHEMIST

To: _____

694

CX-185
185

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., April 14th, 1941.

Laboratory Number 41-246

Sample of Borehole Core received

Marked Borehole core from Borehole # 185 for Proximate Analysis and B.T.Us.

Analysis:

Seam Depth	Moisture	Volatile	F. Carbon	Ash	Calorific value
1025'	.86 %	28.93 %	38.70 %	31.51 %	10148 B.T.Us.
1092'	.70	35.01	51.93	12.36	13532 "
1190"	.84	33.51	53.51	12.24	13502 "
1302'	.90	32.19	59.32	7.59	14246 "

Remarks:

Respectfully Submitted,

[Signature]

CHEMIST

694

To: R. Strachan Esq. c.c. NRP
HS
PTG

CX-186
86

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., April 14th, 1941

Laboratory Number 41-247

Sample of Borehole Core received

Marked Borehole Core from Borehole # 186 for Proximate Analysis and B.T.Us.

Analysis:

Seam Depth	Moisture	Volatile	F. Carbon	Ash	Calorific value
851'	1.28 %	32.49 %	46.78 %	17.45 %	12387 B.T.Us.
962'	.75	36.63	53.62	9.60	14032 "
1028'	.74	33.41	55.99	9.86	13726 "

Remarks:

Respectfully Submitted,

A. J. [Signature]
CHEMIST

To: R. Strachan Esq. c.c. HRP
HB
PTG

694

187CX-187

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., May 26th, 1941.

Laboratory Number _____

Sample of Borehole Coal received _____

Marked Borehole # 187 Comox District for Proximate Analysis and B.T.Us.

from R. Strachan Esq.

Analysis:

Lab. #	Seam #	Seam Depth	Thickness	Moisture	Volatile	F. Carbon	Ash	Calorific Value
41-732	#1	902'	2' 11"	1.37 %	29.52 %	41.89 %	27.22 %	10733 B.T.Us.
41-733	#2	1002'	6' 2"	1.27	33.62	53.76	11.35	13451
41-734	#3	1096'	2' 11"	1.14	31.54	49.78	17.54	12236
41-735	#4a	1190'	4' 11"	1.20	31.26	52.11	15.43	12358
41-736	#4b	1216'	5' 2"	1.45	29.60	52.38	16.57	12079

Remarks:

C.C. HRP
HB
HKS
PFG

Respectfully Submitted,

[Signature]

CHEMIST

To: R. Strachan Esq.

694

BK 188
CX-788

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., November 10th, 1942

Laboratory Number 42-2863 to 42-2866

Sample of Borehole Core received Jan 23/42

Marked Borehole #188 sample of core from #1 seam; #2 Seam top; #2 Seam Bottom; #4 Seam

Analysis:

	<u>Moisture</u>	<u>Volatile</u>	<u>F. Carbon</u>	<u>Ash</u>	<u>Calorific value</u>
#1 Seam					
Top bench 2'11" coal					
Depth 1615' 3"	1.40 %	35.45 %	49.41 %	13.74 %	12,729 B. T. Us.
#2 Seam					
Top bench 1' 4" coal					
Depth 1711' 0"	1.46	34.91	56.36	7.27	13,963 "
#2 Seam					
Bottom bench 2'5" coal					
Depth 1715' 11"	1.32	35.67	56.13	6.88	14,205 "
#4 Seam					
1' 10" coal					
Depth 1863' 4"	1.23	34.81	44.78	19.18	11,713 "

Remarks:

Respectfully Submitted,

G. F. Fisher
CHEMIST

To: R. Strachan Esq., Mining Engineer
cc P. F. Grundy

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

14. 193
CX-193

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., July 18th. 1949.

Laboratory Number.....

Sample of Bore Hole #193. received.....

Marked Bore Hole # 193. #2 Seam Depth 373' -11"

Analysis:

Coal 3")
Coal & Shale ... 1") #1 Sample.
Coal 10")

Shale 6"
Coal 2"- 3") #2 Sample.

#1 Sample #2 Sample

Moisture	0.54 %	0.44 %
Volatile	32.70	33.55
Fixed Carbon	52.76	53.33
Ash	14.00	12.68

Calorific Value 12,720 B.T.Us. 12,960 B.T.Us.

Sulphur 2.41 % 2.51 %

Coke Free swelling index 4 6

Remarks:

Respectfully submitted

[Signature]
CHEMIST

To: R. K. Smart Esq., cc LOM.
RS.

694

EX-193

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., July 18th, 1949.

Laboratory Number

Sample of Bore Hole # 193. received

Marked Bore Hole # 193. #4 Seam Depth 676' - 9"

Analysis:

Coal	.....	1' - 3")	#3 Sample
Shale	.....	1' - 0"	
Coal	.....	1' - 2")	#4 Sample
Shale	.....	- 2"	
Coal	.....	2' - 9")	#5 Sample

	#3 Sample	#4 Sample	#5 Sample
Moisture	0.72 %	0.68 %	0.63 %
Volatile	24.63	32.33	30.74
Fixed Carbon	41.13	61.63	56.65
Ash	33.52	5.76	11.98
Calorific Value	9,240 B. T. Us.	14,224 B. T. Us.	13,091 B. T. Us.
Sulphur	3.12 %	2.31 %	2.56 %
Coke Free swelling index	3	6	5

Remarks:

Respectfully submitted

[Signature]
CHEMIST

To: R. E. Smart Esq., B.C.S.
RS.C

694

CX-178

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., May 22nd, 1923

Laboratory Number 403

Sample of Coal received May 18th, 1923

Marked Core Hole No. 178, No. 2 Seam, Middle Bench, 528'

Proximate Analysis	As Received	% Dry Basis	%
Moisture	1.40	"	"
Volatile Matter	37.20	"	37.73
Fixed Carbon	48.36	"	49.07
Ash	15.02	"	15.20
	<u>100.00</u>		<u>100.00</u>
Sulphur	"	"	"

Heating Power of dry sample, B.T.U., per pound of coal.....

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. A. Mathison
CHEMIST

To:.....

694

B. H 178
CX-178

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., May 22nd, 1923

Laboratory Number **404**

Sample of **Coal** received **May 18th, 1923**

Marked **Bore Hole No. 178, No. 2 Seam, Bottom Bench, 529' 6" -- 531'**

Proximate Analysis	As Received	% Dry Basis	%
Moisture - - - -	1.70	"	"
Volatile Matter - - - -	37.40	"	38.05
Fixed Carbon - - - -	49.92	"	50.78
Ash - - - -	10.98	"	11.17
	100.00		100.00
Sulphur - - - -		"	"

Heating Power of dry sample, B.T.U., per pound of coal **13766**

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

W. A. Mathison
CHEMIST

To: _____

694

CX-178

Canadian Collieries (Dunsmuir), Limited
St. John's First Aid and Mine Rescue Association

CUMBERLAND, B.C.,

192

Depth	Analysis
532' 0"	Top Bench
	Moisture 1.80
	Vol Mat 36.30
	Fixed Car 49.92
	Ash 11.96
	<u>100.00</u>
	Middle Bench
	Moist 1.40
	Vol Mat 37.20
	Fixed Car 48.38
	Ash 13.02
	<u>100.00</u>
	Bottom Bench
	Moist 1.70
	Vol Mat 37.40
	Fixed Car 49.92
	Ash 10.98
	<u>100.00</u>

694

180
CX-180

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., September 12th, 1925

Laboratory Number 794

Sample of COAL received September 10th, 1925

Marked Bore hole No. 180, upper bench, No. 1 seam: 578' 0" to 582' 0"

Proximate Analysis	As Received	%	Dry Basis	%
Moisture	1.20	"	"	"
Volatile Matter - - - - -	37.50	"	37.96	"
Fixed Carbon	48.90	"	49.49	"
Ash - - - - -	12.40	"	12.55	"
	<u>100.00</u>		<u>100.00</u>	
 Sulphur	 2.35 %	 "	 "	 "

Heating Power of dry sample, B.T.U., per pound of coal 13143

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. A. Mathies
CHEMIST

694

To:

CX-180

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., September 12th, 1923

Laboratory Number **795**

Sample of **COAL** received

Marked **Bore hole No. 180, Lower bench, No. 1 seam 583' 0" to 584' 0"**

583' 0"

Proximate Analysis	As Received	% Dry Basis	%
Moisture	1.20	"	"
Volatile Matter	37.20	"	37.65
Fixed Carbon	48.30	"	48.89
Ash	13.30	"	13.46
	<u>100.00</u>		<u>100.00</u>
Sulphur	3.92 %	"	"

Heating Power of dry sample, B.T.U., per pound of coal **13050**

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. A. Mathies
CHEMIST

694

To:

CX-180

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B. C., September 12th, 1925

Laboratory Number **796**

Sample of **COAL** received

Marked **Composite of Bore hole No. 180, upper and lower bench, Lab. No. 794 and 795**

Proximate Analysis	As Received	% Dry Basis
Moisture	1.30	" "
Volatile Matter	87.45	57.90
Fixed Carbon	49.75	49.35
Ash	12.60	12.75
	<u>100.00</u>	<u>100.00</u>
Sulphur	"	"

Heating Power of dry sample, B.T.U., per pound of coal **13091**

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Respectfully submitted,

A. B. Mathison
CHEMIST

694

To:

ANALYSIS CUMBERLAND COALFIELD.

ANALYSIS.

SUMMARY OF DATA (NOT ALL OF IT)

BORE HOLE	SEAM NO.	MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	SULPHUR	B. T. U.	REMARKS.
CX-106	No. 4 Seam	1.00%	32.30%	56.80%	9.90%	2.40%		
CX-108	No. 1 Seam	0.77%	34.30%	57.86%	7.84%			
CX-119	No. 1 Seam	1.24%	35.95%	56.65%	7.40%	1.15%		
CX-119	No. 4 Seam	1.33%	29.98%	50.86%	19.16%	0.61%		
CX-122	No. 1 Seam	0.55%	27.80%	60.70%	11.00%	2.97%		
CX-122	No. 4 Seam	0.70%	22.10%	59.10%	18.10%	0.68%		
CX-126	No. 2 Seam	4.30%	37.00%	42.44%	16.26%		11,646	see analysis certificate
CX-126	No. 4 Seam	3.90%	35.50%	47.20%	13.40%			see analysis certificate
CX-162	No. 2 Seam	1.70%	32.14%	55.06%	12.80%		13,336	"
CX-163	No. 2 Seam Top Bench 2'-10"	1.80%	33.91%	56.98%	9.11%		13,853	"
CX-163	No. 2 Seam Bottom Bench 2'-2"	1.90%	32.97%	56.17%	10.86%		13,418	"
CX-164	No. 2 Seam Middle Bench 1'-10"	0.70%	37.97%	53.94%	8.09%	2.28%	14,189	"
CX-164	No. 2 Seam Bottom Bench 1'-9"	1.10%	33.67%	51.14%	15.19%	2.86%	12,687	"
CX-167	No. 2 Seam Upper Bench 2'-6"	1.10%	36.10%	51.50%	11.30%		13,684	"
CX-167	No. 2 Seam Lower Bench 1'-0"	1.30%	36.50%	53.80%	8.40%		13,840	"
CX-167	No. 4 Seam 1'-7" Bench	1.17%	32.76%	52.59%	13.48%			"
CX-167	No. 4 Seam 0'-10" Bench	1.29%	32.48%	51.54%	14.69%			"
CX-168	No. 4 Seam Upper Bench	1.38%	32.90%	50.52%	15.20%			"
CX-168	No. 4 Seam Lower Bench	1.15%	33.18%	45.47%	20.20%			"
CX-169	No. 4 Seam	1.05%	35.10%	52.25%	11.60%		13,462	"
CX-170	No. 2 Seam	1.00%	35.52%	50.28%	13.20%		13,324	"
CX-171	No. 2 Seam	1.10%	36.60%	52.77%	9.53%			"
CX-172	No. 2 Seam	1.15%	34.58%	50.31%	13.96%		13,251	"
CX-173	No. 2 Seam	1.11%	36.89%	55.20%	6.80%			"
CX-175	No. 4 Seam	1.90%	32.60%	43.70%	21.80%			"
CX-177	No. 2 Seam Top Bench	1.10%	36.20%	50.20%	12.50%		13,273	"
CX-177	No. 2 Seam Bottom Bench	1.20%	32.10%	49.42%	17.28%		12,395	"

699

ANALYSIS CUMBERLAND COALFIELD. (Continued).

ANALYSIS

BORE HOLE	SEAM NO.	MOISTURE	VOLATILE MATTER	FIXED CARBON	ASH	SULPHUR	B. T. U.	REMARKS.
CX-178	No. 2 Seam Top Bench	1.80%	36.30%	49.94%	11.96%		13,528	11
CX-179	No. 2 Seam Middle Bench	1.40%	37.20%	48.38%	13.02%			11
CX-179	No. 2 Seam	1.70%	37.40%	49.92%	10.98%			
CX-180	No. 1 Seam	1.20%	37.45%	48.75%	12.60%		13,143	11

694

COHOX COALFIELD
CUMBERLAND AREA
LITHOLOGIC LOG DESCRIPTIONS
CX-1 to CX-192
(SUBMITTED BY CURCIO
IN 1975.)

694(11)

These lithologic logs were
submitted by M. Curcio to the
Ministry in 1975.

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 1

CX-1

Elevation: 488.7'

Depth: 516' 11"

Location: At Brickyard on Comox Road, Comox District, V.I

Date: 1889

	<u>Thickness</u>	<u>Depth</u>
Surface	3' 7"	3' 7"
Sandstone	78' 10"	82' 5"
Brown shale	3' 11"	86' 4"
Dark brown shale and coal	19' 11"	
Sandstone		106' 3"
Sandstone plies	5' 0"	111' 3"
Sandstone	17' 6"	128' 9"
Light brown shales	10' 7"	139' 4"
Coal	2' 2"	141' 6"
Brown shale	4' 4"	145' 1"
Coal	8"	146' 6"
Shale	6"	147' 0"
Coal	2"	147' 2"
Sandstone	30' 6"	177' 8"
Parting		177' 9"
Sandstone plies	7' 0"	184' 9"
Sandstone	44' 6"	229' 3"
Coal	7' 0"	236' 3"
Shale	7' 0"	243' 3"
Coal	6"	243' 9"
Shale	3' 0"	246' 9"
Coal	1' 0"	247' 9"
Shale	2' 0"	249' 9"
Sandstone	48' 0"	297' 9"
Shale	6"	298' 3"
Sandstone	9"	299' 0"
Shale	4"	299' 4"
Coal	4"	299' 8"
Shale	2"	299' 1"
Coal	10"	300' 8"
Shale	6' 9"	307' 5"
Coal	1' 11"	309' 4"
Shale	12' 0"	321' 4"
Coal	11"	322' 3"
Shale	4' 0"	326' 3"
Coal and shale	1' 4"	327' 7"
Shale and sandstone	4' 0"	331' 7"
Sandstone	19' 0"	350' 7"
Coal	1' 0"	351' 7"
Shale	2' 0"	353' 7"

2

Bore Hole No. 1 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	26' 0"	379' 7"
Brown shale	3' 0"	382' 7"
Sandstone plies	14' 10"	397' 5"
Brown shale	6"	398' 11"
Coal	1' 2"	399' 1"
Brown shale	4' 0"	403' 1"
Conglomerate	113' 10"	516' 11"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 2 *CX-2*

Elevation: *524.9'* Depth: 533' 8"

Location: On Comox Townsite between 2nd & 3rd streets, Comox, V.I.

Date: 1889

	<u>Thickness</u>	<u>Depth</u>
Surface	10' 0"	10' 0"
Sandstone	70' 0"	80' 0"
Sandstone plies	1' 6"	81' 6"
Shale	2' 2"	83' 8"
Coal	4"	84' 0"
Shale	8"	84' 8"
Sandstone plies	37' 0"	121' 8"
Coal and shale	9' 0"	130' 8"
Sandstone and sandstone plies	84' 6"	215' 2"
Shale and coal	12' 0"	227' 2"
Sandstone and sandstone plies	56' 0"	283' 2"
Shale	5' 4"	288' 6"
Sandstone plies	2' 0"	290' 6"
Coal and shale	4' 0"	294' 6"
Sandstone plies	2' 0"	296' 6"
Shale	12' 6"	309' 0"
Coal	1' 4"	310' 4"
Shale	5' 6"	315' 10"
Coal	1' 0"	316' 10"
Bony coal	2"	317' 0"
Coal	10"	317' 10"
Shale	3' 0"	320' 10"
Coal	8"	321' 6"
Shale	10"	322' 4"
Sandstone plies	36' 0"	358' 4"
Shale (strong)	2' 6"	360' 10"
Coal	1' 2"	362' 0"
Shale (strong)	6' 4"	368' 4"
Sandstone plies	48' 0"	416' 4"
Shale and coal	13' 0"	429' 4"
Sandstone	59' 0"	488' 4"
Shale	8' 9"	497' 1"
Coal	2' 9"	499' 10"
Shale	1' 2"	501' 0"
Coal	8"	501' 8"
Shale	1' 4"	503' 0"
Coal	8"	503' 8"
Bony coal	8' 0"	511' 8"
Shale	2' 0"	513' 8"
Shale	2' 0"	515' 8"
Conglomerate	18' 0"	533' 8"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 3 *CX-3*

Elevation: *565'* Depth: 528' 2"

Location: Behind Union Hotel, Comox District, V.I.

Date: 1889

	<u>Thickness</u>	<u>Depth</u>
Surface	11' 0"	11' 0"
Sandstone	11' 0"	22' 0"
Coal	6"	22' 6"
Shale	6"	23' 0"
Sandstone	59' 0"	82' 0"
Shale	10' 0"	92' 0"
Sandstone	108' 0"	200' 0"
Sandy shale and coal	13' 0"	213' 0"
Sandstone	10' 0"	223' 0"
Shale	14' 0"	237' 0"
Coal	1' 6"	238' 6"
Shale	4' 6"	243' 0"
Coal	10"	243' 10"
Bony coal	2"	244' 0"
Coal	1' 0"	245' 0"
Shale	10' 0"	255' 0"
Sandstone	16' 0"	271' 0"
Shale	6' 0"	277' 0"
Sandstone	8' 0"	285' 0"
Shale	5' 0"	290' 0"
Sandstone	34' 0"	324' 0"
Sandy shale	27' 0"	351' 0"
Shale	6' 0"	357' 0"
Coal	10"	357' 10"
Bone Coal	2"	358' 0"
Coal	8"	358' 8"
Shale	7' 0"	365' 8"
Sandstone	59' 0"	424' 8"
Shale	8' 0"	432' 8"
Sandstone	12' 0"	444' 8"
Shale	27' 8"	472' 4"
Coal	8"	473' 0"
Bone	2"	473' 2"
Coal	10"	474' 0"
Shale and coal	6' 0"	480' 0"
Coal	1' 10"	481' 10"
Shale	2' 6"	484' 4"
Coal	6"	484' 10"
Shale	13' 0"	497' 10"

Bore Hole No. 3 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	6' 4"	504' 2"
Coal with layers of shale	4' 4"	508' 2"
Coal	2' 8"	510' 10"
Shale	1' 4"	512' 2"
Conglomerate	16' 0"	528' 2"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 4

CX-4

Elevation: 600 Feet

Depth: 556' 4"

Location: Half way to No. 5 Shaft from Union Hotel, Comox District, V.I.

Date: 1889

	<u>Thickness</u>	<u>Depth</u>
Surface	2' 6"	2' 6"
Sandstone and	35' 0"	37' 6"
Coal	6"	38' 0"
Shale	6"	38' 6"
Sandstone	66' 0"	104' 6"
Shale	4"	104' 10"
Coal	2"	105' 0"
Shale and coal	3' 2"	108' 2"
Coal	4"	108' 6"
Shale	6' 8"	115' 2"
Coal	2"	115' 4"
Shale	2"	115' 6"
Sandstone	75' 0"	190' 6"
Coal and shale	11' 0"	201' 6"
Sandstone	78' 0"	279' 6"
Coal	1' 4"	280' 10"
Shale	2' 0"	282' 10"
Coal	1' 0"	283' 10"
Sandy shale	20' 8"	304' 6"
Coal	2' 0"	306' 6"
Shale	17' 0"	323' 6"
Sandstone	16' 0"	339' 6"
Shale	4' 0"	343' 6"
Sandstone	43' 0"	386' 6"
Coal	6"	387' 0"
Sandy shale	5' 0"	392' 0"
Sandstone plies	7' 6"	399' 6"
Sandy shale	5' 6"	405' 0"
Shale	14' 6"	419' 6"
Sandstone	68' 0"	487' 6"
Shale	14' 0"	501' 6"
Shale	5' 6"	507' 0"
Coal	6"	507' 6"
Layers of coal and shale	8' 6"	516' 0"
Coal	6"	516' 6"
Shale	6"	517' 0"
Coal	1' 4"	518' 4"
Shale	1' 6"	519' 10"
Shale	20' 0"	539' 10"
Shale	2' 0"	541' 10"

Bore Hole No. 4 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	1' 0"	542' 10"
Shale	11' 0"	553' 10"
Conglomerate	2' 6"	556' 4"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 5 (1,000 ft. ahead of No. 1 slope) CX-5

Elevation: 605 feet Depth: 401' 0"

Location: Comox District, V.I.

Date: 1890 (February)

	<u>Thickness</u>	<u>Depth</u>
Surface	7' 0"	7' 0"
Sandstone	70' 0"	77' 0"
Coal	1' 0"	78' 0"
Shale	9"	78' 9"
Coal	9"	79' 6"
Shale	7' 6"	87' 0"
Sandstone	14' 0"	101' 0"
Shale and coal	23' 0"	124' 0"
Coal	8"	124' 8"
Shale	2"	124' 10"
Coal	6"	125' 4"
Shale	4' 8"	130' 0"
Sandstone	96' 0"	226' 0"
Shale	10' 0"	236' 0"
Coal	1' 0"	237' 0"
Coal and shale	4' 0"	241' 0"
Sandstone	5' 0"	246' 0"
Shale	2' 0"	248' 0"
Sandstone	57' 0"	305' 0"
Shale	40' 0"	345' 0"
Sandstone	12' 0"	357' 0"
Sandy shale	6' 0"	363' 0"
Sandstone	10' 0"	373' 0"
Coal	1' 4"	374' 4"
Shale	8"	375' 0"
Coal	3"	375' 3"
Shale and coal streaks	3' 9"	379' 0"
Shale	14' 0"	393' 0"
Conglomerate	8' 0"	401' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 6 (at logging camp on Main line) CX-6

Elevation: feet Depth: 909' 4"

Location: Comox District, V.I.

	<u>Thickness</u>	<u>Depth</u>
Surface	40' 6"	40' 6"
Conglomerate	68' 6"	109' 0"
Sandstone	5' 0"	114' 0"
Conglomerate	8' 6"	122' 6"
Shale	166' 6"	289' 0"
Shale and sandstone	11' 0"	300' 0"
Shale	62' 0"	362' 0"
Sandstone	6' 0"	368' 0"
Sandy shale	2' 0"	370' 0"
Sandstone	28' 0"	398' 0"
Shale	8"	398' 8"
Coal	2' 0"	400' 8"
Shale	6"	401' 2"
Sandstone	15' 0"	416' 2"
Shale	4"	416' 6"
Sandstone	55' 6"	472' 0"
Shale	5' 6"	477' 6"
Sandstone	3' 0"	480' 6"
Coal and shale	1' 0"	481' 6"
Sandstone	50' 0"	531' 6"
Shale and coal	4' 0"	535' 6"
Coal	1' 6"	537' 0"
Shale	3' 0"	540' 0"
Coal	6"	540' 6"
Sand rock	2"	540' 8"
Coal	6"	541' 2"
Shale	4"	541' 6"
Sandstone	70' 0"	611' 6"
Shale	3' 0"	614' 6"
Sandstone	6' 0"	620' 6"
Sandstone	4' 0"	624' 6"
Shale	1' 0"	625' 6"
Coal	3"	625' 9"
Shale	12' 0"	637' 9"
Coal	7"	638' 4"
Shale	1' 0"	639' 4"
Coal	1' 0"	640' 4"
Coal	4"	640' 8"
Shale	6"	641' 2"
Coal	6"	641' 8"

Bore Hole No. 6 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	1' 6"	643' 2"
Sandstone	40' 0"	683' 2"
Coal	1' 2"	684' 4"
Shale	3' 0"	687' 4"
Sandstone,	49' 0"	736' 4"
Shale	4' 0"	740' 4"
Coal	1' 9"	742' 1"
Bone	3"	742' 4"
Coal	6"	742' 10"
Shale	2"	743' 0"
Sandstone	56' 0"	799' 0"
Coal	1' 4"	800' 4"
Shale	4' 6"	804' 10"
Shale	39' 0"	843' 10"
Coal	3' 0"	846' 10"
Shale	35' 0"	881' 10"
Conglomerate	27' 6"	909' 4"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 7 (Edge of Puntledge Lake)

CX-7

Elevation: feet

Depth: 131' 8"

Location: Comox District, V.I.

Date: 1890 (June)

	<u>Thickness</u>	<u>Depth</u>
Sandstone	36' 0"	36' 0"
Coal	1' 0"	37' 0"
Shale	1"	37' 1"
Coal	8"	37' 9"
Shale	1½"	37' 10½"
Coal	7"	38' 5½"
Shale	½"	38' 6"
Coal	1' 6"	40' 0"
Shale	1' 6"	40' 6"
Coal	1' 6"	43' 0"
Shale	8"	43' 8"
Coal	2' 8"	46' 4"
Shale	22' 0"	68' 4"
Sandstone, coarse	1' 0"	69' 4"
Shale	4' 0"	73' 4"
Sandstone	5' 0"	78' 4"
Shale	1' 4"	79' 8"
Sandstone	17' 0"	96' 8"
Shale	3' 0"	99' 8"
Sandstone	7' 0"	106' 8"
Shale	3' 0"	109' 8"
Sandstone	22' 0"	131' 8"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 8 (Ridge above No. 4 slope) CX-8

Elevation: 545 feet Depth: 150' 1"

Location: Comox District, V.I.

Date: 1890 (September)

	<u>Thickness</u>	<u>Depth</u>
Surface	5' 0"	5' 0"
Sandstone	51' 0"	56' 0"
Shale	6' 0"	62' 0"
Coal	1' 5"	63' 5"
Shale	2' 8"	66' 1"
Coal	1' 2"	67' 3"
Shale	1' 3"	68' 6"
Coal	6"	69' 0"
Coal and shale	2' 9"	71' 9"
Coal	1' 0"	72' 9"
Shale	2' 0"	74' 9"
Coal	8"	75' 5"
Shale	4"	75' 9"
Coal	6"	76' 3"
Shale	1' 2"	77' 5"
Coal	3"	77' 8"
Shale		
Shale	8' 4"	86' 0"
Sandstone	12' 0"	98' 0"
Shale	1' 0"	99' 0"
Sandstone	9' 0"	108' 0"
Sandy shale	4' 0"	112' 0"
Sandstone	4' 0"	116' 0"
Shale	14' 0"	130' 0"
Coal	10"	130' 10"
Shale	4"	131' 2"
Coal	1' 0"	132' 2"
Shale	5"	132' 7"
Coal	3' 6"	136' 1"
Sandy coal	1' 0"	137' 1"
Coal (fair)	1' 0"	138' 1"
Coal	2' 0"	140' 1"
Shale	10' 0"	150' 1"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

A series of bore holes near No.7 slope

Bore Hole No. 8D (2630 ft. from mouth of No.2 slope) CX-8D

Elevation: 433 feet Depth: 198' 1"

Location:

	<u>Thickness</u>	<u>Depth</u>
Surface	50' 0"	50' 0"
Sandstone	47' 10"	97' 10"
Black shale	1' 0"	98' 10"
Coal	6"	99' 4"
Coal and shale	6"	99' 10"
Dark shale	22' 2"	122' 0"
Sandstone plies	3' 0"	125' 0"
Black shale	1' 6"	126' 6"
Coal	1' 0"	127' 6"
Black shale	7"	128' 1"
Coal	4"	128' 5"
Black shale	2"	128' 7"
Coal	9"	129' 4"
Sandstone	5' 0"	134' 4"
Black shale	1' 0"	135' 4"
Sandstone	1' 6"	136' 10"
Light shale	4' 0"	140' 10"
Black shale	1' 3"	142' 1"
Light shale	2' 0"	144' 1"
Sandy shale	3' 9"	147' 10"
Sandstone	11' 1"	159' 0"
Dark shale	6"	159' 6"
Sandstone	2' 0"	161' 6"
Dark shale	6"	162' 0"
Sandstone	1' 6"	163' 6"
Black shale	6"	164' 0"
Coal	6"	164' 6"
Sandstone	4' 6"	169' 0"
Coal	10"	169' 10"
Dark shale	6"	170' 4"
Sandstone	4' 4"	174' 8"
Dark shale	1' 0"	175' 8"
Sandy	1' 3"	176' 11"
Dark shale	1' 4"	178' 3"
Sandstone	6' 0"	184' 3"
Black shale	3"	184' 6"
Coal	3' 10"	187' 4"
Shale	1' 8"	189' 0"
Coal	6"	189' 6"

Bore Hole No. 8D cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal and shale	11"	190' 5"
Coal	1' 5"	191' 10"
Dark shale	2' 0"	193' 10"
Trap	4' 3"	198' 1"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 9 (On same ridge as No. 8) **CX-9**

Elevation: **499** feet Depth: 221' 5"

Location: Comox District, V.I.

Date: 1890 (September)

	<u>Thickness</u>	<u>Depth</u>
Surface	11' 6"	11' 6"
Sandstone	7' 0"	18' 6"
Shale	6' 0"	24' 6"
Coal	4"	24' 10"
Shale	10' 6"	35' 4"
Sandstone	2' 8"	38' 0"
Shale	6"	38' 6"
Sandstone	65' 0"	103' 6"
Shale	13' 0"	116' 6"
Coal	2"	116' 8"
Shale	4' 10"	121' 6"
Sandstone	16' 0"	137' 6"
Coal	6"	138' 0"
Shale	1' 0"	139' 0"
Coal	4"	139' 4"
Shale	7' 2"	146' 6"
Sandstone	1' 0"	147' 6"
Shale	10' 0"	157' 6"
Sandstone	15' 0"	172' 6"
Shale	16' 0"	188' 6"
Coal	1' 0"	189' 6"
Shale	3"	189' 9"
Coal	6"	190' 3"
Shale	2"	190' 5"
Coal	1' 0"	191' 5"
Shale	2"	191' 7"
Coal	10"	192' 5"
Soft dirt	4"	192' 9"
Coal	1' 6"	194' 3"
Shale	8"	194' 11"
Coal	1' 3"	196' 2"
Shale, sandy	25' 3"	221' 5"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 9D (3350 ft. from mouth of No. 2 slope) **CX-9D**

Elevation: **424'** feet Depth: 312' 0"

Location:

	<u>Thickness</u>	<u>Depth</u>
Surface	33' 0"	33' 0"
Sandstone	42' 8"	75' 8"
Black shale	10"	76' 6"
Coal	6"	77' 0"
Light shale	1' 2"	78' 2"
Sandstone	10' 0"	88' 2"
Black shale	5' 10"	94' 0"
Coal	1' 1"	95' 1"
Black shale	3' 4"	98' 5"
Coal	4"	98' 9"
Sandstone	2' 0"	100' 9"
Light shale	1' 3"	102' 0"
Black shale	6' 4"	108' 4"
Sandstone	10' 0"	118' 4"
Sandstone	48' 2"	166' 6"
Coal	1' 4"	167' 10"
Sandy shale	13' 2"	181' 0"
Sand	6' 0"	187' 0"
Dark shale	7' 6"	194' 6"
Sandstone	2' 6"	197' 0"
Coal	4"	197' 4"
Shale	3"	197' 7"
Coal	2"	197' 9"
Shale	3"	198' 0"
Coal	1' 6"	199' 6"
Shale	1' 0"	200' 6"
Coal	3"	200' 9"
Sandy shale	3' 4"	204' 1"
Sandy plies	1' 0"	205' 1"
Shale	5"	205' 6"
Sandstone	1' 10"	207' 4"
Sandstone	20' 10"	228' 2"
Sandstone	8' 0"	236' 2"
Sandstone	1' 0"	237' 2"
Sandstone	3' 8"	240' 10"
Sandstone	1' 3"	242' 1"
Shale	1' 0"	243' 1"
Coal	5"	243' 6"
Sandy shale	7' 10"	251' 4"
Sandstone	4' 0"	255' 4"

Bore Hole No. 9D cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	7' 6"	262' 10"
Black shale	1' 3"	264' 1"
Coal	1' 0"	265' 1"
Shale	4"	265' 5"
Sandstone	3' 6"	268' 11"
Black shale	9"	269' 8"
Coal	7"	270' 3"
Shale	6"	270' 9"
Sandstone	11' 7"	282' 4"
Shale, dark & light	1' 0"	283' 4"
Light shale	1' 2"	284' 6"
Black shale	6"	285' 0"
Light shale	1' 3"	286' 3"
Black shale	3"	286' 6"
Coal, hard	3' 9"	290' 3"
Dark shale	9"	291' 0"
Coal	3"	291' 3"
Black shale	1' 2"	292' 5"
Coal, hard	1' 0"	293' 5"
Black shale	1' 0"	294' 5"
Black shale	1' 4"	295' 9"
Dark shale	1' 0"	296' 9"
Light sandy shale	3' 0"	299' 9"
Sandstone	2' 0"	301' 9"
Sandstone plies	8"	302' 5"
Light and dark shale	1' 6"	303' 11"
Black shale	2"	304' 1"
Sandstone	5' 4"	309' 5"
Trap	2' 7"	312' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

(2)

Bore Hole No. 10 (150 ft. ahead of No.1 Diagonal Slope) CX-10

Elevation: feet Depth: 368' 10"

Location:

Date: 1891 - 1892

	<u>Thickness</u>	<u>Depth</u>
Surface	5' 0"	5' 0"
Sandstone	74' 0"	79' 0"
Coal	2' 2"	81' 2"
Coal and shale	1' 6"	82' 8"
Coal	1' 3"	83' 11"
Shale	4' 0"	87' 11"
Sandstone	3' 3"	91' 2"
Shale	7' 0"	98' 2"
Coal	1' 6"	99' 8"
Shale	11' 1"	110' 9"
Coal	3"	111' 0"
Shale	6"	111' 6"
Coal	4"	111' 10"
Shale	16' 2"	128' 0"
Sandstone	31' 6"	159' 6"
Coal and shale	3' 8"	163' 2"
Sandstone	14' 0"	177' 2"
Shale	1' 4"	178' 6"
Sandstone	3' 0"	181' 6"
Shale	6' 0"	187' 6"
Sandstone	8' 0"	195' 6"
Shale	2' 6"	198' 0"
Coal	1' 0"	199' 0"
Coal and shale	1' 6"	200' 6"
Coal	1' 0"	201' 6"
Sandstone	6"	202' 0"
Coal and shale	3' 6"	205' 6"
Sandstone	9' 3"	214' 9"
Shale	9"	215' 6"
Sandstone	67' 0"	282' 6"
Shale	15' 0"	297' 6"
Sandstone	3' 6"	301' 0"
Shale	2' 6"	303' 6"
Coal	1' 6"	305' 0"
Shale	10' 6"	315' 6"
Sandstone	16' 0"	331' 6"
Shale	21' 6"	353' 0"
Sandstone	10' 0"	363' 0"
Coal	5' 10"	368' 10"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 10D (4600' from mouth of No.2 slope)

Elevation: 414 feet

Depth: 637' 5"

CX-10D.

Location:

Date: 1906

	<u>Thickness</u>	<u>Depth</u>
Surface	33' 0"	33' 0"
Sandstone	9' 0"	42' 0"
Sandstone	24' 6"	66' 6"
Sandstone	8"	67' 2"
Shale, dark	5' 11"	73' 1"
Dark plies	6"	73' 7"
Coal	1' 6"	75' 1"
Black & light shale	2' 0"	77' 1"
Light shale	2' 0"	79' 1"
Sandstone	12' 3"	91' 4"
Sandstone	36' 7"	127' 11"
Sandstone	1' 0"	128' 11"
Sandstone	2' 0"	130' 11"
Sandstone	3' 1"	134' 0"
Sandstone	8' 6"	142' 6"
Sandstone	55' 10"	198' 4"
Black shale	4"	198' 8"
Coal	1' 3"	199' 11"
Dark shale	9"	200' 8"
Light shale	2' 0"	202' 8"
Black shale	1' 3"	203' 11"
Coal	4"	204' 3"
Dark shale	16' 1"	220' 4"
Black shale	1' 2"	221' 6"
Coal	3"	221' 9"
Black shale	6"	222' 3"
Coal	10"	223' 1"
Black shale	3"	223' 4"
Coal	7"	223' 11"
Black shale	2"	224' 1"
Light shale	1' 0"	225' 1"
Black shale	9"	225' 10"
Light shale	2' 1"	227' 11"
Black shale	1' 1"	229' 0"
Coal	2"	229' 2"
Black shale	3"	229' 5"
Coal	3"	229' 8"
Black shale	1' 2"	230' 10"
Coal	4"	231' 2"
Black shale	2' 0"	233' 2"

Bore Hole No. 10D cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	32' 10"	266' 0"
Sandstone	13' 3"	279' 3"
Sandy shale	3' 6"	282' 9"
Sandstone	1' 6"	284' 3"
Dark sandy shale	9' 9"	294' 0"
Sandstone	8' 0"	302' 0"
Sandstone	6' 0"	308' 0"
Sandstone	1' 0"	309' 0"
Sandstone	10' 0"	319' 0"
Sandstone	8"	319' 8"
Sandstone	8' 1"	327' 9"
Light shale	2' 6"	330' 3"
Dark shale	6"	330' 9"
Plies	6"	331' 3"
Black shale	1' 0"	332' 3"
Coal and shale	1' 0"	333' 3"
Coal	4"	333' 7"
Black shale	4"	333' 11"
Coal	6"	334' 5"
Black shale	6"	334' 11"
Coal	2"	335' 1"
Black shale	2' 7"	337' 8"
Sandstone	2' 0"	339' 8"
Dark shale	2' 0"	341' 8"
Sandstone	1' 6"	343' 2"
Sandstone	23' 0"	366' 2"
Sandstone	43' 2"	409' 4"
Black shale	6"	409' 10"
Coal and shale	6"	410' 4"
Dark shale	20' 5"	430' 9"
Sandy plies	1' 0"	431' 9"
Black shale	2' 9"	434' 6"
Coal	2' 3"	436' 9"
Coal and shale	6"	437' 3"
Black shale	1' 0"	438' 3"
Coal	3"	438' 6"
Black shale	1' 8"	440' 2"
Sandy	1' 4"	441' 6"
Sandstone	10' 8"	452' 2"
Sandstone	2' 0"	454' 2"
Sandstone	14' 9"	468' 11"
Sandstone	1' 0"	469' 11"
Sandstone	7' 1"	477' 0"
Sandstone	1' 0"	478' 0"
Coal and shale	5"	478' 5"
Sandstone	3' 2"	481' 7"
Black shale	9"	482' 4"
Coal	2"	482' 6"
Black shale	6"	483' 0"
Sandstone	1' 0"	484' 0"
Light shale	2' 6"	486' 6"

Bore Hole No. 10D cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	22' 11"	510' 5"
Black shale	6"	510' 11"
Coal and shale	6"	512' 5"
Black shale	2' 9"	514' 2"
Coal and shale	4"	514' 6"
Dark shale	1' 5"	515' 11"
Coal	4"	516' 3"
Dark shale	3"	516' 6"
Sandstone	4' 0"	520' 6"
Dark shale	3"	520' 9"
Coal	1' 0"	521' 9"
Dark shale	6"	522' 3"
Light shale	2' 4"	524' 7"
Black shale	6"	525' 1"
Light shale	3' 0"	528' 1"
Dark shale	1"	528' 2"
Coal	1' 11"	530' 1"
Coal and shale	2"	530' 3"
Coal	2' 4"	532' 7"
Shale	7"	533' 2"
Coal and shale	5"	533' 7"
Coal	4"	533' 11"
Shale	1"	534' 0"
Coal	1' 1"	535' 1"
Dark shale	1' 10"	536' 11"
Coal	5"	537' 4"
Black shale	2"	537' 6"
Black shale	3' 2"	540' 8"
Sandstone	9' 5"	550' 1"
Shale	9' 0"	559' 1"
Sandstone	2' 0"	561' 1"
Shale	6' 0"	567' 1"
Sandstone	2' 0"	569' 1"
Shale	3' 6"	572' 7"
Sandstone	6' 6"	579' 1"
Sandstone	10' 8"	589' 9"
Light shale	6' 0"	595' 9"
Dark shale	4' 3"	600' 0"
Light shale	1' 6"	601' 6"
Black shale	1' 6"	603' 0"
Coal	1"	603' 1"
Dark shale	2' 5"	605' 6"
Light shale	1' 0"	606' 6"
Black shale	1' 6"	608' 0"
Coal	2"	608' 2"
Black shale	3' 6"	611' 8"
Coal	1"	611' 9"
Shale	5' 3"	617' 0"
Sandstone	5"	617' 5"
Trap	20' 0"	637' 5"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 11 (300ft. ahead of No. 10) *CX-11*

Elevation: *607* feet Depth: 404' 7"

Location: Comox District, V.I.

Date: 1892 (Aug. - Sept.)

	<u>Thickness</u>	<u>Depth</u>
Surface gravel	8' 0"	8' 0"
Sandstone	56' 8"	64' 8"
Shale	4"	65' 0"
Sandstone	20' 0"	85' 0"
Shale	9"	85' 9"
Sandstone	2' 6"	88' 3"
Coal and shale	6' 9"	95' 0"
Sandstone	7' 6"	103' 0"
Shale and coal	19' 6"	122' 6"
Sandstone	29' 0"	151' 6"
Coal and shale	3' 4"	154' 10"
Sandstone	2' 9"	157' 7"
Shale	4"	157' 11"
Sandstone	34' 7"	192' 6"
Shale & sandstone	12' 6"	205' 0"
Sandstone	4' 0"	209' 0"
Shale	4' 6"	213' 6"
Sandstone	5' 0"	218' 6"
Shale and sandstone	8' 0"	226' 6"
Sandstone	71' 11"	298' 5"
Shale	18' 0"	316' 5"
Sandstone	2' 10"	319' 3"
Shale	4"	319' 7"
Sandstone	1' 10"	321' 5"
Shale	5"	321' 10"
Coal	5"	322' 3"
Shale and coal	9' 4"	331' 7"
Shale	15' 0"	346' 7"
Coal	9"	347' 4"
Shale	23' 9"	371' 1"
Coal	6' 9"	377' 10"
Shale	8' 9"	386' 7"
Hard rock	1' 6"	388' 1"
Shale	5' 0"	393' 1"
Sandstone	2' 6"	395' 7"
Shale	4' 3"	399' 10"
Sandstone	4' 9"	404' 7"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 11D (5950 ft. from mouth of No. 2 slope)

CX-11D

Elevation: 376 feet

Depth: 724' 4"

Location:

Date: 1906

	<u>Thickness</u>	<u>Depth</u>
Surface	37' 0"	38' 0"
Sandstone	49' 0"	86' 0"
Sandstone	1' 0"	87' 0"
Coal	1' 4"	88' 4"
Black shale	2"	88' 6"
Sandstone	55' 8"	144' 2"
Sandstone	1' 9"	145' 11"
Sandstone	9' 2"	155' 1"
Black shale	7"	155' 8"
Coal	4"	156' 0"
Black shale	1' 9"	157' 9"
Coal	6"	158' 3"
Dark shale	3"	158' 6"
Coal	11"	159' 5"
Dark shale	3' 7"	163' 0"
Coal	7"	163' 7"
Shale	4"	163' 11"
Sandstone	19' 9"	183' 8"
Sandstone	2' 3"	185' 11"
Sandstone	3' 0"	188' 11"
Sandstone	1' 4"	190' 3"
Sandstone	6' 1"	196' 4"
Sandstone	2' 1"	198' 5"
No core	1' 9"	200' 2"
Sandstone	5' 6"	205' 8"
Sandstone	2' 2"	207' 10"
Sandstone	2' 0"	209' 10"
Sandstone	10' 0"	219' 10"
Sandstone	19' 8"	239' 6"
Sandstone	1' 0"	240' 6"
Sandstone	3' 0"	243' 6"
Sandstone	18' 2"	261' 8"
Sandstone	1' 0"	262' 8"
Sandstone	7' 0"	269' 8"
Sandstone	22' 6"	292' 2"
Sandstone	15' 7"	307' 9"
Sandstone	24' 6"	332' 3"
Sandstone	2' 0"	334' 3"
Sandstone	1' 6"	335' 9"
Coal	1' 0"	336' 9"

Bore Hole No. 11D cont'd

	<u>Thickness</u>	<u>Depth</u>
Light shale	2' 6"	339' 3"
Black shale	4"	339' 7"
Light shale	6"	340' 1"
Black shale	2' 6"	342' 7"
Light shale	1' 3"	343' 10"
Dark shale	1' 0"	344' 10"
Coal	8"	345' 6"
Dark shale	11' 7"	357' 1"
	5' 6"	362' 7"
Coal	1' 0"	363' 7"
Dark shale	1' 6"	365' 1"
Coal	6"	365' 7"
Dark shale	3' 0"	368' 7"
Sandstone	1' 0"	369' 7"
Light shale	1' 6"	371' 1"
Black shale	8"	371' 9"
Coal and shale	4"	372' 1"
Black shale	2' 2"	374' 3"
Coal and shale	1' 0"	375' 3"
Coal	6"	375' 9"
Dark shale	2' 0"	377' 9"
Sandy shale	1' 2"	378' 11"
Sandstone	3' 0"	381' 11"
Sandstone	13' 3"	395' 2"
Sandstone	4' 6"	399' 8"
Sandstone	14' 9"	414' 5"
Coal	1' 0"	415' 5"
Black shale	4"	415' 9"
Sandy shale	8"	416' 5"
Sandy shale	4' 3"	420' 8"
Sandstone	7' 6"	428' 2"
Sandstone	3' 4"	431' 6"
Coal	6"	432' 0"
Black shale	4"	432' 4"
Coal	4"	432' 8"
Black shale	9"	433' 5"
Black shale	9' 0"	442' 5"
Sandstone	2' 6"	444' 11"
Light shale	1' 0"	445' 11"
Black shale	10"	446' 9"
Light shale	3' 7"	450' 4"
Coal	6"	450' 10"
Black shale	4"	451' 2"
Coal	1' 0"	452' 2"
Black shale	2' 11"	455' 1"
Dark shale	6' 3"	461' 4"
Dark sandy shale	5' 0"	466' 4"
Dark sandy shale	1' 0"	467' 4"
Sandstone plies	3' 0"	470' 4"
Sandstone plies	4' 6"	474' 10"
Sandstone	14' 6"	489' 4"

Bore Hole No. 11 D cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	23' 6"	512' 10"
Sandstone	10' 0"	522' 10"
Sandstone	5' 6"	528' 4"
Dark shale	1' 0"	529' 4"
Coal matter	1' 6"	530' 10"
Dark shale	8' 0"	538' 10"
Dark shale	8' 0"	546' 10"
Sandstone	1' 0"	547' 10"
Coal	8"	548' 6"
Black shale	6"	549' 0"
Light shale	1' 0"	550' 0"
Black shale	6"	550' 6"
Coal	7"	551' 1"
Dark shale	5"	551' 6"
Coal	1' 0"	552' 6"
No core	9"	553' 3"
Black shale	1' 0"	554' 3"
Coal	4"	554' 7"
Black shale	6"	555' 1"
Dark sandy	2' 0"	557' 1"
Sand plies	1' 8"	558' 9"
Sand plies	2' 0"	560' 9"
Sandstone	18' 4"	579' 1"
Sandstone	2' 9"	581' 10"
Sandstone	8' 3"	590' 1"
Coal	3"	590' 4"
Black shale	4"	590' 8"
Dark shale	2' 1"	592' 9"
Coal & shale	6"	593' 3"
Black shale	8"	593' 11"
Light shale	2' 0"	595' 11"
Sandstone	21' 9"	617' 8"
Black shale	1' 6"	619' 2"
Coal and shale	4"	619' 6"
No core	1' 0"	620' 6"
Sandstone plies	1' 9"	622' 3"
Light shale	9"	623' 0"
Coal	7"	623' 7"
Black shale	3"	623' 10"
Light sandy shale	1' 10"	625' 8"
Light sandy shale	1' 0"	626' 8"
Sandstone plies	8"	627' 4"
Light shale	1' 6"	628' 10"
Black shale	4"	629' 2"
Light shale	2' 0"	631' 2"
Light sandy shale	1' 2"	632' 4"
Light shale	1' 9"	634' 1"
Black shale	3"	634' 4"
Coal and shale	1' 2"	635' 6"
Bony	9"	636' 3"
Black shale	3"	636' 6"

Bore Hole No. 11 D cont'd

	<u>Thickness</u>	<u>Depth</u>	
Light sandy shale	6"	637'	0"
Black shale	2' 6"	639'	6"
Dark shale	1' 2"	640'	8"
Sandstone	6' 0"	646'	8"
Sandstone	6"	647'	2"
Sandstone	1' 0"	648'	2"
Sandstone	6"	648'	8"
Sandstone	9"	649'	5"
Sandstone	4"	649'	9"
Black shale	1' 7"	651'	4"
Coal	9"	652'	1"
Dark shale	3"	652'	4"
Coal	9"	653'	1"
Black shale	4"	653'	5"
Light shale	6"	653'	11"
Bony	4"	654'	3"
Coal	4"	654'	7"
Black sandstone	6"	655'	1"
Light sandstone	7' 1"	662'	2"
Light shale	8' 10"	671'	0"
Black shale	8"	671'	8"
Light shale	3' 6"	675'	2"
Blue shale	2' 0"	677'	2"
Plies	11' 0"	688'	2"
Blue shale	4' 0"	692'	2"
Plies	6"	692'	8"
Dark shale	6"	693'	2"
Black shale	4"	693'	6"
Sandstone	4"	693'	10"
Dark shale	1' 6"	695'	4"
Black shale	4"	695'	8"
Coal	2"	695'	10"
Black shale	4"	696'	2"
Sandstone	1' 8"	697'	10"
Sandstone	1' 0"	698'	10"
Dark shale	4"	699'	2"
Coal and shale	8"	699'	10"
Dark shale	9"	700'	7" cont.
Black shale	6"	701'	1"
Dark shale	1' 3"	702'	4"
Dark shale	8"	703'	0"
Dark shale	2' 0"	705'	0"
Light shale	1' 0"	706'	0"
Black shale	6"	706'	6"
Light shale	3' 1"	709'	7"
Light shale	4' 0"	713'	7"
Trap	10' 7"	724'	4"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 12 (slightly to left; 1100 ft. of No. 11) *CX-12*

Elevation: *597* feet Depth: 458' 5"

Location:

Date: 1892 - 1893 (Oct.-Jan.)

	<u>Thickness</u>	<u>Depth</u>
Gravel	5' 0"	5' 0"
Sandstone	41' 6"	46' 6"
Shale	2' 6"	49' 0"
Coal	1' 4"	50' 4"
Shale	2"	50' 6"
Coal	1' 2"	51' 8"
Shale	3' 10"	55' 6"
Sandstone	4' 0"	59' 6"
Shale	3' 0"	62' 6"
Sandstone,	71' 0"	133' 6"
Shale	3' 7"	137' 1"
Coal	5"	137' 6"
Shale and coal	5' 0"	142' 6"
Sandstone	4' 0"	146' 6"
Shale and coal	30' 0"	176' 6"
Coal	10"	177' 4"
Shale	2' 8"	180' 0"
Sandstone	1' 0"	181' 0"
Shale	6"	181' 6"
Sandstone,	74' 0"	255' 6"
Shale and coal	8' 6"	264' 0"
Sandstone	5' 0"	269' 0"
Shale	4' 0"	273' 0"
Sandstone	6' 0"	279' 0"
Shale	5' 3"	284' 3"
Coal	9"	285' 0"
Coal and shale	2' 0"	287' 0"
Shale	4' 0"	291' 0"
Sandstone	2' 0"	293' 0"
Shale	6"	293' 6"
Sandstone	2' 0"	295' 6"
Shale	1' 6"	297' 0"
Sandstone	81' 0"	378' 0"
Shale	9' 0"	387' 0"
Sandstone	2' 0"	389' 0"
Shale	4' 0"	393' 0"
Sandstone	2' 6"	395' 6"
Coal	8"	396' 2"
Shale	19' 7"	415' 9"
Coal	2' 3"	416' 0"

Bore Hole No. 12 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	15' 0"	433' 0"
Sandstone	2' 0"	435' 0"
Shale	9' 6"	442' 6"
Coal	6"	443' 0"
Shale	4"	443' 6"
Coal	1' 0"	444' 6"
Shale	4"	444' 10"
Coal	5' 9"	450' 7"
Shale	6' 0"	456' 7"
Shale	2' 0"	458' 7"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 12D (Ahead of No.7 slope) *CX-12D*

Elevation: 320 feet Depth: 881' 11"

Location: Comox District, Sec. 9, Township 9

Date: 1906

	<u>Thickness</u>	<u>Depth</u>
Surface	16' 0"	16' 0"
Dark shale	21' 0"	37' 0"
Sandy shale	23' 6"	60' 6"
Sandy shale	26' 6"	87' 0"
Sandy shale	4' 6"	91' 6" H
Sandstone	7' 6"	99' 0" C
Shale	4"	99' 4"
Sandstone	4' 0"	103' 4"
Shale	8' 2"	111' 6"
Sandy shale	12' 0"	123' 6"
Sandstone	8' 4"	131' 10"
Plies	8' 0"	139' 10"
Sandy shale	21' 6"	161' 4"
Sandy shale	7' 0"	168' 4"
Sandstone	8' 0"	176' 4"
Coal and shale	4"	176' 8"
Dark shale	1' 0"	177' 8"
Coal	8"	178' 4"
Light shale	6"	178' 10"
Coal and shale	2"	179' 0"
Coal	3"	179' 3"
Sandstone	1"	180' 4"
Sandstone	2' 0"	182' 4"
Sandstone	54' 0"	236' 4"
Sandstone	27' 8"	264' 0"
Sandstone	1' 6"	265' 6"
Sandstone	3' 9"	269' 3"
Coal and shale	6"	269' 9"
Coal	3"	270' 0"
Black shale	1' 0"	271' 0"
Coal	8"	271' 8"
Sandstone	4"	272' 0"
Coal	2"	272' 2"
Sandstone	27' 10"	300' 0"
Sandstone	29' 6"	329' 6"
Black shale	6"	330' 0"
Coal	3"	330' 3"
Dark shale	1' 3"	331' 6"
Sand. shale	1' 3"	332' 9"
Coal	4"	333' 1"

Bore Hole No. 12 D cont'd

	<u>Thickness</u>	<u>Depth</u>
Light shale	3"	333' 4"
Coal	1' 0"	334' 4"
Sandstone	33' 11"	368' 3"
Sandstone	15' 0"	383' 3"
Sandstone	1' 0"	384' 3"
Sandstone	4' 9"	389' 0"
Coal and shale	3' 0"	392' 0"
Sandstone	14' 4"	406' 4"
Dark shale	5' 6"	411' 10"
Sandstone	6' 3"	418' 1"
Sandstone	4' 0"	422' 1"
Sandstone	17' 0"	439' 1"
Sandstone	2' 0"	441' 1"
Sandstone	5' 0"	446' 1"
Sandstone	6' 0"	452' 1"
Sandstone	5' 0"	457' 1"
Sandstone	1' 0"	458' 1"
Sandstone	7' 9"	465' 10"
Black shale	6"	466' 4"
Sandstone	4' 11"	471' 3"
Sandstone	12' 6"	483' 9"
Sandstone	11' 9"	495' 6"
Sandstone	2' 0"	497' 6"
Sandstone	3' 9"	501' 3"
Sandstone	30' 0"	531' 3"
Sandstone	2' 0"	533' 3"
Sandstone	1' 0"	534' 3"
Sandstone	6' 8"	540' 11"
Black shale	5"	541' 4"
Coal	1' 0"	542' 4"
Dark shale	6"	542' 10"
Light shale	3' 6"	546' 4"
Sandy shale	1' 0"	547' 4"
Light shale	7"	547' 11"
Coal and shale	4"	548' 3"
Dark shale	1' 6"	549' 9"
Coal	4"	550' 1"
Dark shale	1' 0"	551' 1"
Black shale	4"	551' 5"
Dark shale	3"	551' 8"
Dark shale	4' 8"	556' 4"
Black shale	3' 6"	559' 10"
Coal	4"	560' 2"
Black shale	6"	560' 8"
Dark shale	7' 0"	567' 8"
Dark shale	1' 0"	568' 8"
Coal	1' 0"	569' 8"
Dark shale	9"	570' 5"
Coal	4"	570' 9"
Black shale	1' 2"	571' 11"
Dark shale	1' 6"	573' 5"

Bore Hole No. 12D cont'd

	<u>Thickness</u>	<u>Depth</u>
Dark shale	8"	574' 1"
Coal	1"	574' 2"
Black shale	2' 2"	576' 4"
Coal	1' 1"	577' 6"
Black shale	6"	578' 0"
Sandstone	7' 8"	585' 8"
Sandstone	11' 0"	596' 8"
Sandstone	10' 6"	607' 2"
Sandstone	9' 0"	616' 2"
Sandstone	2' 6"	618' 8"
Coal	4"	619' 0"
Coal and shale	6"	619' 6"
Coal	6"	620' 0"
Black shale	6"	620' 6"
Dark shale	1' 0"	621' 6"
Dark plies	8' 0"	629' 6"
Black shale	9"	630' 3"
Coal	4"	630' 7"
Black shale	6"	631' 1"
Dark shale	6' 2"	637' 3"
Sandstone	2' 6"	639' 9"
Dark shale	5' 2"	644' 11"
Black shale and coal	3"	645' 2"
Dark shale	1' 6"	646' 8"
Black shale	4"	647' 0"
Coal	1' 7"	648' 7"
Black shale	1' 0"	649' 7"
Coal	4"	649' 11"
Black shale	8"	650' 7"
Dark shale	2' 2"	652' 9"
Sandstone	16' 10"	669' 7"
Sandstone	21' 6"	691' 1"
Sandstone	25' 8"	716' 9"
Sandstone	4' 0"	720' 9"
Sandstone	9"	721' 6"
Black shale	9"	722' 3"
Coal	1' 0"	723' 3"
Black shale and coal	7"	723' 10"
Dark sandstone	1' 6"	725' 4"
Dark shale	2' 0"	727' 4"
Dark S. shale	11' 0"	738' 4"
Black shale	2' 6"	740' 10"
Coal	1' 5"	742' 3"
D. Plies sandstone	2"	742' 5"
Black shale	1' 0"	743' 5"
Black shale	1' 0"	744' 5"
Coal and shale	5"	744' 10"
Coal	9"	745' 7"
Black shale	1' 10"	747' 5"
Coal	10"	748' 3"
Sandy shale	5"	748' 8"
Coal	1' 2"	749' 10"

Bore Hole no. 12D cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal and shale	6"	750' 4"
Dark shale	1' 10"	752' 2"
Sandstone	2' 0"	754' 2"
Sandstone	16' 5"	770' 7"
Dark sandston	4' 0"	774' 7"
Coal	4"	774' 11"
Black shale	5"	775' 4"
Sandstone	5' 8"	781' 0"
Sandstone	16' 6"	797' 6"
Sandstone	9' 9"	807' 3"
Black shale	3' 10"	811' 2"
Coal	6"	811' 8"
Light sand	2' 0"	813' 8"
Dark shale	1' 2"	814' 10"
Coal	1"	814' 11"
Dark shale	10"	815' 9"
Coal	8"	816' 5"
Dark shale	2"	816' 7"
Sandstone	14' 9"	831' 4"
Sandstone	14' 6"	845' 10"
Light shale	2' 6"	848' 4"
Coal	4' 10"	852' 8"
Dark shale	8"	853' 4"
Coal	6"	853' 10"
Dark shale	2' 3"	856' 1"
Coal	2' 7"	858' 8"
Shale	3"	858' 11"
Coal	11"	859' 10"
Dark shaly sandstone	2' 4"	862' 2"
Light shale	1' 6"	863' 8"
Burnt shale and sandstone	3' 0"	866' 8"
Dark S. and sandstone	1' 0"	867' 8"
Light sandstone	2' 0"	869' 8"
Sandstone	12' 3"	881' 11"
Trap		

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No.13 (1500 ft. east of No.12)

Elevation: 587 feet Depth: 504' 9"

CX-13.

Location:

Date: 1893 (March - April)

	<u>Thickness</u>	<u>Depth</u>
Surface	6' 0"	6' 0"
Sandstone	63' 0"	69' 0"
Coal and shale	5' 0"	74' 0"
Sandstone	73' 0"	147' 0"
Coal	1' 0"	148' 6"
Shale	4"	148' 10"
Coal	10"	149' 8"
Shale	8' 10"	158' 6"
Sandstone	68' 2"	226' 8"
Coal	1' 4"	228' 0"
Shale	17' 9"	245' 9"
Coal	7"	246' 4"
Shale	10' 0"	256' 4"
Coal	5"	256' 9"
Shale	7"	257' 4"
Coal	5"	257' 9"
Shale	2"	257' 11"
Coal	6"	258' 5"
Shale and coal	6' 7"	265' 0"
Sandstone	20' 0"	285' 0"
Shale	2' 0"	287' 0"
Sandstone	5' 0"	292' 0"
Coal	1' 4"	293' 4"
Sandstone,	47' 8"	341' 0"
Shale	8"	341' 8"
Coal	4"	342' 0"
Shale	4' 6"	346' 6"
Sandstone	6"	347' 0"
Shale	6"	347' 6"
Sandstone	6"	348' 0"
Shale	2' 0"	350' 0"
Sandstone	44' 6"	394' 6"
Shale	2' 0"	396' 6"
Coal	8"	397' 2"
Shale	8"	397' 10"
Coal	10"	398' 8"
Shale	8' 4"	407' 0"
Sandstone	1' 3"	408' 3"
Coal	4"	408' 7"
Shale	5"	409' 0"

Bore Hole No. 13 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	8' 0"	417' 0"
Shale	24' 9"	441' 9"
Coal	10"	442' 7"
Shale	2"	442' 9"
Coal	3"	443' 0"
Shale and coal	17' 6"	460' 6"
Sandstone	11' 6"	472' 0"
Shale	9' 3"	481' 3"
Coal	10"	482' 1"
Bone	11"	483' 0"
Coal	4' 0"	487' 0"
Bone and sandstone	2' 3"	489' 3"
Shale	1' 0"	490' 3"
Sandstone	2' 3"	492' 6"
Shale	1' 0"	493' 6"
Sandstone	5' 6"	499' 0"
Shale	2' 0"	501' 0"
Trap rock	3' 9"	504' 9"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

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Bore Hole No. 13D (ahead of No.7 slope)

Elevation: ^{304'} 2304 feet(BA) Depth: 990' 8"

CX-13D

Location: Comox District, V.I.

Date: 1906

	<u>Thickness</u>	<u>Depth</u>
Surface	12' 0"	12' 0"
Dark shale	30' 5"	42' 5"
Sandy shale	44' 5"	86' 10"
Sandy shale	46' 8"	133' 6"
Sandy shale	41' 6"	175' 0"
Sandstone	11' 0"	186' 0"
Sandstone	2' 0"	188' 0"
Sandstone	22' 7"	210' 9"
Sandstone	2' 0"	212' 9"
Sandstone	4' 0"	216' 9"
Sandstone	2' 0"	218' 9"
Sandy shale	4' 9"	223' 6"
Sandstone	7' 0"	230' 6"
Sandy shale	11' 9"	242' 3"
Sandstone	10' 6"	252' 9"
Sandstone	11' 0"	263' 9"
Sandstone	6"	264' 3"
Coal	6"	264' 9"
Dark shale	1' 3"	266' 0"
Coal and shale	8"	266' 8"
Coal	9"	267' 5"
Dark shale	3"	267' 8"
Dark shale	1' 6"	269' 2"
Sandstone	28' 9"	297' 11"
Sandstone	48' 9"	346' 8"
Black shale	6"	347' 2"
Coal	6"	347' 8"
Black shale	4"	348' 0"
Coal	2"	348' 2"
Dark shale	4' 9"	352' 11"
Black shale	2' 0"	354' 11"
Sandstone	23' 3"	378' 2"
Sandstone	22' 4"	400' 6"
Dark shale	4' 6"	405' 0"
Sandstone	1' 6"	406' 6"
Sandstone	15' 7"	422' 1"
Sandstone	1' 0"	423' 1"
Coal	7"	423' 8"
Dark shale	3' 6"	427' 2"
Coal	1' 0"	428' 2"
Black shale	6"	428' 8"

Bore Hole No. 13D cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	41' 3"	469' 11"
Sandstone	13' 1"	483' 0"
Dark shale	4' 4"	487' 4"
Sandstone	1' 0"	488' 4"
Coal	7"	488' 11"
Dark shale	5' 2"	494' 1"
Sandstone	14' 0"	508' 1"
Sandstone	1' 0"	509' 1"
Sandstone	17' 0"	526' 1"
Sandstone	2' 4"	528' 5"
Sandstone	18' 0"	546' 5"
Sandstone	2' 10"	549' 3"
Sandstone	3' 0"	552' 3"
Sandstone	4' 0"	556' 3"
Sandstone	4' 5"	560' 8"
Sandstone	21' 0"	581' 8"
Sandstone	26' 7"	608' 3"
Sandstone	2' 6"	610' 9"
Coal and shale	6"	611' 3"
Coal	1' 6"	612' 9"
Black shale	4"	613' 1"
Light shale	1' 0"	614' 1"
Light sandstone plies	17' 2"	631' 3"
Light shale	1' 0"	632' 3"
Black shale	1' 7"	633' 10"
Coal	9"	634' 7"
Black shale	3' 6"	638' 1"
Dark shale	5' 0"	643' 1"
Coal and shale	1' 0"	644' 1"
Coal	2"	644' 3"
Coal and shale	4"	644' 7"
Coal	3"	644' 10"
Coal and shale	2"	645' 0"
Coal	9"	645' 9"
Black shale	6"	646' 5"
Coal and shale	7"	646' 12"
Black shale	11"	647' 11"
L. Sandstone	3' 6"	651' 5"
L. Sandstone	2' 0"	653' 5"
Dark shale	3' 6"	656' 9"
Coal	1' 0"	657' 9"
Dark shale	1' 6"	659' 3"
Sandstone	2' 2"	661' 5"
Sandstone	6' 2"	667' 7"
Sandstone	11' 0"	678' 7"
Sandstone	9' 4"	687' 1"
Sandstone	6' 7"	694' 8"
Coal	6"	695' 2"
Black shale	9"	695' 11"
Dark shale	1' 0"	696' 11"
Sandstone	7' 9"	704' 8"

Bore Hole No. 13D cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	3"	704' 11"
Black shale	1' 1"	706' 0"
Sandstone	2' 0"	708' 0"
Light shale	3' 6"	711' 6"
Dark shale	1' 0"	712' 6"
Light shale	2' 0"	714' 6"
Dark shale	1' 0"	715' 6"
Sandstone	32' 0"	747' 6"
Black shale	2' 0"	749' 6"
Dark plies	8' 0"	757' 6"
Sandstone	3' 0"	760' 6"
Sandstone	3' 6"	764' 0"
Sandstone	3' 6"	767' 6"
Sandstone	57' 11"	825' 5"
Black shale	6"	825' 11"
Coal	6"	826' 5"
Dark shale	3' 6"	829' 11"
Sandy shale	1' 6"	831' 5"
Sandstone	2' 0"	833' 5"
Sandstone	4' 8"	838' 1"
Dark shale	1' 0"	839' 1"
Dark	1' 6"	840' 7"
Dark shale	5' 9"	846' 4"
Black shale	3"	846' 7"
Coal	5"	847' 0"
Black shale	3' 0"	850' 0"
Coal	1' 1"	851' 6"
Dark shale	2' 10"	854' 4"
Coal	3"	854' 7"
Dark shale	6"	855' 1"
Coal	1' 9"	856' 10"
Dark shale	3' 3"	860' 1"
Sandstone	10' 4"	870' 5"
Sandstone	13' 0"	883' 5"
S. Stone	6' 3"	889' 8"
Sandstone	6' 1"	895' 9"
S. Stone	14' 8"	910' 5"
Black shale	2' 0"	912' 5"
Sandstone	6"	912' 11"
Dark shale	6"	913' 5"
Light shale	1' 0"	914' 5"
Sandstone	7' 7"	922' 0"
Black Shale	1' 0"	923' 0"
Coal	6"	923' 6"
Light shale	6"	924' 0"
Dark shale	10"	924' 10"
Coal	3"	925' 1"
Sandstone	1' 4"	926' 5"
Dark shale	1' 5"	927' 10"
Sandstone	4' 5"	932' 3"
Dark shale	6"	932' 9"

2

	<u>Thickness</u>	<u>Depth</u>
Coal	1"	932' 10"
Sandstone	12' 2"	945' 0"
Sandstone	12' 11"	957' 11"
Shale	3' 0"	960' 11"
Coal	4' 0"	964' 11"
Shale	6"	965' 5"
Coal	6"	965' 11"
Dark shale	1' 0"	966' 11"
Light shale	6"	967' 5"
Black shale	6"	967' 11"
Coal	3"	968' 2"
Dark shale	2' 8"	970' 10"
Black shale	6"	971' 4"
Coal	6"	971' 10"
Black shale	1' 0"	972' 10"
Dark shale	1' 10"	974' 8"
Dark shale	1' 6"	976' 2"
Light shale	5' 0"	981' 2"
Dark sandstone	6"	981' 8"
Light sandstone	2' 2"	983' 10"
Spotted sandstone	6' 10"	990' 8"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 14 (1,000 feet N by NE of No.13 bore) *CX-14*

Elevation: *557* feet; Depth: 664' 6"

Location:

Date: 1893 (May - June)

	<u>Thickness</u>	<u>Depth</u>
Surface	10' 0"	10' 0"
Sandstone	72' 5"	82' 5"
Coal	6"	82' 11"
Sandstone	2"	82' 1"
Coal	3"	83' 4"
Sandstone,	65' 2"	148' 6"
Coal and shale	7"	149' 1"
Coal	3"	149' 4"
Shale	4"	149' 8"
Coal	3"	149' 11"
Shale	1"	150' 0"
Coal	3"	150' 3"
Shale	4"	150' 7"
Coal	6"	151' 1"
Shale	1' 8"	152' 9"
Coal	4"	153' 1"
Shale	8"	153' 9"
Coal	3"	154' 0"
Sandstone	3"	154' 3"
Coal and shale	5"	154' 8"
Sandstone	1' 6"	156' 2"
Sandstone	92' 5"	248' 7"
Coal	4"	248' 11"
Shale	1' 6"	250' 5"
Coal	9"	251' 2"
Shale	1"	251' 3"
Coal	1' 11"	253' 2"
Shale	2' 10"	256' 0"
Sandstone,	15' 0"	271' 0"
Shale	1' 0"	272' 0"
Sandstone,	52' 10"	324' 10"
Coal and shale	9"	325' 7"
Coal	9"	326' 4"
Shale	3' 3"	329' 7"
Coal	9"	330' 4"
Shale	20' 2"	350' 6"
Coal and shale	5' 6"	356' 0"
Coal	6"	356' 6"
Shale	7"	357' 1"
Coal	5"	357' 6"

Bore Hole No. 14 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	2' 10"	360' 4"
Coal	8"	361' 0"
Shale	5' 0"	366' 0"
Sandstone, shale	44' 4"	410' 4"
Shale and coal	22' 8"	433' 0"
Coal	1' 0"	434' 0"
Shale	1' 6"	435' 6"
Coal	6"	436' 0"
Shale and coal	6' 0"	442' 0"
Sandstone	69' 6"	511' 6"
Shale and coal	22' 6"	534' 0"
Sandstone	1' 0"	535' 0"
Coal	9"	535' 9"
Shale	9"	536' 6"
Coal	2' 2"	538' 8"
Shale	8"	539' 4"
Coal	2' 2"	541' 6"
Shale	3"	541' 9"
Coal	3"	542' 0"
Shale	7' 6"	549' 6"
Coal	6"	550' 0"
Shale and coal	12' 0"	562' 0"
Sandstone	18' 0"	580' 0"
Sandy shale	7' 0"	587' 0"
Sandstone	19' 0"	606' 0"
Shale and sandstone	19' 0"	625' 0"
Sandstone	11' 0"	636' 0"
Sandy shale	3' 0"	639' 0"
Sandstone	3' 0"	642' 0"
Shale	1' 6"	643' 6"
Shale and sandstone	21' 0"	664' 6"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 17 (at Grant's new sawmill)

CX-17

Elevation: 456 feet

Depth: 536' 3"

Location:

Date: 1896 (Feb. - Mar.)

	<u>Thickness</u>	<u>Depth</u>
Gravel, yellow clay.	11' 2"	11' 2"
Sandy shale, etc.	80' 4"	91' 6"
Sandstone	3' 9"	95' 3"
Shale	17' 3"	112' 6"
Sandstone	6' 1"	118' 7"
Shale	1' 0"	119' 7"
Sandstone	25' 1"	144' 8"
Coal	7"	145' 3"
Shale	1' 4"	146' 7"
Sandstone	82' 4"	228' 11"
Sandy shale	6' 6"	235' 5"
Coal	2"	237' 5"
Sandstone	60' 5"	296' 0"
Coal and shale	3' 4"	299' 4"
Sandstone	48' 8"	348' 0"
Shale	1' 0"	349' 0"
Sandstone	8' 6"	357' 6"
Shale	1' 0"	358' 6"
Sandstone	33' 11"	392' 5"
Coal and shale	7"	393' 0"
Coal	10"	393' 10"
Shale	4"	394' 2"
Shale	5"	394' 7"
Coal	1' 3"	395' 10"
Shale	1' 1"	396' 11"
Coal	8"	397' 7"
Shale	1' 4"	398' 11"
Coal	5"	399' 4"
Coal and shale	7"	399' 11"
Coal	5"	400' 4"
Shale	11"	401' 3"
Coal	11"	402' 2"
Shale	1' 1"	403' 3"
Sandstone	48' 7"	451' 10"
Shale	3' 1"	454' 11"
Coal	6"	455' 5"
Shale	23' 5"	478' 10"
Shale, sandy	8' 3"	487' 1"
Shale	3' 10"	490' 11"
Coal	1' 1"	492' 0"

(2)

Bore Hole No. 17 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	2' 2"	494' 2"
Coal	3' 3"	497' 5"
Shale	4"	497' 9"
Coal	5"	498' 7"
Shale and coal	4' 0"	502' 3"
Sandstone	2' 7"	504' 9"
Shale	3' 0"	507' 9"
Trap rock	28' 5"	536' 3"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 18 (at Big Swamp Junction) *CX-18*

Elevation: *444* feet; Depth: 549' 2"

Location:

Date: 1896 (April)

	<u>Thickness</u>	<u>Depth</u>
Soil, gravel, clay	34' 0"	34' 0"
Shale	2' 3"	36' 3"
Sandstone	7' 9"	44' 0"
Shale	14' 0"	58' 0"
Sandstone	7' 4"	65' 4"
Shale	96' 9"	162' 1"
Sandstone	9' 4"	171' 5"
Shale	10' 0"	181' 5"
Sandstone	7' 6"	188' 11"
Shale	7' 9"	196' 8"
Sandstone	16' 11"	213' 7"
Shale	7"	214' 2"
Coal	1' 3"	215' 5"
Shale	6"	215' 11"
Sandstone	70' 2"	286' 1"
Sandstone	10' 4"	296' 5"
Shale	9' 9"	306' 2"
Coal	3"	306' 5"
Sandstone	14' 0"	320' 5"
Sandstone	42' 6"	362' 11"
Coal and shale	3' 10"	366' 9"
Sandstone	48' 3"	415' 0"
Shale	2' 3"	417' 3"
Sandstone	38' 7"	455' 10"
Coal	1' 9"	457' 7"
Coal, shale	1' 6"	459' 1"
Coal	10"	459' 11"
Sandstone	1' 5"	461' 4"
Shale	1' 1"	462' 5"
Sandstone	43' 6"	505' 11"
Shale	1' 0"	506' 11"
Coal	1' 2"	508' 1"
Shale	9' 9"	517' 10"
Coal	1' 0"	518' 10"
Shale	13' 9"	532' 7"
Coal	2' 2"	534' 9"
Shale	10"	535' 7"
Sandstone	1' 10"	537' 5"
Shale	5' 1"	542' 6"
Trap	6' 8"	549' 2"

(2)

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 19 (2,200 ft. due south from No.6 shaft) CX-19

Elevation: 565 feet Depth: 375' 4"

Location:

Date: 1896 (May)

	<u>Thickness</u>	<u>Depth</u>
Surface	23' 0"	23' 0"
Sandstone	61' 11"	84' 11"
Shale	2' 0"	86' 11"
Coal	3"	87' 2"
Shale	5' 9"	92' 11"
Coal	1' 10"	94' 9"
Shale	9' 8"	104' 5"
Coal	6"	104' 11"
Shale	1' 3"	106' 2"
Sandstone	40' 11"	147' 1"
Sandy shale	1' 0"	148' 1"
Coal	1' 4"	149' 5"
Shale	18' 4"	167' 9"
Sandstone	16' 11"	184' 8"
Shale	8' 1"	192' 9"
Coal	1' 4"	194' 1"
Shale	3' 1"	197' 2"
Coal	5"	197' 7"
Shale	2"	197' 9"
Coal	9"	198' 6"
Shale	2' 6"	201' 0"
Coal	8"	201' 8"
Shale and coal	9"	202' 5"
Sandstone	25' 9"	228' 2"
Shale	4' 8"	232' 10"
Coal	10"	233' 8"
Shale and coal	6"	234' 2"
Sandstone	26' 1"	260' 3"
Shale	5' 4"	265' 7"
Sandstone	26' 0"	291' 7"
Shale and coal	5' 11"	297' 6"
Coal	5"	297' 11"
Shale	4"	298' 3"
Coal	4"	298' 7"
Sandstone	4"	298' 11"
Shale	1"	299' 0"
Coal	8"	299' 8"
Shale	1' 3"	300' 11"
Coal and shale	7"	301' 6"
Shale and sandstone	4' 1"	305' 7"

Bore Hole No. 19 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale	6' 0"	311' 7"
Sandstone	18' 6"	330' 1"
Dark shale	1' 5"	331' 6"
Shale and coal	6"	332' 0"
Shale	2"	332' 2"
Coal	8"	332' 10"
Coal and shale	2' 0"	334' 10"
Light shale	1' 0"	335' 10"
Coal and shale	1' 3"	337' 1"
Dark shale	10"	337' 11"
Shale	2' 0"	339' 11"
Trap	26' 0"	365' 11"
Trap	9' 0"	375' 4"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 20 (2,600 ft. above S. 80 E^o of No.6 Shaft) CX-20

Elevation: 467' feet Depth: 411' 7"

Location:

Date: 1896 (June)

	<u>Thickness</u>	<u>Depth</u>
Surface	15' 6"	15' 6"
Shale	89' 1"	104' 7"
Sandstone	1' 11"	106' 6"
Sandstone and boulder	3' 2"	109' 8"
Sandy shale	11' 7"	121' 3"
Sandstone	13' 2"	134' 5"
Soft shale	1' 6"	135' 11"
Sandstone	83' 11"	219' 10"
Sandy shale	1' 0"	220' 10"
Coal	3"	221' 1"
Dark sandstone	2' 0"	223' 1"
Sandstone	1' 11"	225' 0"
Sandstone	50' 9"	275' 9"
Coal and shale	2' 7"	278' 4"
Brown shale	3' 3"	281' 7"
Coal and shale	1' 6"	283' 1"
Sandstone	14' 8"	297' 9"
Sandstone	24' 11"	322' 8"
Sandstone	7' 3"	329' 11"
Sandy shale	4' 3"	334' 2"
Sandstone	25' 2"	359' 4"
Coal	1' 11"	361' 3"
Shale	3"	361' 6"
Soft coal	2' 6"	364' 0"
Sandstone	24' 8"	388' 8"
Coal	1' 1"	389' 9"
Dark shale	1' 6"	391' 3"
Light shale (bottom)	2' 9"	394' 0"
Blue trap	17' 7"	411' 7"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 21 (600 ft. N. West from No. 18)

CX-21

Elevation: 445 feet

Depth: 587' 8"

Location:

Date: 1896

	<u>Thickness</u>	<u>Depth</u>
Surface	31' 0"	31' 0"
Shale	8' 6"	39' 6"
Sandy shale	16' 10"	56' 4"
Sandstone	7' 10"	63' 4"
Sandy shale	11' 6"	74' 10"
Sandstone	6' 0"	80' 10"
Dark shale	3' 10"	84' 8"
Coal	8"	85' 4"
Shale	5"	85' 9"
Sandstone	95' 9"	181' 6"
Sandy shale	3' 4"	184' 10"
Coal	6"	185' 4"
Dark sandstone	1' 7"	186' 11"
Sandstone	49' 7"	236' 6"
Shale	1' 3"	237' 9"
Coal	3"	238' 0"
Shale	1' 8"	239' 8"
Coal	7"	240' 3"
Shale	1' 8"	241' 11"
Coal	5"	242' 4"
Shale	8"	243' 0"
Coal	4"	243' 4"
Shale	4"	243' 8"
Coal	3"	243' 11"
Sandstone	78' 10"	322' 9"
Coal and shale	1' 6"	324' 3"
Shale	6"	324' 9"
D. Brown shale	13' 2"	337' 11"
Coal	2' 9"	340' 8"
Brown shale	6' 6"	347' 2"
Sandstone	64' 6"	411' 8"
Shale	2' 0"	413' 8"
Coal	1' 3"	414' 11"
Shale	2' 9"	417' 8"
Coal	1' 4"	419' 0"
Shale	5' 7"	424' 0"
Sandstone	3' 5"	427' 5"
Soft shale	1' 0"	428' 5"
Coal	11"	429' 4"
Shale	2' 0"	431' 4"

Bore Hole No. 21 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	53' 2"	484' 6"
Sandy shale	5' 8"	490' 2"
Shale	6' 0"	496' 2"
Coal	3' 0"	499' 2"
Shale	4"	499' 6"
Soft shale and coal	8"	500' 2"
Dark sandstone	5' 2"	505' 4"
Sandstone	14' 9"	520' 1"
Shale	2' 6"	522' 7"
Sandstone	17' 3"	539' 10"
Shale	1' 0"	540' 10"
Sandstone	20' 8"	561' 6"
Coal and shale	1' 4"	562' 10"
Shale	1' 5"	564' 3"
Coal and shale	1' 7"	565' 10"
Shale	4"	566' 2"
Dark shale	1' 0"	567' 2"
Trap	20' 6"	587' 8"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 22 (near Maple Lake) CX-22

Elevation: 441 ' Depth: 1,056' 1"

Location:

Date: 1896 - 1897 (Sept. - Jan.)

	<u>Thickness</u>	<u>Depth</u>
Shale	79' 2"	149' 2"
Sandy shale	14' 11"	164' 1"
Shale	120' 9"	284' 10"
Sandy shale	2' 6"	287' 4"
Dark sandstone	2' 5"	289' 9"
Sandstone	3' 6"	293' 3"
Shale	108' 3"	401' 6"
Sandstone	12' 1"	413' 7"
Shale	10' 8"	424' 3"
Sandy shale	20' 5"	444' 8"
Sandstone	17' 4"	462' 0"
Dark brown shale	10' 7"	472' 7"
Sandstone	74' 1"	546' 8"
Coal	10"	547' 6"
Shale	7' 10"	555' 4"
Coal	4"	555' 8"
Sandstone	38' 5"	594' 1"
Sandstone	10' 0"	604' 1"
Sandy shale	4' 0"	608' 1"
Coal and shale	1' 3"	609' 4"
Coal	1' 1"	610' 5"
Shale	8' 3"	618' 8"
Coal	9"	619' 5"
Dark sandstone	1' 8"	621' 1"
Sandstone	61' 4"	682' 5"
Shale	7' 6"	689' 11"
Sandstone	3' 3"	693' 2"
Coal and shale	8"	693' 10"
Shale	4' 0"	697' 10"
Coal	8"	698' 6"
Shale	3' 0"	701' 6"
Coal	3"	701' 9"
Shale	1' 0"	702' 9"
Coal	1' 10"	704' 7"
Shale	10"	705' 5"
Coal	4"	705' 9"
Coal	4"	706' 1"
Shale	1' 0"	707' 1"
Coal	8"	707' 9"
Shale	2' 9"	710' 6"
Sandstone	35' 11"	746' 5"

Bore Hole No. 22 cont'd

	<u>Thickness</u>	<u>Depth</u>
Hard dark shale	6' 7"	753' 0"
Coal and shale	6"	753' 6"
Shale	6"	754' 0"
Sandstone	15' 2"	769' 2"
Sandy shale	9' 2"	778' 4"
Sandstone	11' 0"	789' 4"
Sandstone	5' 0"	794' 4"
Sandy shale	8' 9"	803' 1"
Shale	7"	803' 8"
Coal	10"	804' 6"
Coal	3' 8"	808' 2"
Shale	7"	808' 9"
Coal	5"	809' 2"
Shale and coal	11"	810' 1"
Coal	1' 4"	811' 5"
Shale	1' 2"	812' 7"
Sandy shale	3' 0"	815' 7"
Sandstone	14' 3"	829' 10"
Sandy shale	7' 5"	837' 3"
Coal	1' 1"	838' 4"
Dark shale	2' 1"	840' 5"
Sandy shale	2' 6"	842' 11"
Sandstone	10' 0"	852' 11"
Sandy shale	1' 0"	853' 11"
Brown shale	1' 0"	854' 11"
Dark sandstone	1' 5"	856' 4"
Coal and shale	8"	857' 0"
Light shale	2' 10"	859' 10"
Light sandy shale	6' 0"	865' 10"
Light shale	8' 5"	874' 3"
Sandstone	5' 11"	880' 2"
Sandy shale	7' 4"	887' 6"
Light shale	4' 0"	891' 6"
Dark shale	3"	891' 9"
Coal, shale	1' 8"	893' 5"
Coal	1' 8"	895' 1"
Dark shale	2' 6"	897' 7"
Dark sandstone	4' 5"	902' 0"
Sandstone	108' 8"	1010' 8"
Shale	3"	1010' 11"
Shale and coal	6"	1011' 5"
Coal	1' 11"	1013' 4"
Coal	5"	1013' 9"
Shale	1' 3"	1015' 0"
Coal	1' 6"	1016' 6"
Shale	9"	1017' 3"
Coal	1' 5"	1018' 8"
Shale	5"	1019' 1"
Coal	3' 9"	1022' 10"
Shale	6' 2"	1029' 0"
Coal	8' 2"	1037' 2"
Shale	1' 4"	1038' 6"
Trap	17' 7"	1056' 1"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 23 (at sawmill) **CX-23**

Elevation: 485' Depth: 558' 9"

Location:

Date: 1897 (June)

	<u>Thickness</u>	<u>Depth</u>
Surface	80' 0"	80' 0"
Sandstone	45' 5"	125' 5"
Shale	1' 6"	126' 11"
Sandy shale	3' 9"	130' 8"
Sandstone	27' 0"	157' 8"
Sandstone and coal	7"	158' 3"
Coal	2' 1"	160' 4"
Coal and shale	7"	160' 11"
Coal	1' 6"	162' 5"
Shale	3' 8"	166' 1"
Coal and shale	8"	166' 9"
Coal	1' 3"	168' 0"
Shale	2' 10"	170' 10"
Sandstone	12' 6"	183' 4"
Sandstone	16' 8"	200' 0"
Sandy shale	5' 0"	205' 0"
Sandstone	17' 9"	222' 9"
Shale	7"	223' 4"
Coal	1' 11"	225' 3"
Shale	3' 2"	228' 5"
Coal	1' 0"	229' 5"
Shale	2' 0"	231' 5"
Sandstone	15' 3"	246' 8"
Sandy shale	1' 8"	248' 4"
Brown shale	23' 9"	272' 1"
Soft shale	2' 0"	274' 1"
Coal	6"	274' 7"
Shale	1"	274' 8"
Coal	1' 2"	275' 10"
Shale	1' 9"	277' 7"
Coal and shale	1' 1"	278' 8"
Shale	7' 0"	285' 8"
Dark sandy shale	3' 0"	288' 8"
Sandstone	19' 10"	308' 6"
Dark sandy shale	8' 9"	317' 3"
Soft coal and shale	1' 8"	318' 11"
Shale and coal	3"	319' 2"
Dark sandstone	1' 6"	320' 8"
Sandstone	50' 4"	371' 0"
Sandy shale	16' 7"	387' 7"

Bore Hole No. 23 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	3' 5"	391' 0"
Coal and shale	1' 4"	392' 4"
Coal	1' 3"	393' 7"
Dark shale	13' 3"	406' 10"
Dark sandstone	6"	407' 4"
Shale	2' 4"	409' 8"
Sandstone	60' 0"	469' 8"
Sandstone	9' 4"	479' 0"
Shale	27' 2"	506' 2"
Coal	1' 0"	507' 2"
Shale	1' 5"	508' 7"
Coal	1' 3"	509' 0"
Shale	10"	510' 8"
Coal	4"	511' 0"
Shale	6' 1"	517' 1"
Coal	2' 7"	519' 8"
Coal	10"	520' 6"
Shale	3"	520' 9"
Coal	1' 11"	522' 8"
Shale	10"	523' 6"
Coal	1' 2"	524' 8"
Coal	2' 4"	527' 0"
Shale	5"	527' 5"
Coal	10"	528' 3"
Shale	1' 11"	530' 2"
Coal	2' 4"	532' 6"
Shale	2"	532' 8"
Coal	11"	533' 7"
Coal	5' 0"	538' 7"
Coal	5' 11"	544' 6"
Dark shale	8' 5"	552' 11"
Light trap	5' 10"	558' 9"
Basalt	80' 0"	638' 9"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 24

CX-24

Elevation:

357'

Depth: 1,123' 7"

Location:

Date: 1897

	<u>Thickness</u>	<u>Depth</u>
Shale	64' 3"	131' 3"
Sandy shale	5' 0"	136' 3"
Shale	41' 2"	177' 5"
Sandstone	1' 6"	178' 11"
Shale	155' 2"	334' 1"
Sandstone	19' 2"	353' 3"
Sandy shale	25' 11"	379' 2"
Sandstone	10' 8"	389' 10"
Sandy shale	11' 6"	401' 4"
Sandstone	6' 1"	407' 5"
Coal	7"	408' 0"
Shale	2' 4"	410' 4"
Coal and shale	1' 2"	411' 6"
Coal	3"	411' 9"
Shale	2' 0"	413' 9"
Sandstone	165' 6"	579' 3"
Sand, shale,	3' 0"	582' 3"
Shale	1' 11"	584' 2"
Shale	8' 3"	592' 5"
Coal	6"	592' 11"
Coal and shale	1' 3"	594' 2"
Shale	1' 3"	595' 5"
Coal	1' 5"	596' 10"
Shale	7"	597' 5"
Sandstone	50' 6"	647' 11"
Sandy shale	5' 0"	652' 11"
Sandstone	7"	660' 4"
Sandy shale	8' 3"	668' 7"
Shale	6' 0"	674' 7"
Sandstone	3' 6"	678' 1"
Sandy shale	10"	678' 11"
Coal	1' 9"	680' 8"
Sandstone	3"	680' 11"
Coal	4"	681' 3"
Shale	1' 2"	682' 5"
Coal	1' 5"	683' 10"
Shale	3' 0"	686' 10"
Shale, sand,	9' 6"	696' 4"
Shale	3' 6"	699' 10"
Coal	3"	700' 1"

Bore Hole No. 24 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	2' 8"	702' 9"
Sandstone	49' 9"	752' 6"
Coal	1' 3"	753' 9"
Sandy shale	5' 6"	759' 3"
Shale	3' 5"	762' 7"
Coal	1' 0"	763' 7"
Shale	6' 0"	769' 7"
Sandy shale	11' 6"	781' 1"
Sandstone	1' 6"	782' 7"
Hard sandy shale	10' 4"	792' 11"
Brown shale	2' 3"	795' 2"
Coal - bony	2' 5"	797' 7"
Shale	1' 1"	798' 8"
Coal	2"	798' 10"
Shale	1' 8"	800' 6"
Coal	8"	801' 2"
Shale	5"	801' 7"
Coal	6"	802' 1"
Shale	1' 6"	803' 7"
Sandy shale	1' 9"	805' 4"
Shale	2' 6"	807' 10"
Coal	11"	808' 9"
Shale	1' 6"	810' 3"
Sandstone	50' 5"	860' 8"
Coal	5"	861' 1"
Shale	7"	861' 8"
Sandy shale	2' 0"	863' 8"
Sandstone	18' 0"	881' 8"
Coal	6"	882' 2"
Light sandy shale	1' 6"	883' 8"
Light shale	1' 10"	885' 6"
Sandy shale	3' 0"	888' 6"
Sandstone	32' 6"	921' 0"
Brown shale	16' 5"	937' 5"
Dark sandstone	6"	937' 11"
Brown shale	1' 3"	939' 2"
Sandstone	4"	939' 6"
Brown shale	1' 6"	941' 0"
Sandstone	45' 4"	986' 4"
Shale	1' 10"	988' 2"
Coal	1' 5"	989' 7"
Shale	1' 1"	990' 8"
Dark sandstone	8"	991' 4"
Shale and sand.	11' 2"	1002' 6"
Sandstone	4' 0"	1006' 6"
Sandstone	1' 0"	1007' 6"
Shale and sand.	11' 0"	1018' 6"
Dark sandstone	1' 6"	1020' 0"
Shale	4"	1020' 4"
Coal	5"	1020' 9"
Shale	11' 9"	1032' 6"

Bore Hole No. 24 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	1' 0"	1033' 6"
Shale	1' 3"	1034' 9"
Coal	1' 5"	1036' 2"
Shale	10' 7"	1046' 9"
Coal	1' 7"	1048' 4"
Shale	11' 8"	1060' 0"
Sandstone	10' 1"	1070' 1"
Shale	7' 1"	1077' 2"
Shale and coal	1' 7"	1078' 9"
Shale	4' 10"	1083' 7"
Coal	7"	1084' 2"
Coal	8"	1084' 10"
Shale, little coal	2' 5"	1087' 3"
Shale	1' 6"	1088' 9"
Sandy shale	2' 6"	1091' 3"
Shale, little coal	10"	1092' 1"
Shale	2' 7"	1094' 8"
Shale and coal	6"	1095' 2"
Coal	6"	1095' 8"
Coal	7"	1096' 3"
Shale	11"	1097' 2"
Bony	3' 4"	1100' 6"
White sandstone	10' 7"	1111' 1"
Shale	2' 0"	1113' 1"
White sandstone	3' 10"	1116' 11"
Shale	3' 6"	1122' 5"
White sandstone	1' 2"	1123' 7"
Basalt	67' 0"	1190' 7"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 101

CX-101

Elevation: 286'

Depth: 930'

Location: Section 3, Tsp. 9, Comox, B.C.

Date: 1910

	<u>Thickness</u>	<u>Depth</u>
Surface drift	26' 8"	26' 8"
Shale, sandy	26' 7"	53' 3"
Sandstone, hard	3' 1"	56' 4"
Shale, sandy	152' 6"	208' 10"
Sandstone, shaly	17' 0"	225' 10"
Shale, sandy	50' 2"	276' 0"
Shale	22' 1"	298' 1"
Coal	0' 2"	298' 3"
Coal, shale	1' 9"	300' 0"
Sandstone	83' 4"	383' 4"
Shale	5' 8"	389' 0"
Sandstone	45' 0"	434' 0"
Shale, sandstone	15' 0"	449' 0"
Coal	3' 0"	452' 0"
Sandstone	99' 6"	551' 6"
Coal, shaly	6"	552' 0"
Shale, black	4' 7"	556' 7"
Shale	2' 2"	558' 9"
Coal	2' 9"	561' 6"
Coal, shaly	6"	562' 0"
Shale	3' 0"	565' 0"
Sandstone	50' 6"	615' 6"
Coal	1' 0"	616' 6"
Sandy shale	15' 6"	632' 0"
Fire clay	7' 0"	639' 0"
Shale	5' 10"	644' 10"
Coal	1' 4"	646' 2"
Shale	4"	646' 6"
Coal	1' 8"	648' 2"
Shale	4' 9"	652' 11"
Coal	2' 4"	655' 3"
Fire clay	2' 7"	657' 10"
Coal bony	8"	658' 6"
Sandstone	1' 6"	660' 0"
Shale	47' 0"	707' 0"
Coal	6"	707' 6"
Sandstone	29' 0"	736' 6"
Clay, shale	9' 9"	746' 3"
Coal, bony	2' 6"	748' 9"
Shaly sandstone	17' 0"	765' 9"

Prospect Hole No. 101 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	58' 0"	823' 9"
Shale	7' 0"	830' 9"
Coal	2' 0"	832' 9"
Clay shale	18' 6"	851' 3"
Coal, bony	1' 3"	852' 6"
Shale	1' 3"	853' 9"
Coal	1' 2"	854' 11"
Shale, black	10' 4"	865' 3"
Sandstone, shaly	23' 0"	888' 3"
Shale, black	5' 7"	893' 10"
Shale, brown	1' 2"	895' 0"
Coal, bony	8"	895' 8"
Coal	1' 3"	896' 11"
Fireclay	1' 0"	897' 11"
Coal, bony	10"	898' 9"
Coal	4' 9"	903' 6"
Conglomerate	5' 6"	909' 0"
Trap rock	21' 0"	930' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 102

CX - 102

Elevation: + 323'

Depth: 1017' 10"

Location: Sec. 3, tsp. 9, Comox District

Date: 1910

	<u>Thickness</u>	<u>Depth</u>
Surface sand and gravel	39' 0"	39' 0"
Shale, sandy	226' 0"	265' 0"
Coal,	1' 10"	266' 10"
Sandstone	56' 8"	323' 6"
Shale, dark	3' 0"	326' 6"
Coal	0' 3"	326' 9"
Shale, dark	5' 3"	332' 0"
Sandstone	171' 0"	503' 0"
Coal	1' 3"	504' 3"
Sandy shale	36' 9"	541' 0"
Coal	1' 11"	542' 11"
Shale	0' 3"	543' 2"
Coal	0' 8"	543' 10"
Shale	0' 6"	544' 4"
Coal	0' 5"	544' 9"
Shale	0' 7"	545' 4"
Coal	3"	545' 7"
Shale, dark	7"	550' 2"
Shale, dark	1' 10"	552' 0"
Sandstone	63' 0"	615' 0"
Shale	33' 5"	648' 5"
Shale, dark	2' 0"	650' 5"
Coal	2' 0"	652' 5"
Shale, dark	2' 10"	655' 5"
Sandstone	2' 3"	657' 6"
Shale, dark	1' 6"	659' 0"
Sandstone	59' 0"	718' 0"
Shale dark	8' 0"	726' 0"
Coal bony	1' 3"	727' 3"
Shale, dark	5' 3"	732' 6"
Shaly sandstone	20' 6"	753' 0"
Coal (with sulphur and shale)	1' 4"	754' 4"
Shale, dark	3' 8"	758' 0"
Sandstone, shaly	15' 0"	773' 0"
Shale, dark	2' 6"	775' 6"
Sandstone, grey	26' 6"	802' 0"
Shale, streaks of coal	4' 6"	806' 6"
Coal	1' 7"	808' 1"
Shale	19' 8"	827' 9"
Coal	0' 6"	828' 3"

Prospect Hole No. 102 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone, spotted	8' 7"	836' 10"
Sandstone quartz grains	14' 2"	851' 0"
Shale	2' 6"	853' 6"
Sandstone	26' 3"	879' 9"
Shale	14' 7"	894' 4"
Sandstone, grey	4' 8"	899' 0"
Shale, dark	1' 0"	900' 0"
Sandstone, grey	4' 0"	904' 0"
Shale, dark	1' 0"	905' 0"
Sandstone, grey	2' 0"	907' 0"
Shale	19' 0"	926' 0"
Sandstone	3' 0"	929' 0"
Shale	11' 1"	940' 1"
Sandstone	2' 3"	942' 4"
Shale	50' 2"	992' 6"
Trap	24' 6"	1017' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 103

CX-103

Elevation: ²⁶⁹369' 0"

Depth: 1366' 8"

Location: Lot 135, Comox District, B.C.

Date: 1910

	<u>Thickness</u>	<u>Depth</u>
Surface, gravel and sand	65' 6"	65' 6"
Sandstone	21' 6"	87' 0"
Shale, sandy	95' 0"	182' 0"
Shale	116' 0"	298' 0"
Shale, sandy	252' 2"	550' 2"
Coal	1' 4"	551' 6"
Sandstone	110' 4"	661' 10"
Coal, shaly	6"	662' 4"
Sandstone	63' 2"	725' 6"
Coal (some sulphur)	1' 6"	727' 0"
Shale	0' 9"	727' 9"
Coal	1' 0"	728' 9"
Shale	0' 6"	729' 3"
Coal	1' 0"	730' 3"
Shale	10"	731' 1"
Sandstone	54' 11"	786' 0"
Shale, black	19' 10"	805' 10"
Coal	1' 9"	807' 7"
Shale	14' 5"	822' 0"
Sandstone	8' 0"	830' 0"
Coal	1' 0"	831' 0"
Shale, black	9' 0"	840' 0"
Sandstone	31' 6"	871' 6"
Coal, shaly	1' 0"	872' 6"
Shale, black	5' 6"	878' 0"
Sandstone	13' 0"	891' 0"
Shale, sandy	14' 0"	905' 0"
Shale, black	3' 6"	908' 6"
Sandstone, shaly	3' 0"	911' 6"
Coal	2' 10"	914' 4"
Coal, bony	2' 10"	917' 2"
Shale, black	7' 6"	924' 8"
Sandstone	67' 0"	991' 8"
Sandstone	23' 3"	1014' 11"
Sandstone, shaly	5' 6"	1020' 5"
Shale, black	6' 9"	1027' 2"
Shale	9"	1027' 11"
Coal	2' 8"	1030' 7"
Coal, shale	1' 1"	1031' 8"
Sandstone, shaly	53' 0"	1084' 8"
Sandstone	16' 6"	1101' 2"

Prospect Hole No. 103 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone, shaly	1' 6"	1102' 8"
Shale	1' 10"	1104' 6"
Coal	3"	1104' 9"
Shale black	4' 9"	1109' 6"
Sandstone	1' 2"	1110' 8"
Coal	1' 0"	1111' 8"
Shale, black	3' 2"	1114' 10"
Coal, bony	7"	1115' 5"
Coal	8"	1116' 1"
Shale, black	1' 1"	1117' 2"
Sandstone	16' 6"	1133' 8"
Coal	4"	1134' 0"
Shale, black	1' 11"	1135' 11"
Coal	1' 0"	1136' 11"
Coal, bony	4"	1137' 3"
Shale, black	2' 0"	1139' 3"
Sandstone, shaly	22' 5"	1161' 8"
Shale, black	3' 9"	1165' 5"
Coal	1' 8"	1167' 1"
Shale	6' 1"	1173' 2"
Coal, bony	2"	1173' 4"
Coal	8"	1174' 0"
Shale	4"	1174' 4"
Coal	10"	1175' 2"
Shale	1' 0"	1176' 2"
Clay, shaly	1' 0"	1177' 2"
Coal	6"	1177' 8"
Coal, bony	1' 3"	1178' 11"
Sandstone, black	9"	1179' 8"
Sandstone,	21' 0"	1200' 8"
Sandstone	13' 0"	1213' 8"
Black sandstone, shale	33' 0"	1246' 8"
Shale, black	14' 0"	1260' 8"
Coal, bony	3"	1260' 11"
Shale, black	3' 4"	1264' 3"
Sandstone, spotted	11"	1265' 2"
Shale, black	54' 6"	1319' 8"
Sandstone, spotted	2' 0"	1321' 8"
Shale, black	2' 0"	1323' 8"
Shale, pebbles	3' 0"	1326' 8"
Shale, black	11' 0"	1337' 8"
Conglomerate trap rock	29' 0"	1366' 8"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 104 *CX-104*

Elevation: 260' Depth: 1176' 8"

Location: Section 2, tsp. 9, Comox District, B.C.

Date: 1910

	<u>Thickness</u>	<u>Depth</u>
Sand and clay	10' 0"	10' 0"
Sand and gravel	8' 0"	18' 0"
Hardpan	10' 0"	28' 0"
Sandstone	24' 0"	52' 0"
Sandy shale	335' 0"	387' 0"
Sandstone, shaly	47' 0"	434' 0"
Shale, sandy	12' 0"	446' 0"
Sandstone	30' 0"	476' 0"
Sandstone, light	8' 0"	484' 0"
Shale, brown	0' 7"	484' 7"
Coal, bony	1' 0"	485' 7"
Shale, brown	1' 5"	487' 0"
Sandstone	96' 0"	583' 0"
Sandstone	4' 8"	587' 8"
Shale, brown	1' 6"	589' 2"
Conglomerate	1' 0"	590' 2"
Coal, bony	0' 2"	590' 4"
Sandstone	1' 8"	592' 0"
Coal, bony	0' 1"	592' 1"
Sandstone	56' 5"	648' 6"
Coal	11"	649' 5"
Shale, brown	2' 7"	652' 0"
Coal, bony	6"	652' 6"
Coal	2' 6"	655' 0"
Sandstone	52' 0"	707' 0"
Sandstone, shaly	13' 0"	720' 0"
Sandstone	14' 0"	734' 0"
Sandstone	4' 5"	738' 5"
Coal	1' 6"	739' 11"
Shale, brown	3' 7"	743' 6"
Shale, sandy	6' 6"	750' 0"
Shale, brown	18' 7"	768' 7"
Coal	1"	768' 8"
Shale	8"	769' 4"
Coal	6"	769' 10"
Shale	4' 0"	773' 10"
Coal	4"	774' 2"
Shale	6"	774' 8"
Sandstone	16' 4"	791' 0"
Sandstone	19' 0"	810' 0"

Prospect Hole No. 104 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	15' 0"	825' 0"
Coal	1' 0"	826' 0"
Clay, shale	27' 0"	853' 0"
Coal	6"	853' 6"
Coal	1' 0"	854' 6"
Clay shale	2"	854' 8"
Coal	2' 4"	857' 0"
Shale	1' 3"	858' 3"
Coal	7"	858' 10"
Clay, shale	7"	859' 5"
Coal	4"	859' 9"
Clay, shale	6' 11"	866' 8"
Shale, coal	11"	867' 7"
Coal	10"	868' 5"
Clay, shale	2' 7"	871' 0"
Sandstone	7' 0"	878' 0"
Sandy shale	13' 0"	891' 0"
Clay, shale	2' 0"	893' 0"
Coal	4"	893' 4"
Clay, shale	4' 0"	897' 4"
Shaly sandstone	3' 2"	900' 6"
Sandstone	9' 6"	910' 0"
Shale, black	1' 0"	911' 0"
Sandstone	15' 0"	926' 0"
Sandstone	16' 0"	942' 0"
Shale	10' 6"	952' 6"
Coal	3"	952' 9"
Coal	1' 11"	954' 8"
Shale	2' 6"	957' 2"
Sandstone	1' 0"	958' 2"
Clay, shaly	4' 0"	962' 2"
Sandstone	7' 1"	1033' 3"
Shale	1' 4"	1034' 7"
Coal	1' 0"	1035' 7"
Coal	11"	1036' 6"
Clay	17' 7"	1054' 1"
Coal	1' 0"	1055' 1"
Coal	2' 4"	1057' 5"
Sandstone	3"	1057' 8"
Shale	6"	1058' 2"
Clay	18' 0"	1076' 2"
Coal	1' 0"	1077' 2"
Sandstone	29' 6"	1106' 8"
Clay	6' 0"	1112' 8"
Clay, shale	31' 0"	1143' 8"
Sandstone	2' 0"	1145' 8"
Clay, shale	11' 0"	1156' 8"
Trap rock	20' 0"	1176' 8"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
ANDERSON LAKE AREA

Bore Hole No. 105

CX-105

Elevation: ~~344~~ ³¹⁴ 0"

Depth: 1179' 10"

Location: Lot 154, Township 9, Comox District

Date: 1911:

	<u>Thickness</u>	<u>Depth</u>
Surface gravel	89' 0"	89' 0"
Sandstone	7' 0"	96' 0"
Sandy shale	381' 0"	477' 0"
Sandstone (grey)	6' 0"	483' 0"
Sandy shale	3' 0"	486' 0"
Sandstone (coarse)	2' 0"	488' 0"
Sandy shale	29' 0"	517' 0"
Sandstone (grey)	6' 0"	523' 0"
Sandy shale	17' 0"	540' 0"
Sandstone (grey)	50' 0"	590' 0"
Sandy shale	36' 0"	626' 0"
Sandstone (grey)	13' 5"	639' 5"
Coal	6"	639' 11"
Brown shale	2' 1"	642' 0"
Coal (bony)	2' 3"	644' 3"
Brown shale	2' 9"	647' 0"
Coal (bony)	0' 4"	647' 4"
Shale, brown	2' 8"	650' 0"
Sandstone, grey	68' 0"	718' 0"
Shale, brown	3' 0"	721' 0"
Coal (bony)	0' 8"	721' 8"
Brown shale	2' 4"	724' 0"
Coal	0' 6"	724' 6"
Sandstone, light grey	54' 6"	779' 0"
Shale, brown	2' 10"	781' 0"
Coal	1' 8"	783' 6"
Sandstone, grey	17' 10"	801' 4"
Sandstone	41' 5"	842' 9"
Shale, brown	0' 3"	843' 0"
Sandstone	25' 2"	868' 2"
Shale, brown	5' 1"	873' 3"
Coal	1' 5"	874' 8"
Shale, brown	13' 4"	888' 0"
Sandstone	10' 0"	898' 0"
Shale, brown	1' 6"	899' 6"
Coal	0' 11"	900' 5"
Shale, brown	6' 7"	907' 0"
Shale, sandy	2' 0"	909' 0"
Sandstone, shaly	6' 0"	915' 0"
Sandstone	8' 0"	923' 0"

Bore Hole No. 105 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	0' 9"	923' 9"
Shale, brown	1' 0"	924' 9"
Sandstone	21' 3"	946' 0"
Shale, brown	4' 8"	950' 8"
Coal	6"	951' 2"
Shale, brown	8"	951' 10"
Coal	1' 10"	953' 8"
Shale, brown	2' 0"	955' 8"
Coal	1' 3"	956' 11"
Shale, brown	4' 1"	961' 0"
Sandstone	45' 0"	1006' 0"
Shale, brown	4"	1006' 4"
Coal	8"	1007' 0"
Shale, brown	1' 0"	1008' 0"
Coal	1' 1"	1009' 1"
Shale, brown	10' 8"	1019' 9"
Coal	6"	1020' 3"
Shale, brown	1' 2"	1021' 5"
Coal	6"	1021' 11"
Shale, brown	10' 1"	1032' 0"
Sandstone, grey	18' 0"	1050' 0"
Coal	1' 2"	1051' 2"
Shale	10' 8"	1061' 10"
Sandstone, grey	25' 0"	1086' 10"
Sandstone	4' 0"	1090' 10"
Sandy shale	2' 0"	1092' 10"
Coal (bony)	2' 8"	1095' 6"
Sandy shale	11' 4"	1106' 10"
Shale, brown	0' 10"	1107' 8"
Coal (bony with mixed shale)	5' 8"	1113' 4"
Shale, brown	0' 8"	1114' 0"
Sandy shale	4' 10"	1118' 10"
Sandstone	13' 0"	1131' 10"
Shale	3' 0"	1134' 10"
Conglomerate	13' 0"	1147' 10"
Trap rock	32' 0"	1179' 10"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 106

CX-106

Elevation: 323' 0"

Depth: 1019' 6"

Location: Sec. 35, Tsp. 10, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Surface drift	20' 0"	20' 0"
Shale, sandy	181' 0"	201' 0"
Sandstone	14' 0"	215' 0"
Sandstone, shaly	62' 0"	277' 0"
Shale	6' 0"	283' 0"
Sandstone	93' 0"	376' 0"
Shale	5' 0"	381' 0"
Shale, sandy	1' 0"	382' 0"
Sandstone	49' 0"	431' 0"
Shale	2' 0"	433' 0"
Shale	2' 0"	435' 0"
Coal	1' 6"	436' 6"
Coal	1' 4"	437' 10"
Sandstone	43' 2"	481' 0"
Shale, sandy	7' 0"	488' 0"
Sandstone	48' 0"	536' 0"
Coal	8"	536' 8"
Shale	1' 4"	538' 0"
Coal	5"	538' 5"
Coal, shale	1' 2"	539' 7"
Coal	1' 7"	541' 2"
Shale	3' 2"	544' 4"
Coal	4"	544' 8"
Shale	1' 7"	546' 3"
Coal	4"	546' 7"
Shale	2' 0"	549' 0"
Sandstone	12' 0"	561' 0"
Sandstone	56' 6"	617' 6"
Shale	3' 0"	620' 6"
Coal	1' 0"	621' 6"
Shale	2' 6"	624' 0"
Shale, sandy	6' 0"	630' 0"
Clay, shale	8' 0"	638' 0"
Coal	2' 11"	640' 11"
Shale	3' 8"	644' 7"
Coal	4"	644' 11"
Shale	4' 5"	649' 4"
Clay, shale	2' 9"	652' 1"
Sandstone	9' 0"	661' 1"
Coal	5"	661' 6"

Prospect Hole No. 106 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	6"	662' 0"
Sandstone	19' 0"	681' 0"
Shale, sandy	1' 0"	682' 0"
Shale	1' 0"	683' 0"
Coal	8"	683' 8"
Shale	4' 4"	688' 0"
Sandstone	52' 0"	740' 0"
Sandstone	2' 0"	742' 0"
Clay	1' 0"	743' 0"
Shale	2' 0"	745' 0"
Sandstone	7' 0"	752' 0"
Coal	2"	752' 2"
Shale	3"	752' 5"
Coal	5"	752' 10"
Sandstone	7' 0"	759' 10"
Shale	3"	760' 1"
Coal	1' 3"	761' 4"
Shale	6"	761' 10"
Coal	3"	762' 1"
Shale	1' 11"	764' 0"
Clay, shale	4' 0"	768' 0"
Sandstone	2' 0"	770' 0"
Clay, shale	4' 0"	774' 0"
Sandstone, shaly	10' 0"	784' 0"
Sandstone	55' 0"	839' 0"
Clay, shale	5' 0"	844' 0"
Shale	6' 0"	850' 0"
Clay, shale	1' 6"	851' 6"
Shale	1' 0"	852' 6"
Clay, shale	1' 0"	853' 6"
Coal	1' 0"	854' 6"
Clay, shale	5' 0"	861' 6"
Coal	1' 0"	862' 6"
Coal	1' 0"	863' 6"
Shale	1' 0"	864' 6"
Coal, shale	1' 7"	866' 1"
Coal	1' 0"	867' 1"
Clay, shale	10' 0"	877' 1"
Shale	12' 0"	881' 0"
Clay, shale	1' 11"	886' 11"
Coal	1' 10"	888' 9"
Clay, shale	3' 0"	891' 9"
Coal	1' 10"	893' 7"
Shale	5"	898' 0"
Coal	1' 0"	899' 0"
Shale, some coal	5' 0"	904' 0"
Clay, shale	2' 0"	906' 0"
Shale, some coal	1' 0"	907' 0"
Coal	1' 6"	908' 6"
Sandstone	3' 2"	911' 8"
Coal	6"	912' 2"

Prospect Hole No. 106 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	4' 10"	917' 0"
Clay, shale	1' 0"	918' 0"
Sandstone	7' 6"	925' 6"
Sandstone	1' 0"	926' 0"
Clay, shale	5' 6"	931' 6"
Sandstone	2' 0"	933' 6"
Sandy shale	1' 0"	934' 6"
Sandstone	5' 0"	939' 6"
Clay shale	1' 0"	940' 1"
Sandstone	50' 0"	945' 6"
Clay, shale	8' 0"	953' 6"
Sandstone, shaly	1' 0"	954' 6"
Shale, sandy	2' 0"	956' 6"
Clay, shale	32' 0"	988' 6"
Shale	5' 0"	993' 6"
Trap rock	26' 0"	1019' 6"

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WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
ANDERSON LAKE AREA

Prospect No. 107 *CX-107*

Elevation: 267'

Depth: 552'

Location: Sec. 21, Tsp. 9, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Surface drift	17' 0"	17' 0"
Shale, sandy	28' 0"	45' 0"
Sandstone	52' 0"	97' 0"
Shale, sandy	69' 0"	166' 0"
Sandstone	80' 0"	246' 0"
Shale, sandy	40' 0"	286' 0"
Sandstone	38' 0"	324' 0"
Shale	15' 0"	339' 0"
Sandstone	44' 0"	383' 0"
Coal	4"	383' 4"
Sandstone	60' 8"	444' 0"
Shale	1' 0"	445' 0"
Coal	1' 6"	446' 6"
Shale	3' 0"	449' 6"
Sandstone	15' 6"	465' 0"
Shale	21' 0"	486' 0"
Sandstone	20' 0"	506' 0"
Shale	9' 0"	515' 0"
Coal	3' 6"	518' 6"
Clay, shale	11' 6"	530' 0"
Trap rock	22' 0"	552' 0"

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WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 108 *CX-108*

Elevation: 217' Depth: 1085' 10"

Location: Lot 227, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Sand and gravel	5' 0"	5' 0"
Boulders	4' 0"	9' 0"
Sandy shale	221' 0"	230' 0"
Sandstone	58' 0"	288' 0"
Sandy shale	183' 0"	471' 0"
Sandy shale	92' 0"	563' 0"
Sandy shale	80' 0"	643' 0"
Sandstone	47' 0"	690' 0"
Shale, sandstone	45' 0"	735' 0"
Shale	4' 0"	739' 0"
Coal	9"	739' 9"
Shale	1' 3"	741' 0"
Sandstone	85' 0"	826' 0"
Sandy shale	2' 6"	828' 6"
Coal	6"	829' 0"
Shale	6' 0"	835' 0"
Sandstone	52' 0"	887' 0"
Shale	1' 6"	888' 6"
Coal	3"	888' 9"
Shale	5"	889' 2"
Coal	8"	889' 10"
Coal	3"	890' 1"
Coal	11"	891' 0"
Shale	2' 0"	893' 0"
Coal	3"	893' 3"
Sandstone	11' 3"	904' 6"
Coal	6"	905' 0"
Sandstone	83' 3"	988' 3"
Sandstone, coal layers	6"	988' 9"
Shale	5' 3"	994' 0"
Shale, sandy	6' 0"	1000' 0"
Shale	2' 7"	1002' 7"
Coal	7"	1003' 2"
Coal	10"	1004' 0"
Shale	3"	1004' 3"
Coal	5"	1004' 8"
Shale	1' 1"	1005' 9"
Coal	1' 2"	1006' 11"
Coal	9"	1007' 8"
Shale	14' 4"	1022' 0"

Prospect Hole No. 108 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	10' 0"	1032' 0"
Shale	3' 7"	1035' 7"
Sandstone	1' 11"	1037' 6"
Shale, coal seams	1' 6"	1039' 0"
Shale	2' 0"	1041' 0"
Sandstone	37' 1"	1078' 1"
Shale	1' 0"	1079' 1"
Coal	2' 2"	1081' 3"
Coal	3"	1081' 6"
Shale	2' 0"	1083' 6"
Coal	7"	1084' 1"
Shale	3"	1084' 4"
Coal	1' 0"	1085' 4"
Shale	6"	1085' 10"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
ANDERSON LAKE AREA

Prospect Hole No. 109

CX-109

Elevation:

276'

Depth: 289' 0"

Location: Sec. 20, Tsp. 9, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Surface gravel	36' 0"	36' 0"
Sandstone	43' 0"	79' 0"
Sandstone	9' 0"	88' 0"
Sandstone	15' 0"	103' 0"
Black shale	4' 0"	107' 0"
Sandstone	51' 0"	158' 0"
Coal	3' 0"	161' 0"
Sandstone	30' 0"	191' 0"
Sandstone	7' 0"	198' 0"
Shale	18' 0"	216' 0"
Sandstone	34' 6"	250' 6"
Shale	7' 6"	258' 0"
Shale	2' 0"	260' 0"
Sandstone	13' 0"	273' 0"
Shale	7' 0"	280' 0"
Trap rock	9' 0"	289' 0"

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WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 110

CX-110

Elevation: 348'

Depth: 762' 7"

Location: Sec. 16, Tsp. 9, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Gravel	10' 0"	10' 0"
Shale, sandy	161' 0"	171' 0"
Sandstone	11' 6"	182' 6"
Coal and shale	3' 6"	186' 0"
Shal	1"	186' 1"
Coal	8"	186' 9"
Shale, sandy	3"	187' 0"
Sandstone	89' 1"	276' 1"
Shale	6"	276' 7"
Coal	10"	277' 5"
Shale	5' 2"	282' 7"
Coal	10"	283' 5"
Sandstone	56' 1"	339' 6"
Shale	6"	340' 0"
Coal	7"	340' 7"
Shale	7' 4"	347' 11"
Coal	8"	348' 7"
Shale	11"	349' 6"
Coal	1' 7"	351' 1"
Shale	1' 10"	352' 11"
Coal	2"	358' 1"
Sandstone	47' 4"	400' 5"
Shale, sandy	4' 0"	404' 5"
Shale	14' 0"	418' 5"
Shale, sandy	1' 6"	419' 11"
Coal	1' 6"	421' 6"
Shale	3' 6"	424' 11"
Soapstone	6"	425' 5"
Shale	6' 0"	431' 5"
Coal	6"	431' 11"
Coal, shale	9"	432' 8"
Shale, sandy	20' 0"	452' 8"
Sandstone	8' 6"	461' 2"
Shale, sandy	1' 6"	462' 8"
Sandstone	28' 0"	490' 8"
Coal	9"	491' 5"
Shale	4' 0"	495' 6"
Sandstone	19' 3"	514' 8"
Shale	2' 7"	517' 3"
Coal	5"	517' 8"

Prospect Hole No. 110 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	1' 0"	518' 8"
Shale	1' 4"	520' 0"
Shale	3"	520' 3"
Coal	3"	520' 6"
Shale	1"	520' 7"
Coal	5"	521' 0"
Coal, shale	8"	521' 8"
Coal	1' 11"	523' 7"
Shale	9"	524' 4"
Shale,	9' 7"	533' 11"
Shale, sandy	4' 0"	537' 11"
Sandstone	44' 0"	581' 11"
Shale	8"	582' 7"
Sandstone	5' 6"	588' 1"
Coal	1' 0"	589' 1"
Shale	2' 0"	591' 1"
Sandstone	3' 0"	594' 1"
Shale, sandy	4' 2"	598' 3"
Sandstone	15' 8"	613' 11"
Coal	6"	614' 5"
Shale	2' 0"	616' 5"
Sandstone	4' 0"	620' 5"
Sandstone, coal markings	6' 0"	626' 5"
Shale	5' 6"	631' 11"
Shale, sandy	15' 0"	646' 11"
Shale	4' 0"	650' 11"
Coal	1' 0"	651' 11"
Shale	4' 0"	655' 11"
Shale, sandy	3' 0"	658' 11"
Sandstone	3' 0"	661' 11"
Sandstone, coal markings	15' 0"	676' 11"
Sandstone	45' 0"	721' 11"
Coal	1' 8"	723' 7"
Shale	1' 0"	724' 7"
Coal	11"	725' 6"
Shale	1' 3"	726' 9"
Coal	5' 8"	732' 6"
Shale	6"	732' 11"
Fire clay	7' 8"	740' 7"
Shale	6' 0"	746' 7"
Decomposed trap	6' 0"	752' 7"
Trap rock	10' 0"	762' 7"

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WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
ANDERSON LAKE AREA

Bore Hole No. 111

CX-111

Elevation:

387'

Depth: 464' 0"

Location: Sec. 20, Tsp. 9, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Gravel and boulders	28' 0"	28' 0"
Sandstone	88' 0"	116' 0"
Shale	1' 0"	117' 0"
Coal	1' 0"	118' 0"
Sandstone	67' 0"	185' 0"
Shale	1' 4"	186' 4"
Coal	2' 8"	189' 0"
Shale	3' 0"	192' 0"
Sandstone	55' 0"	247' 0"
Shale	4' 0"	251' 0"
Sandstone	16' 0"	267' 0"
Shale	6"	267' 6"
Coal	8"	268' 2"
Shale	8"	268' 10"
Coal	6"	269' 4"
Shale	2' 4"	271' 8"
Coal	0' 3"	271' 11"
Shale	3"	272' 2"
Coal	8"	272' 10"
Shale	1' 0"	273' 10"
Sandstone	26' 2"	300' 0"
Shale, sandy	10' 0"	310' 0"
Sandstone	74' 6"	384' 6"
Coal	3"	384' 9"
Sandstone	9"	385' 6"
Coal	3"	385' 9"
Shale	2' 3"	388' 0"
Clay, shale	9' 6"	397' 6"
Shale	6"	398' 0"
Coal	9"	398' 9"
Clay, shale	1' 6"	400' 3"
Coal	7"	400' 10"
Clay, shale	7"	401' 5"
Coal	1"	401' 6"
Shale	5"	401' 11"
Coal	1' 1"	403' 0"
Shale	22' 0"	425' 0"
Sandstone shaly	5' 0"	430' 0"
Sandstone	23' 0"	453' 0"
Clay, shale	3' 0"	456' 0"
Sandstone	8' 0"	464' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect No. 112 *CX-112*

Elevation: *253'* Depth: 1077' 8"

Location: Sec. 10, Tsp. 9, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Gravel and boulder	12' 0"	12' 0"
Sandstone	1' 0"	13' 0"
Sandy shale	26' 0"	39' 0"
Shale, some sandstone seams	41' 0"	80' 0"
Shale, sandy	256' 0"	336' 0"
Sandstone	20' 6"	356' 6"
Shale	6"	357' 0"
Coal	6"	357' 6"
Coal	3"	357' 9"
Shale	1' 3"	359' 0"
Sandstone	75' 3"	434' 3"
Shale	8' 3"	442' 6"
Sandstone	74' 0"	516' 6"
Shale	1' 6"	518' 0"
Coal	6"	518' 6"
Coal	2' 8"	521' 2"
Coal, shale	2' 4"	523' 6"
Sandstone	59' 0"	582' 6"
Shale seams	1' 10"	584' 4"
Shale, sandy	2' 2"	586' 6"
Sandstone	97' 5"	683' 11"
Shale	1' 2"	685' 1"
Coal	1' 2"	686' 3"
Shale	17' 3"	703' 6"
Sandstone	12' 0"	715' 6"
Shale	11' 2"	726' 8"
Coal	6"	727' 2"
Shale	10"	728' 0"
Coal, shale	1' 11"	729' 11"
Coal	1' 0"	730' 11"
Shale	1' 11"	732' 10"
Coal	7"	733' 5"
Shale	8' 7"	742' 0"
Coal	9"	742' 9"
Shale	6' 1"	748' 10"
Sandstone	2' 0"	750' 10"
Shale, sandy	2' 6"	753' 4"
Sandstone	51' 0"	804' 4"
Shale	6' 0"	810' 4"
Shale	8' 2"	818' 6"

Prospect No. 112 cont'd

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	<u>Thickness</u>	<u>Depth</u>
Coal, shale	1' 8"	820' 2"
Shale	9' 2"	829' 4"
Sandstone	15' 0"	844' 4"
Sandstone	54' 6"	898' 10"
Coal	2' 0"	900' 10"
Sandstone	6"	901' 4"
Shale	1' 6"	902' 10"
Coal	10"	903' 8"
Fire clay	3' 5"	907' 1"
Coal	5"	907' 6"
Coal	10"	908' 4"
Shale	3' 0"	911' 4"
Shale, sandy	2' 0"	913' 4"
Sandstone	8' 6"	921' 10"
Black shale	3' 4"	925' 2"
Coal	4"	925' 6"
Shale	4' 0"	929' 6"
Coal	6"	930' 0"
Shale	3' 4"	933' 4"
Sandstone	21' 0"	954' 4"
Sandstone	10' 0"	964' 4"
Coal	8"	965' 0"
Sandstone	10' 10"	975' 10"
Fireclay	1' 0"	976' 10"
Shale	3' 0"	979' 10"
Coal	6"	980' 4"
Sandstone	2' 6"	982' 10"
Coal	10"	983' 8"
Sandstone, shale	29' 0"	1012' 8"
Black shale	7' 5"	1020' 1"
Coal	2' 5"	1022' 6"
Shale	2' 8"	1025' 2"
Shale, coal streaks	5' 0"	1030' 2"
Shale, coal streaks	7' 6"	1037' 8"
Sandstone	5' 0"	1042' 8"
Shale	16' 0"	1058' 8"
Shale, sandy	6'	1064' 8"
Agglomerate trap	5' 0"	1069' 8"
Trap rock	8' 0"	1077' 8"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 113 *CX-113*

Elevation: 200±

Depth: 1160' 0"

Location: Sec. 15, Tsp. 9, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Gravel and boulders	17' 0"	17' 0"
Shale, sandy	403' 0"	420' 0"
Sandstone	84' 0"	504' 0"
Shale, sandy	12' 0"	516' 0"
Sandstone	32' 0"	548' 0"
Coal	1' 0"	549' 0"
Sandstone	86' 0"	635' 0"
Coal	1' 0"	636' 0"
Shale, sandy	6' 0"	642' 0"
Sandstone	3' 0"	645' 0"
Shale	2' 6"	647' 6"
Coal	1' 1"	648' 7"
Sandstone	66' 5"	715' 0"
Coal	0' 2"	715' 2"
Shale	8"	715' 10"
Coal	1' 0"	716' 10"
Shale	2"	717' 0"
Coal	1' 0"	718' 0"
Shale	3"	718' 3"
Coal	1' 6"	719' 9"
Sandstone	40' 3"	760' 0"
Shale, sandy	7' 0"	767' 0"
Sandstone	12' 9"	779' 9"
Coal	1' 6"	781' 3"
Shale	6' 0"	787' 3"
Sandstone	31' 9"	819' 0"
Shale, sandy	7' 0"	826' 0"
Sandstone	7' 0"	833' 0"
Shale, sandy	4' 0"	837' 0"
Sandstone	34' 0"	871' 0"
Coal	1' 3"	872' 3"
Sandstone	29' 9"	902' 0"
Shale	5' 0"	907' 0"
Coal	1' 0"	908' 0"
Shale	3"	908' 3"
Coal	6"	908' 9"
Shale	1' 7"	910' 4"
Coal	3' 1"	913' 5"
Shale, coal	9"	914' 2"
Shale	6' 8"	920' 10"
Sandstone	68' 2"	989' 0"

Prospect Hole No. 113 cont'd

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	<u>Thickness</u>	<u>Depth</u>
Shale	6' 0"	995' 0"
Coal	1' 6"	996' 6"
Shale	22' 6"	1019' 0"
Sandstone	11' 0"	1030' 0"
Shale	7' 8"	1037' 8"
Coal	0' 5"	1038' 1"
Shale	3"	1038' 4"
Coal	1' 8"	1040' 0"
Shale	10' 0"	1050' 0"
Sandstone	6' 0"	1056' 0"
Shale	11' 0"	1067' 0"
Shale, coal streaks	5' 0"	1072' 0"
Shale	8"	1072' 8"
Coal	1' 7"	1074' 3"
Shale	9' 9"	1084' 0"
Sandstone	25' 2"	1109' 2"
Shale	6"	1109' 8"
Sandstone	4"	1110' 0"
Shale, sandy	4' 0"	1114' 0"
Sandstone	3' 6"	1117' 6"
Coal	1' 6"	1119' 0"
Shale, coal marks	3' 0"	1122' 0"
Coal	1' 0"	1123' 0"
Shale	7' 0"	1130' 0"
Shale, coal streaks	6' 0"	1136' 0"
Trap	17' 0"	1153' 0"
Trap hard	7' 0"	1160' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
ANDERSON LAKE AREA

Prospect Hole No. 114 *CX-114*
 Elevation: *387'* Depth: 561' 0"
 Location: Sec. 20, Tsp. 9, Comox District, V.I.
 Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Gravel	7' 0"	7' 0"
Sandstone	54' 0"	61' 0"
Shale	11' 0"	72' 0"
Coal	1' 2"	73' 2"
Shale	10' 10"	84' 0"
Sandstone	73' 0"	157' 0"
Shale	2' 9"	159' 9"
Coal	9"	160' 6"
Shale	4"	160' 10"
Coal	6"	161' 4"
Shale	2' 0"	163' 4"
Coal	3"	163' 7"
Shale	4"	163' 11"
Coal	7"	164' 6"
Shale	7"	165' 1"
Sandstone	76' 11"	242' 0"
Shale	7' 4"	249' 4"
Coal	1' 2"	250' 6"
Shale	4' 7"	255' 1"
Coal	2"	255' 3"
Clay, shale	12' 0"	267' 3"
Coal	1"	267' 4"
Clay, shale	2' 10"	270' 2"
Coal	4"	270' 6"
Clay, shale	16' 4"	286' 10"
Coal	11"	287' 2"
Shale	6' 4"	294' 3"
Sandstone	10' 11"	305' 6"
Shale	2' 0"	307' 6"
Coal	1' 0"	308' 6"
Shale	4' 0"	312' 6"
Clay, shale	37' 0"	349' 6"
Shale	6"	349' 6"
Coal	8"	350' 2"
Shale	3"	350' 3"
Coal	8"	351' 2"
Shale	5"	351' 6"
Clay, shale	6' 6"	358' 0"
Shale, sandy	2' 0"	360' 0"
Clay, shale	4' 0"	364' 0"

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Prospect Hole No. 114 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	54' 0"	418' 0"
Shale	6' 0"	424' 0"
Clay, shale	2' 6"	426' 6"
Coal	7"	427' 1"
Clay, shale	5' 0"	432' 1"
Coal	7"	432' 8"
Clay, shale	9' 4"	442' 0"
Sandstone	19' 0"	461' 0"
Clay, shale	9' 0"	470' 0"
Sandstone	36' 0"	506' 0"
Shale	12' 0"	518' 0"
Clay, shale	13' 6"	531' 6"
Shale	6"	532' 0"
Coal	6"	532' 6"
Shale	6"	533' 0"
Coal	6"	533' 6"
Shale	9"	543' 3"
Coal	9"	535' 0"
Shale	0' 6"	535' 6"
Coal	10"	536' 4"
Clay, shale	3' 2"	539' 6"
Coal	0' 9"	540' 3"
Shale	9"	541' 0"
Coal	7"	541' 7"
Shale	2' 5"	544' 0"
Clay, shale	4' 0"	548' 0"
Shale	3' 0"	551' 0"
Trap rock	10' 0"	561' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 115

CX-115

Elevation: 233'

Depth: 1198' 0"

Location: Sec. 10, Tsp. 9, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Sand and gravel	11' 0"	11' 0"
Shale, sandy	449' 0"	460' 0"
Sandstone	271' 6"	731' 6"
Shale	1' 0"	732' 6"
Coal	6"	733' 0"
Shale	10"	733' 10"
Coal	6"	734' 4"
Shale	4"	734' 8"
Coal	2"	734' 10"
Shale	6' 2"	741' 0"
Sandstone	66' 0"	807' 0"
Shale	13' 0"	820' 0"
Shale, sandy	35' 0"	855' 0"
Sandstone	25' 10"	880' 10"
Shale	3"	881' 1"
Coal	1' 0"	882' 1"
Shale, sandy	25' 3"	907' 4"
Coal	6"	907' 10"
Shale	6"	908' 4"
Coal, shale	9"	909' 1"
Shale	2' 8"	911' 9"
Coal, shale	1' 7"	913' 4"
Shale	13' 8"	927' 0"
Sandstone	34' 10"	961' 10"
Coal	7"	962' 5"
Shale	17' 7"	980' 0"
Sandstone	90' 6"	1070' 6"
Shale	2' 8"	1073' 2"
Coal	1' 4"	1074' 8"
Shale	4' 1"	1078' 1"
Coal	10"	1079' 5"
Shale	20' 7"	1100' 0"
Sandstone	16' 6"	1116' 0"
Shale	7' 6"	1124' 0"
Sandstone	33' 6"	1157' 0"
Shale	9' 6"	1167' 0"
Coal	5"	1167' 5"
Shale	2' 7"	1170' 0"
Fireclay	5' 0"	1175' 0"
Trap rock	23' 0"	1198' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 116 *CX-116*

Elevation: 375' Depth: 680' 8"

Location: Sec. 9, Tsp. 9, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Gravel	22' 0"	22' 0"
Sandstone	67' 4"	89' 4"
Coal	2' 0"	91' 4"
Shale	5' 0"	96' 4"
Sandstone	53' 8"	150' 0"
Shale	3' 0"	153' 0"
Sandstone	87' 0"	240' 0"
Shale	9' 0"	249' 0"
Sandstone	36' 0"	285' 0"
Coal	8"	285' 8"
Shale	9"	286' 5"
Coal	10"	287' 3"
Shale	42' 4"	329' 7"
Coal	2' 1"	331' 8"
Shale	3"	331' 11"
Coal	3' 3"	335' 2"
Shale	8"	335' 10"
Coal	9"	336' 7"
Shale	2' 2"	338' 9"
Coal	1' 0"	339' 9"
Shale	6' 0"	345' 9"
Sandstone	33' 6"	379' 3"
Coal	6"	379' 9"
Shale	6"	380' 3"
Coal	1' 1"	381' 4"
Shale	1' 5"	382' 9"
Sandstone	12' 0"	394' 9"
Shale	2' 6"	397' 3"
Coal, shale	3"	397' 6"
Shale	11' 11"	409' 5"
Coal, shale	5"	409' 10"
Shale	5' 9"	415' 7"
Coal	2' 2"	417' 9"
Shale	5' 3"	423' 0"
Sandstone	4' 0"	427' 0"
Shale	2' 0"	429' 0"
Sandstone	7' 0"	436' 0"
Shale, sandy	2' 0"	438' 0"
Sandstone	65' 4"	503' 4"
Coal	1' 0"	504' 4"

Prospect Hole No. 116 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale, coal markings	3' 8"	508' 0"
Coal	2' 0"	510' 0"
Shale	4' 2"	514' 2"
Coal	1' 5"	515' 7"
Shale	9' 9"	525' 4"
Coal	2"	525' 6"
Shale	3' 8"	529' 2"
Coal	6"	529' 8"
Shale	4' 4"	534' 0"
Sandstone	14' 6"	548' 6"
Shale	3' 6"	552' 0"
Coal, shale	1' 2"	553' 2"
Shale	8' 10"	562' 0"
Sandstone	25' 6"	587' 6"
Coal	1' 2"	588' 8"
Shale	1"	588' 9"
Coal	8"	589' 5"
Shale	4' 6"	593' 11"
Coal	10"	594' 9"
Shale	9' 9"	604' 6"
Sandstone	35' 3"	637' 9"
Shale	3' 8"	641' 5"
Coal	4' 8"	646' 1"
Shale	8"	646' 9"
Coal	2' 6"	649' 3"
Shale, coal streaks	7"	649' 10"
Sandstone	1"	649' 11"
Coal	2' 0"	651' 11"
Shale, sandy	2"	652' 1"
Coal, shale	9"	652' 10"
Fireclay	3' 0"	655' 10"
Trap	24' 10"	680' 8"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
ANDERSON LAKE AREA

Prospect Hole No. 117 *CX-117*

Elevation: 400'

Depth: 901' 0"

Location: Sec. 30, Tsp. 9, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Boulders	25' 0"	25' 0"
Gravel, clay	51' 0"	76' 0"
Shale, sandy	10' 0"	86' 0"
Sandstone	98' 0"	184' 0"
Shale	1' 0"	185' 0"
Coal	3"	185' 3"
Shale	9"	186' 0"
Coal	10"	186' 10"
Shale	7' 2"	194' 0"
Sandstone	53' 0"	247' 0"
Shale	3' 0"	250' 0"
Sandstone	60' 4"	310' 4"
Coal	10"	311' 2"
Shale	2"	311' 4"
Coal	1' 4"	312' 8"
Shale	2"	312' 10"
Coal	2"	313' 0"
Sandstone	22' 0"	335' 0"
Shale	16' 0"	551' 0"
Coal	5"	351' 5"
Clay, shale	6"	351' 11"
Coal	1"	353' 0"
Shale	11"	353' 11"
Coal	2"	354' 1"
Clay	5"	354' 6"
Coal	4"	354' 10"
Shale	4"	355' 2"
Sandstone	45' 10"	401' 0"
Shale	24' 0"	425' 0"
Sandstone	14' 0"	439' 0"
Shale, clay	7' 0"	446' 0"
Sandstone	27' 0"	473' 0"
Shale	11' 0"	484' 0"
Sandstone	15' 0"	529' 0"
Coal	1' 6"	530' 6"
Shale	3' 0"	533' 6"
Coal	3"	533' 9"
Black sand	2' 9"	536' 6"
Clay, shale	3' 6"	540' 0"
Coal	1' 0"	541' 0"

Prospect Hole No. 117 cont'd

	<u>Thickness</u>	<u>Depth</u>
Clay, shale	40' 0"	581' 0"
Sandstone	21' 9"	602' 9"
Brown shale	1' 4"	604' 1"
Coal	1"	604' 2"
Shale	1' 0"	605' 2"
Coal	8"	605' 10"
Shale	1' 0"	606' 10"
Clay, shale	8' 2"	615' 0"
Sandstone	5' 0"	620' 0"
Clay, shale	26' 6"	646' 6"
Shale	10' 3"	656' 9"
Coal	2' 3"	659' 0"
Clay, shale	5' 0"	664' 0"
Sandstone	43' 4"	707' 4"
Shale, coal	2' 4"	709' 8"
Shale	2' 6"	712' 2"
Coal	5"	712' 7"
Shale	5"	713' 0"
Coal	8"	713' 8"
Shale	2"	713' 10"
Sandstone	19' 10"	733' 8"
Shale	10"	734' 6"
Coal	7"	735' 1"
Shale	19' 5"	754' 6"
Coal	10"	755' 4"
Shale	2' 0"	757' 4"
Clay, shale	5' 8"	763' 0"
Sandstone	6' 0"	769' 0"
Clay, shale	12' 8"	781' 8"
Coal	9"	782' 5"
Shale	3"	782' 8"
Coal	4"	783' 0"
Shale	19' 0"	802' 0"
Shale, sandy	7' 0"	809' 0"
Sandstone	40' 0"	849' 0"
Shale	8' 0"	857' 0"
Bony coal	1' 6"	858' 6"
Shale	25' 0"	883' 6"
Clay	2' 6"	886' 0"
Trap	15' 0"	901' 0"

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WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 118 CX-118
Elevation: 298' Depth: 583' 2"
Location: Sec. 17, Tsp. 9, Comox District, V.I.
Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Surface gravel	10' 0"	10' 0"
Sandstone	56' 9"	66' 9"
Coal	2' 11"	69' 8"
Sandstone	63' 4"	133' 0"
Shale	4' 0"	137' 0"
Sandstone	53' 0"	190' 0"
Shale, sandy	6' 0"	196' 0"
Sandstone	58' 0"	254' 0"
Coal	1' 8"	255' 8"
Shale	25' 4"	281' 0"
Coal	4"	281' 4"
Coal, shale	3"	281' 7"
Coal	9"	282' 4"
Shale	3' 1"	285' 5"
Coal	1' 4"	286' 9"
Shale	1' 8"	291' 5"
Shale, sandy	20' 6"	311' 11"
Sandstone	29' 7"	341' 6"
Shale	9"	342' 3"
Coal, shale	8"	342' 11"
Coal	1' 2"	344' 1"
Shale	1' 0"	345' 1"
Sandstone	20' 3"	365' 4"
Coal	4"	365' 8"
Shale	1' 4"	367' 0"
Sandstone	22' 1"	389' 1"
Shale	6' 9"	395' 10"
Coal	1' 11"	397' 9"
Shale	6' 4"	404' 1"
Sandstone	88' 0"	492' 1"
Coal	1' 8"	493' 9"
Shale	2' 11"	496' 8"
Coal	2' 3"	498' 11"
Shale	2' 0"	500' 11"
Coal	1' 9"	502' 8"
Shale	9"	503' 5"
Coal	1' 1"	504' 6"
Shale	4' 4"	508' 10"
Coal	1' 0"	509' 10"
Shale	1' 4"	511' 2"

Prospect Hole No. 118 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	52' 0"	543' 2"
Coal	1' 9"	544' 11"
Shale	1' 0"	545' 11"
Sandstone	4' 0"	549' 11"
Shale	1' 7"	551' 6"
Coal	1' 2"	553' 2"
Shale	6"	553' 8"
Sandstone	3' 8"	557' 4"
Shale	2' 4"	559' 8"
Trap	23' 6"	583' 2"

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WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 119 CX-119.

Elevation: 262+ Depth: 1040' 10"

Location: Lot 228, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Surface	27' 0"	27' 0"
Sandy shale	426' 0"	453' 0"
Sandstone	148' 0"	601' 0"
Shale	4' 10"	605' 10"
Coal	6"	606' 4"
Shale	3' 8"	610' 0"
Sandstone	44' 0"	654' 0"
Sandy shale	13' 8"	667' 8"
Coal	11"	668' 7"
Sandy shale	10' 5"	679' 0"
Sandstone	21' 0"	700' 0"
Shale	7' 11"	707' 11"
Coal	5"	708' 4"
Shale	3' 2"	711' 6"
Sandstone	53' 6"	765' 0"
Shale	4"	765' 4"
Coal	1' 7"	766' 11"
Shale	19' 0"	786' 11"
Coal	1' 1"	787' 0"
Shale	2' 4"	789' 4"
Coal	1' 3"	790' 7"
Coal, shale	7"	791' 2"
Shale	11' 0"	802' 2"
Coal	4"	802' 6"
Shale	4' 5"	806' 11"
Sandstone	36' 6"	843' 5"
Shale	12' 6"	855' 11"
Sandstone	28' 0"	883' 11"
Sandy shale	8' 0"	891' 11"
Shale	2' 10"	894' 9"
Coal, shale	3"	895' 0"
Coal	10"	895' 10"
Shale	1' 0"	896' 10"
Sandstone	1' 6"	898' 4"
Shale	5' 1"	903' 5"
Sandstone	60' 2"	963' 7"
Shale	1' 7"	965' 2"
Coal	7"	965' 9"
Sandstone	2' 3"	968' 0"
Coal	10"	968' 10"
Shale	5' 5"	974' 3"

Prospect Hole No. 119 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	1' 0"	975' 3"
Shale	8"	975' 11"
Coal	8"	976' 7"
Shale	10"	977' 5"
Coal	1' 2"	978' 7"
Shale	17' 4"	995' 11"
Shale, sandstone	7' 0"	1002' 11"
Shale	4"	1006' 11"
Coal	1' 0"	1007' 11"
Shale	4' 4"	1012' 3"
Coal	4' 2"	1016' 5"
Shale	7"	1017' 0"
Shale, coal	7"	1017' 7"
Trap rock	23' 3"	1040' 10"

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WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
ANDERSON LAKE AREA

Prospect Hole No. 120

CX-120

Elevation: 300' ±

Depth: 1301' 6"

Location: Sec. 29, Tsp. 9, Comox District, V.I.

Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Surface drift	15' 0"	15' 0"
Sandy shale	243' 0"	258' 0"
Sandstone	262' 0"	520' 0"
Shale	12' 10"	532' 10"
Shale, coal	1' 10"	534' 8"
Shale	7' 0"	541' 8"
Sandstone	33' 4"	575' 0"
Shale	6' 0"	581' 0"
Sandstone	33' 0"	614' 0"
Shale	2' 0"	616' 0"
Sandstone	7' 0"	623' 0"
Shale	5' 0"	628' 0"
Sandstone	69' 0"	697' 0"
Shale	2' 0"	699' 0"
Shale, coal	1' 0"	700' 0"
Sandstone	59' 0"	759' 0"
Shale	3' 0"	762' 0"
Sandstone	20' 0"	782' 0"
Shale	79' 6"	861' 6"
Coal	3' 6"	865' 0"
Shale	6' 0"	871' 0"
Coal	1' 0"	872' 0"
Shale, coal	1' 0"	873' 0"
Shale	8' 0"	881' 0"
Sandy shale	26' 0"	907' 0"
Shale	9' 0"	916' 0"
Sandstone	23' 6"	939' 6"
Shale	1' 0"	940' 6"
Coal	1' 6"	942' 0"
Shale	7' 0"	949' 0"
Sandy shale	10' 0"	959' 0"
Sandstone	27' 0"	984' 0"
Shale	2' 6"	986' 6"
Shale coal	10' 0"	996' 6"
Shale	10' 6"	1007' 0"
Sandstone	45' 0"	1052' 0"
Shale	1' 0"	1053' 0"
Coal	1' 0"	1054' 0"
Shale	2' 0"	1056' 0"
Sandstone	6' 6"	1062' 6"
Coal	6"	1063' 0"

Prospect Hole No. 120 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	2' 0"	1065' 0"
Sandstone	10' 0"	1075' 0"
Sandstone	2' 0"	1077' 0"
Shale	2' 6"	1079' 6"
Coal	6' 0"	1085' 6"
Shale	36' 0"	1121' 6"
Sandstone	6"	1122' 0"
Shale	1' 6"	1123' 6"
Sandstone	9' 0"	1132' 6"
Shale	1' 8"	1134' 2"
Coal	10"	1135' 0"
Shale	2' 6"	1137' 6"
Sandstone	8' 0"	1145' 6"
Shale	1' 0"	1146' 6"
Coal	1' 0"	1147' 6"
Shale	6' 4"	1153' 10"
Coal	6"	1154' 4"
Shale	3' 0"	1157' 4"
Coal	10"	1158' 2"
Sandy shale	2' 0"	1160' 2"
Sandstone	55' 4"	1215' 6"
Shale	15' 0"	1230' 6"
Shale, coal streaks	10' 0"	1240' 6"
Shale	6' 0"	1301' 6"

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WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
ANDERSON LAKE AREA

Prospect Hole No. 121 *CX-121*
 Elevation: *272'* Depth: 638' 10"
 Location: Sec. 17, Tsp. 9, Comox District, V.I.
 Date: 1911

	<u>Thickness</u>	<u>Depth</u>
Surface drift	46' 0"	46' 0"
Shale	4' 0"	50' 0"
Sandstone	17' 0"	67' 0"
Coal	6"	67' 6"
Shale	8"	68' 2"
Coal	5"	68' 7"
Shale	1' 4"	68' 11"
Coal	1' 5"	70' 4"
Shale	1' 2"	71' 6"
Sandstone	58' 4"	129' 10"
Shale	11' 0"	140' 10"
Sandstone	77' 0"	217' 10"
Sandy shale	3' 0"	220' 10"
Shale	13' 0"	233' 10"
Coal	8"	234' 6"
Sandstone	57' 10"	292' 4"
Sandy shale	7' 1"	299' 5"
Coal	7"	300' 0"
Shale	10"	300' 10"
Sandstone	56' 0"	356' 10"
Shale	5' 0"	361' 10"
Sandstone	31' 0"	392' 10"
Coal	0' 6"	393' 4"
Shale	20' 10"	414' 2"
Coal	3"	414' 5"
Shale	6"	414' 11"
Coal	1' 8"	416' 7"
Clay, shale	9' 0"	425' 7"
Shale	7' 3"	432' 10"
Sandy shale	15' 0"	447' 10"
Shale	5' 0"	452' 10"
Sandstone	22' 0"	474' 10"
Shale	10' 0"	484' 10"
Sandstone	26' 0"	510' 10"
Shale	2' 0"	512' 10"
Coal	3"	513' 1"
Shale	2"	513' 3"
Coal	3"	513' 6"
Shale	7"	514' 1"
Coal	2"	514' 3"

Prospect Hole No. 121 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	5' 7"	519' 10"
Sandstone	71' 0"	590' 10"
Shale	25' 0"	613' 10"
Shale, sandstone	15' 0"	628' 10"
Trap rock	10' 0"	630' 10"

Prospect Hole No. 122 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	1' 5"	771' 7"
Coal	1' 9"	773' 4"
Shale	27' 8"	801' 0"
Sandstone	23' 0"	824' 0"
Shale	2' 0"	826' 0"
Shale	2' 2"	828' 2"
Coal	1' 0"	829' 2"
Shale	1' 7"	830' 9"
Coal	1' 0"	831' 9"
Shale	14' 3"	846' 0"
Coal	3' 6"	849' 6"
Shale	6"	850' 0"
Sandstone	50' 0"	900' 0"
Fireclay	1' 0"	901' 0"
Trap	19' 0"	920' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 123 CX-123

Elevation: 287' 0"

Depth: 1575' 6"

Location:

Date: 1912

	<u>Thickness</u>	<u>Depth</u>
Surface gravel and boulders	44' 0"	44' 0"
Shale	373' 0"	417' 0"
Sandstone (with layers of shale)	94' 0"	511' 0"
Sandy shale	133' 0"	644' 0"
Sandstone	26' 0"	670' 0"
Sandy shale	143' 0"	813' 0"
Sandstone	99' 0"	912' 0"
Shale	4' 0"	926' 0"
Sandstone	94' 0"	1020' 0"
Shale	2' 6"	1026' 6"
Coal	6"	1023' 0"
Sandstone	51' 10"	1074' 10"
Coal	5"	1075' 3"
Shale	10' 7"	1085' 10"
Coal	1' 2"	1087' 0"
Sandstone	92' 8"	1179' 8"
Shale	1' 3"	1180' 11"
Coal	1' 7"	1182' 10"
Shale	1' 1"	1183' 11"
Coal	1' 1"	1185' 0"
Shale	1' 4"	1186' 4"
Coal	9"	1187' 1"
Shale	3' 7"	1190' 8"
Coal	4"	1191' 0"
Shale	10' 0"	1201' 0"
Sandstone	39' 3"	1240' 3"
Coal	6"	1240' 9"
Shale	9"	1241' 6"
Coal	6"	1242' 0"
Sandstone, shale	5' 0"	1247' 0"
Shale	5' 4"	1252' 4"
Coal	1' 0"	1253' 4"
Shale	16' 10"	1270' 2"
Coal	5"	1270' 7"
Shale	2"	1270' 9"
Coal	1' 7"	1272' 4"
Shale	7"	1272' 11"
Coal	4"	1273' 3"
Shale	6' 5"	1279' 8"
Coal	1' 9"	1281' 5"
Shale	2' 7"	1284' 0"

Prospect Hole No. 123 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	29' 0"	1313' 0"
Coal	1' 0"	1314' 0"
Shale	8' 0"	1322' 0"
Sandstone	1' 8"	1323' 8"
Coal	2"	1325' 10"
Shale	4' 2"	1328'
Sandstone	39' 7"	1367' 7"
Shale	8"	1368' 3"
Coal	1' 6"	1369' 9"
Shale	6' 7"	1376' 4"
Sandstone	8' 0"	1384' 4"
Shale	8"	1385' 0"
Sandstone	34' 5"	1419' 5"
Coal	1' 0"	1420' 5"
Shale	2' 7"	1423' 0"
Sandstone	67' 0"	1490' 0"
Shale	3' 2"	1493' 2"
Coal	10"	1494' 0"
Shale	7' 10"	1501' 10"
Shale, coal	3' 8"	1505' 6"
Shale	18' 5"	1523' 11"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 124 *CX-124*

Elevation: 465' 0" Depth: 500' 0"

Location: Lot 21, Nelson District, V.I.

Date: 1912

	<u>Thickness</u>	<u>Depth</u>
Surface drift	51' 0"	51' 0"
Shale	3' 0"	54' 0"
Sandy shale	16' 0"	70' 0"
Sandstone	191' 0"	261' 0"
Shale	1' 8"	262' 8"
Coal	7"	263' 3"
Shale	10' 5"	273' 8"
Coal	5' 2"	278' 10"
Sandy shale	1' 2"	280' 0"
Sandstone	55' 8"	335' 8"
Sandy shale	3' 5"	339' 1"
Coal, shale	1' 11"	341' 0"
Shale	2' 7"	343' 7"
Coal	9"	344' 4"
Shale	21' 9"	366' 1"
Coal	11"	367' 0"
Shale	2' 6"	369' 6"
Coal	8"	370' 2"
Shale	1"	370' 3"
Coal	6"	370' 9"
Clay	2"	370' 11"
Coal	4"	371' 3"
Shale	6"	371' 9"
Sandy shale	1' 6"	373' 3"
Sandstone	14' 10"	388' 1"
Shale	3' 4"	391' 5"
Coal	8"	392' 1"
Shale	4' 0"	396' 1"
Sandstone	35' 11"	432' 0"
Sandy shale	3' 0"	435' 0"
Shale	4' 0"	439' 0"
Coal	2' 6"	441' 6"
Shale	8"	442' 2"
Coal	2"	442' 4"
Shale	1' 8"	444' 0"
Sandstone	25' 6"	469' 6"
Trap rock	30' 6"	500' 0"

2

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 125 CX-125

Elevation: 494' 0" Depth: 389' 0"

Location: Lot 24, Nelson District, V.I.

Date: 1912

	<u>Thickness</u>	<u>Depth</u>
Surface drift	10' 0"	10' 0"
Sandstone	85' 0"	95' 0"
Shale	1' 5"	96' 5"
Coal and shale	5"	96' 10"
Shale	3"	97' 1"
Sandstone	52' 5"	149' 6"
Shale	3' 6"	153' 0"
Coal	2"	153' 2"
Shale	1' 6"	154' 8"
Coal	2"	154' 10"
Shale	3"	155' 1"
Coal	2"	155' 3"
Sandstone	65' 1"	220' 4"
Shale	23' 4"	243' 8"
Coal	2"	243' 10"
Shale	2' 0"	245' 10"
Coal	8"	246' 6"
Shale	1' 0"	247' 6"
Coal	1' 3"	248' 9"
Shale	8"	249' 5"
Sandy shale	2' 7"	252' 0"
Sandstone	54' 2"	306' 2"
Sandy shale	1' 6"	307' 8"
Coal	11"	308' 7"
Shale	6' 9"	315' 4"
Coal	1' 2"	316' 6"
Shale	20' 1"	336' 7"
Coal	1' 1"	337' 8"
Shale	7"	338' 3"
Coal	7"	338' 10"
Shale	3"	339' 1"
Coal	6"	339' 7"
Shale	4"	339' 11"
Coal	1' 7"	341' 6"
Shale	2' 6"	344' 0"
Sandstone	11' 0"	355' 0"
Shale	1' 7"	356' 7"
Shale and coal	2' 5"	359' 0"
Trap rock	30' 0"	389' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 126 *CX-126*

Elevation: 486' 0" Depth: 853' 0"

Location: Sec.26, Tsp. 10, Comox District, V.I.

Date: 1912

	<u>Thickness</u>	<u>Depth</u>
Surface drift	36' 6"	36' 6"
Sandy shale	163' 6"	200' 0"
Sandstone	24' 0"	224' 0"
Shale	5' 0"	229' 0"
Coal	2"	229' 2"
Shale	2"	229' 4"
Sandstone	97' 8"	327' 0"
Shale	2' 0"	329' 0"
Sandstone	5' 8"	334' 8"
Shale	2' 0"	336' 8"
Coal	6"	337' 2"
Shale	2"	337' 4"
Sandstone	118' 8"	456' 0"
Shale	5' 0"	461' 0"
Sandstone	35' 6"	494' 6"
Shale	2' 6"	497' 0"
Coal	8"	497' 8"
Shale	1' 11"	499' 7"
Coal	4"	499' 11"
Shale	4"	500' 3"
Coal	11"	501' 2"
Shale	1' 3"	502' 5"
Coal	5"	502' 10"
Shale	1' 2"	504' 0"
Sandstone	53' 4"	557' 4"
Shale	2' 10"	560' 2"
Sandstone	23' 10"	584' 0"
Shale	18' 7"	602' 7"
Coal	10"	603' 5"
Sulphur band	1"	603' 6"
Coal	1' 0"	604' 6"
Shale	2"	604' 8"
Coal	11"	605' 7"
Shale	9"	606' 4"
Coal	2"	606' 6"
Shale	7"	607' 1"
Coal	8"	607' 9"
Shale	12' 3"	620' 0"
Sandstone	22' 0"	642' 0"
Shale	5' 0"	647' 0"

Prospect Hole No. 126 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	22' 0"	669' 0"
Shale	37' 0"	706' 0"
Sandstone	47' 6"	753' 6"
Coal	5' 9"	759' 3"
Shale	31' 9"	791' 0"
Sandstone	2' 0"	793' 0"
Coal and shale	1' 4"	794' 4"
Shale	15' 10"	810' 2"
Sandstone, shale	6' 0"	816' 2"
Trap	36' 10"	853' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 127 *CX-127*

Elevation: 516' 0" Depth: 791' 0"

Location: Sec. 34, Tsp. 10, Comox District, V.I.

Date: 1912

	<u>Thickness</u>	<u>Depth</u>
Loose soil, small boulders	3' 0"	3' 0"
Sand, gravel	7' 0"	10' 0"
Sand, gravel	44' 0"	54' 0"
Sand	4' 0"	58' 0"
Sand and gravel	4' 0"	62' 0"
Gravel	1' 0"	63' 0"
Gravel, sand	2' 0"	65' 0"
Coarse sand	1' 0"	66' 0"
Coarse gravel	2' 0"	68' 0"
Coarse gravel and sand	15' 0"	83' 0"
Sand and gravel	3' 0"	86' 0"
Sand and gravel	34' 0"	120' 0"
Loose gravel	3' 0"	123' 0"
Sand	17' 0"	140' 0"
Fine sand and clay	10' 0"	150' 0"
Clay, gravel	6' 0"	156' 0"
Sand and gravel	15' 0"	171' 0"
Sand, gravel, boulders	7' 0"	178' 0"
Sandstone	54' 8"	232' 8"
Shale	1' 4"	234' 0"
Sandstone	54' 0"	288' 0"
Shale, sandy	16' 6"	304' 6"
Coal	10"	305' 4"
Shale	2' 8"	308' 0"
Coal	6"	308' 6"
Sandstone	6' 6"	315' 0"
Sandstone	48' 0"	363' 0"
Sandy shale	17' 0"	380' 0"
Sandstone	7"	380' 7"
Coal	1' 4"	381' 11"
Sandstone	5"	382' 4"
Coal	4"	382' 8"
Shale, coal bands	8"	383' 4"
Shale	7"	383' 11"
Shale	3"	384' 2"
Sandy shale	9' 10"	394' 0"
Sandstone	97' 0"	491' 0"
Sandy shale	7' 0"	498' 0"
Sandstone	6"	498' 6"
Coal	6"	499' 0"

Prospect Hole No. 127 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	2"	499' 2"
Coal	1' 0"	500' 2"
Shale	2' 4"	502' 6"
Coal	2"	502' 8"
Shale	1' 10"	504' 6"
Coal	1' 6"	506' 0"
Shale	3' 4"	509' 4"
Sulphur band	1"	509' 5"
Coal	2' 1"	511' 6"
Shale, coal streaks	4' 6"	516' 0"
Coal	10"	516' 10"
Shale	8"	517' 6"
Coal	7"	518' 1"
Shale	5"	518' 6"
Coal	0' 3"	518' 9"
Shale	1"	518' 10"
Coal	1' 6"	520' 4"
Shale	4"	520' 8"
Coal	4"	521' 0"
Shale	6"	521' 6"
Shale	2' 6"	524' 0"
Sandstone	40' 5"	564' 5"
Coal	3"	564' 8"
Sandy shale	2' 0"	566' 8"
Sandstone	16' 4"	583' 0"
Sandy shale	1' 6"	584' 6"
Shale, coal seams	6"	585' 0"
Shale	2' 0"	587' 0"
Sandstone	16' 3"	603' 3"
Shale	8' 9"	612' 0"
Shale	5' 0"	617' 0"
Shale	4' 0"	621' 0"
Coal	4"	621' 4"
Sandstone	1' 8"	623' 0"
Coal	7"	623' 7"
Sandstone	1' 5"	625' 0"
Coal	8"	625' 8"
Sandstone	1' 4"	627' 0"
Sandstone	40' 0"	667' 0"
Shale	20' 0"	687' 0"
Coal	1' 0"	688' 0"
Shale	9' 0"	697' 0"
Sandstone	10' 0"	707' 0"
Sandstone	20' 0"	727' 0"
Shale	3' 4"	730' 4"
Coal	4"	730' 8"
Sandstone	16' 4"	747' 0"
Sandstone	10' 0"	757' 0"
Shale	3' 0"	760' 0"
Coal	6"	760' 6"
Shale	1' 6"	762' 0"

Prospect Hole No. 127 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	3"	762' 3"
Shale	19' 7"	781' 10"
Coal	3' 7"	785' 5"
Trap rock	5' 8"	791' 1"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 128 *CX-128*

Elevation: 409' 0" Depth: 664' 0"

Location: Sec. 9, Tsp. 9, Comox District, V.I.

Date: 1914

	<u>Thickness</u>	<u>Depth</u>
Surface drift	10' 0"	10' 0"
Gravel	4' 0"	14' 0"
Hardpan	4' 0"	18' 0"
Gravel	3' 0"	21' 0"
Hardpan	4' 0"	25' 0"
Boulders	2' 0"	27' 0"
Gravel	3' 0"	30' 0"
Boulders	2' 0"	32' 0"
Gravel	5' 0"	37' 0"
Hardpan	2' 0"	39' 0"
Gravel	10"	39' 10"
Sandstone	62' 2"	102' 0"
Shale	6' 1"	108' 1"
Coal	7"	108' 8"
Shale	3' 0"	111' 8"
Coal	10"	112' 6"
Sandstone	59' 6"	172' 0"
Shale	8' 0"	180' 0"
Sandstone	15' 0"	195' 0"
Coal	10"	195' 10"
Shale	4' 8"	200' 6"
Sandstone	10' 6"	211' 0"
Shale	6' 0"	217' 0"
Coal	10"	217' 10"
Sandstone	94' 2"	312' 0"
Coal	1' 4"	313' 4"
Shale	10' 0"	323' 4"
Coal	11"	324' 3"
Shale	12' 5"	336' 8"
Coal	3' 5"	340' 1"
Rock	5"	340' 6"
Coal	8"	341' 2"
Rock	5"	341' 7"
Coal	1' 1"	342' 8"
Shale	5' 6"	348' 2"
Sandstone	39' 10"	388' 0"
Coal	1' 0"	389' 0"
Sandstone	15' 2"	404' 2"
Shale	18' 0"	422' 2"
Sandstone	83' 10"	506' 0"

Prospect Hole No. 128 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	12' 11"	518' 11"
Coal	1' 3"	520' 2"
Shale	1' 3"	521' 5"
Coal	1' 1"	522' 6"
Sandstone	43' 6"	566' 0"
Shale	2' 4"	568' 4"
Sandstone	41' 8"	610' 0"
Shale	33' 0"	643' 0"
Coal	2' 0"	645' 0"
Coal parting	6"	645' 6"
Coal	3"	645' 9"
Coal rock	9"	646' 6"
Coal	8"	647' 2"
Trap shale	6' 10"	654' 0"
Shale	10' 0"	664' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 129 CX-129

Elevation: 372' 5" Depth: 614' 0"

Location: Sec. 9, Twp. 9, Comox District, V.I.

Date: 1914

	<u>Thickness</u>	<u>Depth</u>
Surface drift	5' 0"	5' 0"
Sandstone	75' 0"	80' 0"
Shale	4' 9"	84' 9"
Coal	3"	85' 0"
Sandstone	200' 6"	285' 6"
Shale	5' 0"	290' 6"
Coal	7"	291' 1"
Shale	17' 0"	308' 1"
Coal	1' 3"	309' 4"
Fireclay	2"	309' 6"
Coal	1' 6"	311' 0"
Shale	3' 6"	314' 6"
Coal	1' 2"	315' 8"
Sandstone	56' 4"	372' 0"
Shale	41' 0"	413' 0"
Sandstone	126' 0"	539' 0"
Shale	9' 0"	548' 0"
Sandstone	14' 0"	562' 0"
Shale	37' 6"	599' 6"
Coal	4' 6"	604' 0"
Shale	10' 0"	614' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 130 CX-130

Elevation: 408' 1" Depth: 518' 0"

Location: Sec. 9, Tsp. 9, Comox District, V.I.

Date: 1914

	<u>Thickness</u>	<u>Depth</u>
Surface drift	5' 0"	5' 0"
Clay	15' 0"	20' 0"
Gravel	3' 11"	23' 11"
Sandstone	58' 9"	82' 8"
Shale	13' 6"	96' 2"
Sandstone	126' 0"	222' 2"
Shale	2' 0"	224' 2"
Sandstone	66' 8"	290' 10"
Shale	19' 0"	309' 10"
Coal	1' 0"	310' 10"
Shale	10' 11"	321' 9"
Coal	6"	322' 3"
Shale	8' 7"	330' 10"
Coal	6"	331' 4"
Shale	1' 8"	333' 0"
Sandstone	44' 0"	377' 0"
Shale	40' 0"	417' 0"
Sandstone	79' 0"	496' 0"
Shale	5' 0"	501' 0"
Coal	8"	501' 8"
Shale	16' 4"	518' 0"

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WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 131 CX-131

Elevation: 402' 3" Depth: 598' 7"

Location: Sec. 9, Tsp. 9, Comox District, V.I.

Date: 1914

	<u>Thickness</u>	<u>Depth</u>
Surface drift	5' 0"	5' 0"
Clay	16' 0"	21' 0"
Gravel	3' 9"	24' 9"
Sandstone	1' 0"	25' 9"
Sandstone	18' 0"	43' 9"
Sandstone	21' 0"	64' 9"
Shale	15' 0"	79' 9"
Sandstone	136' 3"	216' 0"
Shale	2' 0"	218' 0"
Coal	4"	218' 4"
Sandstone	59' 8"	278' 0"
Shale	7' 0"	285' 0"
Sandstone	7' 0"	292' 0"
Shale	24' 0"	316' 0"
Coal	10"	316' 10"
Shale	1' 0"	317' 10"
Coal	2"	318' 0"
Shale	6"	318' 6"
Coal	4"	318' 10"
Shale	11' 2"	330' 0"
Sandstone	37' 0"	367' 0"
Shale	5' 0"	372' 0"
Sandstone	4' 0"	376' 0"
Shale	45' 0"	421' 0"
Sandstone	67' 0"	488' 0"
Shale	4' 0"	492' 0"
Coal	8"	492' 8"
Shale	26' 10"	519' 6"
Sandstone	26' 6"	546' 0"
Shale	10' 0"	556' 0"
Coal	6"	556' 6"
Sandstone	2' 0"	558' 6"
Shale	2' 0"	560' 6"
Sandstone	7' 6"	568' 0"
Shale	2' 0"	570' 0"
Sandstone	13' 0"	583' 0"
Shale	14' 0"	597' 0"
Coal	7"	597' 7"
Trap shale	1' 0"	598' 7"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 132 *CX-132*

Elevation: 429' 8" Depth: 499' 10"

Location: Sec. 9, Tsp. 9, Comox District, V.I.

Date: 1914

	<u>Thickness</u>	<u>Depth</u>
Surface drift	4' 0"	4' 0"
Hardpan	6' 0"	10' 0"
Sand	14' 0"	24' 0"
Gravel	1' 0"	25' 0"
Gravel	4' 0"	29' 0"
Hardpan	3' 0"	32' 0"
Clay and boulders	7' 0"	39' 0"
Gravel, clay	2' 6"	41' 6"
Hardpan	3' 0"	44' 6"
Sandstone	93' 6"	138' 0"
Sandstone	21' 0"	159' 0"
Shale	23' 0"	182' 0"
Coal	2"	182' 2"
Shale	4' 10"	187' 0"
Sandstone	30' 0"	217' 0"
Coal	1' 0"	218' 0"
Shale	3' 0"	221' 0"
Sandstone	8' 0"	229' 0"
Shale	35' 0"	264' 0"
Sandstone	52' 0"	316' 0"
Sandstone	20' 0"	336' 0"
Sandstone	15' 0"	351' 0"
Coal	3"	351' 3"
Shale	3' 9"	355' 0"
Coal	2"	355' 2"
Shale	2"	355' 4"
Coal	1' 0"	356' 4"
Shale	16' 0"	372' 4"
Coal	9"	373' 1"
Sandstone	4' 0"	377' 1"
Coal	1' 6"	378' 7"
Shale	1' 11"	380' 6"
Sandstone	25' 6"	406' 0"
Sandstone	20' 0"	426' 0"
Shale	1' 6"	427' 6"
Coal	11"	428' 5"
Sandstone	27' 0"	455' 5"
Sandstone	17' 7"	473' 0"
Coal	1' 1"	474' 1"
Coal	3"	474' 4"

Prospect Hole No. 132 cont'd

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	<u>Thickness</u>	<u>Depth</u>
Coal	2' 5"	476' 9"
Shale	11"	477' 8"
Coal	1' 9"	479' 5"
Coal	1' 2"	480' 7"
Trap rock	4' 0"	484' 7"
Trap shale	6' 0"	490' 7"
Trap rock	9' 3"	499' 10"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 133 **CX-133**

Elevation 430' 0"

Depth: 370-10"

Location: Sec. 8, Tsp. 9, Comox District, V.I.

Date: 1914

	<u>Thickness</u>	<u>Depth</u>
Surface drift	5' 0"	5' 0"
Gravel	2' 6"	7' 6"
Blue clay	13' 6"	21' 0"
Gravel	12' 6"	33' 6"
Hardpan and boulders	7' 10"	41' 4"
Hardpan, clay, sand	3' 0"	44' 4"
Hardpan	2' 0"	46' 4"
Sandstone	7' 6"	53' 10"
Shale	8"	54' 6"
Sandstone	34' 0"	88' 6"
Shale	2' 6"	91' 0"
Sandstone	69' 0"	160' 0"
Shale	3' 0"	163' 0"
Coal	8"	163' 8"
Shale	8' 4"	172' 0"
Coal	2"	172' 2"
Shale	14' 0"	186' 2"
Coal	3"	186' 5"
Shale	4' 7"	191' 0"
Coal, bony	1' 3"	192' 3"
Shale	3' 0"	195' 3"
Sandstone	39' 0"	234' 3"
Shale	51' 9"	286' 0"
Coal	3"	291' 3"
Shale	1' 2"	292' 5"
Coal	1' 4"	293' 5"
Shale	1' 7"	295' 4"
Coal	7"	295' 11"
Shale	1' 0"	296' 11"
Coal	1"	297' 0"
Shale	1' 3"	298' 3"
Sandstone	2' 9"	300' 0"
Coal	2' 0"	302' 0"
Sandstone	1' 1"	303' 1"
Shale	6' 0"	309' 1"
Sandstone	3' 4"	312' 5"
Shale	9' 0"	321' 5"
Coal	8"	322' 1"
Sandstone	1' 1"	323' 2"
Coal	7' 10"	331' 0"

②

Prospect Hole No. 133 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	2' 6"	333' 6"
Shale (trap)	17' 4"	350' 10"
Trap rock	2' 0"	370' 10"
	18' 0"	368' 10"

①

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 134 CX-134.

Elevation: 444' 0" Depth: 384' 0"

Location: Sec. 5, Tsp. 9, Comox District, V.I.

Date: 1914

	<u>Thickness</u>	<u>Depth</u>
Surface soil	3' 0"	3' 0"
Clay	20' 0"	23' 0"
Hardpan	2' 0"	25' 0"
Hardpan, gravel	1' 6"	26' 6"
Gravel wash	3' 6"	30' 0"
Gravel	4' 6"	34' 6"
Gravel wash	3' 0"	37' 6"
Sandstone	11' 6"	49' 0"
Sandstone	4' 0"	53' 0"
Shale	16' 0"	69' 0"
Shale	21' 0"	90' 0"
Sandstone	92' 0"	182' 0"
Shale	17' 0"	199' 0"
Coal	1' 1"	200' 1"
Sandstone	36' 0"	236' 1"
Shale	65' 11"	302' 0"
Coal	9"	302' 9"
Shale	1"	302' 10"
Coal	4"	303' 2"
Shale	1' 4"	304' 6"
Sandstone	9"	305' 3"
Coal	2' 0"	307' 3"
Coal	2' 11"	310' 2"
Trap shale	12' 4"	322' 6"
Trap	55' 6"	378' 0"
Granite	6' 0"	384' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 135 *CX-135*

Elevation: 461' 0" Depth: 275' 0"

Location: Sec. 5, Tsp. 9, Comox District, V.I.

Date: 1916

	<u>Thickness</u>	<u>Depth</u>
Surface soil	6' 0"	6' 0"
Sandstone	20' 6"	26' 6"
Shale	5' 6"	32' 0"
Sandstone	1' 0"	33' 0"
Shale	6"	33' 6"
Coal	1' 0"	34' 6"
Shale	6"	35' 0"
Coal	1' 0"	36' 0"
Shale	6"	36' 6"
Coal	2' 0"	38' 6"
Shale	1' 6"	40' 0"
Coal	6"	40' 6"
Shale	6"	41' 0"
Coal	1' 6"	42' 6"
Shale	6"	43' 0"
Sandy shale	7' 0"	50' 0"
Sandstone	44' 0"	94' 0"
Shale	8"	94' 8"
Coal	1"	94' 9"
Shale	41' 3"	136' 0"
Coal	2' 4"	138' 4"
Granite	2' 8"	141' 0"
Sandstone	1' 0"	142' 0"
Coal	2' 1"	144' 1"
Shale	11"	145' 0"
Sandstone	1' 0"	146' 0"
Shale	24' 0"	170' 0"
Sandstone	1' 0"	171' 0"
Shale	7' 0"	178' 0"
Sandstone	4' 0"	182' 0"
Shale	1' 0"	183' 0"
Coal	1"	183' 1"
Shale	2' 11"	186' 0"
Sandstone	1' 0"	187' 0"
Shale	2' 0"	189' 0"
Sandstone	6"	189' 6"
Shale	2' 6"	192' 0"
Sandstone	8' 0"	200' 0"
Shale	4' 0"	204' 0"
Sandstone	1' 0"	205' 0"
Shale	2' 0"	207' 0"

Prospect Hole No. 135 cont'd

①

	<u>Thickness</u>	<u>Depth</u>
Sandstone	4' 6"	211' 6"
Shale	5' 0"	216' 6"
Sandstone	6"	217' 0"
Shale	20' 0"	237' 0"
Sandstone	5' 0"	242' 0"
Shale	16' 0"	258' 0"
Trap rock	17' 0"	275' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 136 CX-136.

Elevation: 500' 0" Depth: 305' 0"

Location: Sec .5, Tsp. 9, Comox District, V.I.

Date: 1916

	<u>Thickness</u>	<u>Depth</u>
Soil	7' 0"	7' 0"
Sandstone	18' 6"	25' 6"
Shale	6' 0"	31' 6"
Sandstone	38' 0"	69' 6"
Coal	2' 10"	72' 4"
Sandstone	9"	73' 1"
Shale	1' 3"	74' 4"
Coal	1' 5"	75' 9"
Shale	1"	75' 10"
Coal	6"	76' 4"
Shale	1' 5"	77' 9"
Coal	1' 3"	79' 0"
Coal	2' 0"	81' 0"
Coal	1' 3"	82' 3"
Shale	5"	82' 8"
Coal	1' 7"	84' 3"
Shale	7' 10"	92' 1"
Sandstone	1' 2"	93' 3"
Shale	18' 9"	112' 0"
Sandstone	29' 0"	141' 0"
Coal	7"	141' 7"
Shale	1' 7"	143' 2"
Coal	1' 2"	144' 4"
Shale	2' 8"	147' 0"
Coal	1' 9"	148' 9"
Sandstone	3' 8"	152' 5"
Shale	6' 7"	159' 0"
Sandstone	55' 0"	214' 0"
Shale	3' 6"	217' 6"
Sandstone	2' 2"	219' 8"
Shale	1' 4"	221' 0"
Sandstone	3' 0"	224' 0"
Shale	44' 0"	268' 0"
Sandstone	6"	268' 6"
Coal	1"	268' 7"
Shale	5"	269' 0"
Shaly coal	2' 0"	271' 0"
Shale	12' 0"	283' 0"
Trap rock	22' 0"	305' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 137 *CX-137*

Elevation: 655' 0" Depth: 521' 0"

Location: Sec. 8, Tsp. 9, Comox District, V.I.

Date: 1916

	<u>Thickness</u>	<u>Depth</u>
Surface soil	11' 0"	11' 0"
Conglomerate	77' 0"	88' 0"
Granite	16' 0"	104' 0"
Conglomerate	10' 10"	114' 10"
Shale	6' 2"	121' 0"
Sandstone	64' 0"	185' 0"
Coal	1' 4"	186' 4"
Shale	18' 2"	204' 6"
Coal	1' 0"	205' 6"
Shale	7' 6"	213' 0"
Sandstone	69' 0"	282' 0"
Shale	20' 9"	302' 9"
Coal	6"	303' 3"
Shale	1' 6"	304' 9"
Coal	3"	305' 0"
Shale	2"	305' 2"
Coal	10"	306' 0"
Shale	1' 5"	307' 5"
Conglomerate	19' 1"	326' 6"
Shale	2' 11"	329' 5"
Sandstone	14' 5"	343' 10"
Shale	4"	344' 2"
Sandstone	9' 1"	353' 3"
Mud	1' 6"	354' 9"
Sandstone	10' 9"	365' 6"
Shale	6"	366' 0"
Shale and sandstone	7' 0"	373' 0"
Shale	1' 9"	374' 9"
Coal	1' 1"	375' 10"
Shale	6' 10"	382' 8"
Coal	1"	382' 9"
Shale	1' 3"	384' 0"
Shale and sandstone	23' 0"	407' 0"
Sandstone	11' 0"	418' 0"
Shale	5"	418' 5"
Sandstone	1' 2"	419' 7"
Shale	10"	420' 5"
Sandstone	4' 10"	425' 3"
Sandstone, shale	15' 9"	441' 0"
Sandstone	1' 1"	442' 1"

Prospect Hole No. 137 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	18' 11"	461' 0"
Sandstone	1' 0"	462' 0"
Shale and coal	1' 8"	463' 8"
Black sandstone	1' 9"	465' 5"
Black shale	7"	466' 0"
Sandstone	4' 0"	470' 0"
Shale	14' 6"	484' 6"
Coal	2"	484' 8"
Black shale	1' 2"	485' 10"
Sandstone	3' 2"	489' 0"
Shale	8' 0"	497' 0"
Conglomerate	19' 0"	506' 0"
Trap	5' 0"	521' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 138 CX-138

Elevation: 677' 0" Depth: 585' 0"

Location: Sec. 8, Tsp. 9, Comox District, V.I.

Date: 1916

	<u>Thickness</u>	<u>Depth</u>
Surface soil	9' 0"	9' 0"
Conglomerate	294' 2"	303' 2"
Coal	8"	305' 10"
Slate	10' 0"	315' 10"
Sandstone	11' 6"	325' 4"
Coal	4' 0"	329' 4"
Coal	2' 0"	331' 4"
Coal	3' 0"	334' 4"
Sandstone	36' 0"	370' 4"
Slate	12' 0"	382' 4"
Coal	6"	382' 10"
Coal	6"	383' 4"
Slate	5' 6"	388' 10"
Coal	6"	389' 4"
Slate, sandy	13' 8"	403' 0"
Sandstone	23' 0"	426' 0"
Slate	10' 0"	436' 0"
Mud	6' 0"	442' 0"
Sandstone	1' 0"	443' 0"
Coal	1' 0"	444' 0"
Slate	3' 0"	447' 0"
Sandstone	28' 0"	475' 0"
Coal and slate	3' 0"	478' 0"
Sandstone	10' 0"	488' 0"
Coal and slate	7' 0"	495' 0"
Sandstone	10' 0"	505' 0"
Slate	6' 0"	511' 0"
Sandstone	34' 0"	545' 0"
Conglomerate	21' 0"	566' 0"
Trap	19' 0"	585' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 139 CX-139

Elevation: 563' 0" Depth: 419' 0"

Location: Lot. 3, Nelson District, V.I.

Date: 1917

	<u>Thickness</u>	<u>Depth</u>
Surface soil	3' 0"	3' 0"
Sandstone	39' 0"	42' 0"
Soft coal, shale	7' 0"	49' 0"
Sandstone	70' 0"	119' 0"
Shale	5' 0"	124' 0"
Sandstone	6' 0"	130' 0"
Shale	4' 7"	134' 7"
Coal, shale, etc.	2' 7"	137' 2"
Shale	6' 6"	143' 8"
Coal and shale	4' 4"	148' 0"
Sandstone	47' 0"	195' 0"
Coal	1' 0"	196' 0"
Shale	3' 4"	199' 4"
Coal	1' 4"	200' 8"
Shale	3' 4"	203' 0"
Sandstone	14' 0"	217' 0"
Shale	20' 4"	237' 4"
Coal	8"	
Shale	3"	
Coal	10"	
Shale	1' 7"	
Coal	6"	
Shale	1' 2"	242' 4"
Sandstone	35' 8"	278' 0"
Shale	2' 0"	280' 0"
Sandstone	58' 0"	338' 0"
Shale	7' 6"	345' 6"
Coal	9"	
Shale	2"	
Coal	2"	
Sandstone	5"	
Shale	6"	
Coal	10"	348' 4"
Shale	7' 8"	356' 0"
Sandstone	32' 0"	388' 0"
Shale	4' 0"	392' 0"
Coal and shale	5' 10"	397' 10"
Agglomerate	19' 2"	417' 0"
Trap rock	2' 0"	419' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 140 **CX-140**

Elevation: 546' 0" Depth: 120' 0"

Location: Sec. 27, Tsp. 10, Comox District, V.I.

Date: 1917

	<u>Thickness</u>	<u>Depth</u>
Surface soil	15' 0"	15' 0"
Sandstone	69' 0"	84' 0"
Sandy shale	1' 0"	85' 0"
Shale	7' 0"	92' 0"
Soft coal	8"	92' 8"
Coal	1' 4"	94' 0"
Sandy shale	2' 4"	96' 4"
Coal	1' 8"	98' 0"
Shale and clay	1' 6"	99' 6"
Coal	1' 3"	100' 9"
Coal	9"	101' 6"
Shale	2' 0"	103' 6"
Coal	8"	104' 2"
Shale	4"	104' 6"
Coal	6"	105' 0"
Shale	6"	105' 6"
Coal	1' 0"	106' 6"
Shale	6"	107' 0"
Shale	3' 0"	110' 0"
Shale, sandy	10' 0"	120' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 141 CX-141

Elevation: 555' 0" Depth: 80' 0"

Location: Sec. 27, Tsp. 10, Comox District, V.I.

Date: 1917

	<u>Thickness</u>	<u>Depth</u>
Sand and gravel	8' 0"	8' 0"
Sandstone	40' 0"	48' 0"
Shale	1' 8"	49' 8"
Soft coal	7"	50' 3"
Coal	1' 0"	51' 3"
Shale	8' 9"	60' 0"
Coal	1' 8"	61' 8"
Shale	1' 4"	63' 0"
Coal	1' 5"	64' 5"
Shale	1' 10"	66' 3"
Coal	8"	66' 11"
Shale	4"	67' 3"
Coal	6"	67' 9"
Shale	1' 3"	69' 0"
Coal	6"	69' 6"
Shale	6"	70' 0"
Sandstone	10' 0"	80' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 142 **CX-142**

Elevation: 514' 0" Depth: 490' 0"

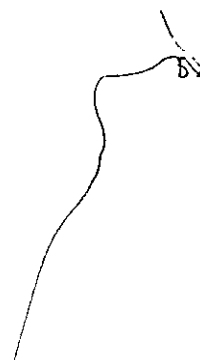
Location: Sec. 27, Tsp. 10, Comox District, V.I.

Date: 1917

	<u>Thickness</u>	<u>Depth</u>
Sand and gravel	15' 0"	15' 0"
Sandstone	68' 0"	83' 0"
Shale	10' 0"	93' 0"
Coal	1' 5"	94' 5"
Shale	11"	95' 4"
Coal	1' 2"	96' 6"
Shale	5' 6"	102' 0"
Sandstone	18' 0"	120' 0"
Shale	3' 0"	123' 0"
Sandstone	46' 0"	169' 0"
Coal	8"	169' 8"
Shale	2' 4"	172' 0"
Sandstone	36' 0"	208' 0"
Shale	6' 0"	214' 0"
Sandstone	16' 0"	230' 0"
Shale	4' 0"	234' 0"
Coal	4"	234' 4"
Shale	4' 8"	239' 0"
Sandstone	20' 0"	259' 0"
Shale	3' 0"	262' 0"
Sandstone	40' 6"	302' 6"
Shale	2"	302' 8"
Coal	2"	302' 10"
Coal	8"	303' 6"
Shale	2' 0"	305' 6"
Sandstone	17' 6"	323' 0"
Coal	4"	323' 4"
Shale	8"	324' 0"
Coal	3"	324' 3"
Shale	1' 9"	326' 0"
Shale, sandy	19' 0"	345' 0"
Shale	7' 0"	352' 0"
Coal	4"	352' 4"
Shale	6"	352' 10"
Coal	6"	353' 4"
Shale	5"	353' 9"
Coal	5"	354' 2"
Shale	3' 4"	357' 6"
Sandstone	2' 6"	360' 0"
Shale	1' 0"	361' 0"
Sandstone	100' 0"	461' 0"

Prospect Hole No. 142 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	1' 0"	462' 0"
Coal	1' 0"	463' 0"
Shale	1' 0"	464' 0"
Sandstone	1' 4"	465' 4"
Coal	2"	465' 6"
Shale	8"	466' 2"
Coal	1' 2"	467' 4"
Shale	5' 8"	473' 0"
Coal	1' 2"	474' 2"
Shale	10"	475' 0"
Coal	8"	475' 8"
Shale	2"	475' 10"
Coal	9"	476' 7"
Shale	5' 5"	482' 0"
Sandy shale	8' 0"	490' 0"



WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 143 CX-143

Elevation: 393' 0" Depth: 588' 0"

Location: Sec. 4, Tsp. 9, Comox District, V.I.

Date: 1917

	<u>Thickness</u>	<u>Depth</u>
Gravel and boulders	6' 0"	6' 0"
Clay	10' 0"	16' 0"
Sand and gravel	9' 0"	25' 0"
Sandstone	68' 6"	93' 6"
Coal	3"	93' 9"
Shale	1' 3"	95' 0"
Coal	8"	95' 8"
Shale	6' 0"	101' 8"
Coal	4"	102' 0"
Sandstone	62' 0"	164' 0"
Shale	4' 0"	168' 0"
Sandstone	6' 4"	174' 4"
Coal	10"	175' 2"
Shale, sandy	69' 10"	245' 0"
Sandstone	57' 9"	302' 9"
Coal	2"	302' 11"
Shale	11"	303' 10"
Coal	2"	304' 0"
Shale	2"	304' 2"
Coal	4"	304' 6"
Shale	25' 6"	330' 0"
Sandstone	10' 9"	340' 9"
Shale	2' 0"	342' 9"
Coal	9"	343' 6"
Shale	1' 6"	345' 0"
Sandstone	36' 0"	381' 0"
Shale	4' 0"	385' 0"
Sandstone	5' 0"	390' 0"
Shale	50' 0"	440' 0"
Sandstone	58' 0"	498' 0"
Shale	2' 0"	500' 0"
Coal and shale	2' 4"	502' 4"
Shale	8' 4"	511' 4"
Shale	6' 4"	517' 8"
Coal	6"	518' 2"
Shale	5"	518' 7"
Coal	4"	518' 11"
Shale	9' 1"	528' 0"
Sandstone	19' 0"	547' 0"
Sandy shale	11' 8"	558' 8"

Prospect Hole No. 143 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	4"	559' 0"
Shale	18' 0"	577' 0"
Coal	6"	577' 6"
Sandstone	2' 6"	580' 0"
Coal	6"	580' 6"
Shale and sandstone	7' 6"	588' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 144 **CX-144**

Elevation: 494' 0" Depth: 268' 0"

Location: Sec. 4, Tsp. 9, Comox District, V.I.

Date: 1917

	<u>Thickness</u>	<u>Depth</u>
Sand and gravel	16' 0"	16' 0"
Boulders and gravel	23' 0"	39' 0"
Sand and clay	22' 0"	61' 0"
Boulders and gravel	25' 0"	86' 0"
Sand and gravel	33' 0"	119' 0"
Sandy shale	24' 0"	143' 0"
Coal	3' 2"	146' 2"
Shale	10"	147' 0"
Coal	6"	147' 6"
Sandstone	4"	147' 10"
Coal	4"	148' 2"
Shale	4' 10"	153' 0"
Sandstone	7' 0"	160' 0"
Agglomerate	2' 0"	162' 0"
Sandstone	2' 0"	164' 0"
Agglomerate	11' 0"	175' 0"
Sandstone	1' 0"	176' 0"
Agglomerate	24' 0"	200' 0"
Sandstone	22' 0"	222' 0"
Agglomerate	5' 0"	227' 0"
Sandstone	3' 0"	230' 0"
Mud and shale	11' 0"	241' 0"
Sandstone	16' 0"	257' 0"
Trap rock	11' 0"	268' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 145 *CX-145*

Elevation: 496' 0" Depth: 456' 0"

Location: Sec. 33, Tsp. 10, Comox District, V.I.

Date: 1917

	<u>Thickness</u>	<u>Depth</u>
Gravel and boulders	29' 0"	29' 0"
Gravel and sand	11' 0"	40' 0"
Gravel	5' 0"	45' 0"
Clay	21' 0"	66' 0"
Gravel	26' 0"	92' 0"
Sandstone	25' 0"	117' 0"
Shale	2' 7"	119' 7"
Coal	10"	120' 5"
Shale	5' 7"	126' 0"
Sandstone	1' 0"	127' 0"
Coal	1' 0"	128' 0"
Shale	3' 0"	131' 0"
Sandstone	9' 0"	140' 0"
Coal	4"	140' 4"
Shale	1' 8"	142' 0"
Sandstone	25' 0"	167' 0"
Shale	6' 0"	173' 0"
Sandstone	25' 0"	198' 0"
Shale	4' 0"	202' 0"
Sandstone	36' 0"	238' 0"
Shale	4' 6"	242' 6"
Coal	10"	243' 4"
Shale	8"	244' 0"
Coal	6"	244' 6"
Shale	4' 8"	249' 2"
Coal	4' 8"	253' 10"
Mud	1' 0"	254' 10"
Sandstone	5' 2"	260' 0"
Shale	12' 0"	272' 0"
Sandstone	39' 0"	311' 0"
Shale	67' 0"	378' 0"
Sandstone	40' 0"	418' 0"
Shale	22' 0"	440' 0"
Shale and coal	1' 6"	441' 6"
Shale	11' 6"	453' 0"
Trap rock	3' 0"	456' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 146 CX-146

Elevation: 498' 0" Depth: 310' 0"

Location: Sec. 33, Tsp. 10, Comox District, V.I.

Date: 1917

	<u>Thickness</u>	<u>Depth</u>
Gravel and boulders	15' 0"	15' 0"
Gravel and sand	12' 0"	27' 0"
Fine sand	13' 0"	40' 0"
Gravel	16' 0"	56' 0"
Fine sand	13' 0"	69' 0"
Hard clay	6' 0"	75' 0"
Gravel and boulders	88' 0"	163' 0"
Sandstone, shale	14' 0"	177' 0"
Shale	3' 0"	180' 0"
Sandstone	4' 0"	184' 0"
Shale	13' 0"	197' 0"
Sandstone	4' 0"	201' 0"
Shale	11' 0"	212' 0"
Sandstone and shale	43' 0"	255' 0"
Shale	12' 0"	267' 0"
Sandstone	30' 0"	297' 0"
Trap rock	13' 0"	310' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 147 *CX-147*

Elevation: 516' 0" Depth: 389' 0"

Location: Sec. 33, Tsp. 10, Comox District, V.I.

Date: 1917

	<u>Thickness</u>	<u>Depth</u>
Gravel	36' 0"	36' 0"
Gravel and sand	33' 0"	69' 0"
Sandstone	54' 6"	123' 6"
Shale	8' 6"	132' 0"
Sandstone	23' 0"	155' 0"
Shale	22' 8"	177' 8"
Coal	10"	178' 6"
Shale, sandy	2"	178' 8"
Coal	6"	179' 2"
Shale	10' 10"	190' 0"
Sandstone	68' 0"	258' 0"
Shale	8' 0"	266' 0"
Coal	6"	266' 6"
Coal, shale	2"	266' 8"
Coal	6"	267' 2"
Clay	1' 0"	268' 2"
Coal	2' 0"	270' 2"
Shale	6' 10"	277' 0"
Sandstone	5' 0"	282' 0"
Shale	15' 0"	297' 0"
Coal	9"	297' 9"
Shale	2' 3"	300' 0"
Sandstone	50' 0"	350' 0"
Shale	8"	350' 8"
Coal	1' 2"	351' 10"
Shale	1' 8"	353' 6"
Coal	6"	354' 0"
Shale	23' 8"	377' 8"
Coal	1' 1"	378' 9"
Coal	1' 3"	380' 0"
Shale	2' 6"	382' 6"
Coal	4' 0"	386' 6"
Shale	6"	387' 0"
Coal	7"	387' 7"
Sandstone	6"	388' 1"
Coal	2"	388' 3"
Shale	9"	389' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 148 CX-148

Elevation: 392' 0" Depth: 574' 2"

Location: Sec. 4, TSp. 9, Comox District

Date: 1918

	<u>Thickness</u>	<u>Depth</u>
Hard clay	18' 0"	18' 0"
Sandstone	64' 0"	82' 0"
Shale	1' 6"	83' 6"
Coal	1' 6"	84' 0"
Shale	3' 0"	87' 0"
Coal, dirty	1"	87' 1"
Shale	1"	87' 2"
Sandstone	61' 0"	148' 2"
Shale	8' 0"	156' 2"
Shale, coal	2' 0"	158' 2"
Sandy shale	20' 0"	178' 2"
Sandstone	110' 0"	288' 2"
Shale and coal	1' 0"	289' 2"
Shale, black	23' 0"	312' 2"
Shale, coal	2' 0"	314' 2"
Shale	1' 0"	315' 2"
Sandstone	9' 0"	324' 2"
Shale, coal	3' 0"	327' 2"
Shale, sandy	10' 0"	337' 2"
Sandstone	40' 0"	377' 2"
Shale	2' 0"	379' 2"
Shale, coal	2' 0"	381' 2"
Sandstone	11' 0"	392' 2"
Shale	19' 0"	411' 2"
Broken shale	9' 0"	420' 2"
Sandstone	59' 0"	479' 2"
Shale and coal	3' 0"	482' 2"
Shale	26' 0"	508' 2"
Sandstone	16' 0"	524' 2"
Shale and sandstone	17' 0"	541' 2"
Shale and sandstone	27' 0"	568' 2"
Broken shale	6' 0"	574' 2"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 149 **CX-149**

Elevation: 512' 0" Depth: 381' 0"

Location: Sec. 33, Tsp. 10, Comox District, V.I.

Date: 1917 - 1918

	<u>Thickness</u>	<u>Depth</u>
Gravel, boulders	5' 0"	5' 0"
Boulders, gravel	6' 0"	11' 0"
Boulders, gravel	7' 0"	18' 0"
Boulders, gravel	10' 0"	28' 0"
Sand, gravel	10' 0"	38' 0"
Gravel	3' 0"	41' 0"
Sandstone	27' 0"	68' 0"
Sandstone	30' 0"	98' 0"
Sandstone	7' 0"	105' 0"
Broken shale	2' 6"	107' 6"
Coal	2"	107' 8"
Coal	1' 2"	108' 10"
Clay, shale	1' 4"	110' 2"
Coal	2' 4"	112' 6"
Broken shale	2' 6"	115' 0"
Coal	8"	115' 8"
Shale	3' 4"	119' 0"
Coal	9"	119' 9"
Shale	6"	120' 3"
Coal	8"	120' 11"
Broken shale	4' 1"	125' 0"
Sandstone	16' 0"	141' 0"
Sandstone	14' 0"	155' 0"
Shale, broken	5' 0"	160' 0"
Sandstone	5' 0"	165' 0"
Sandstone	25' 0"	190' 0"
Sandstone, shale	26' 0"	216' 0"
Sandstone, shale	15' 0"	231' 0"
Coal	10"	231' 10"
Broken shale	2' 2"	234' 0"
Coal	3' 0"	237' 0"
Shale, broken	1' 6"	238' 6"
Coal	4"	238' 10"
Broken shale	5' 2"	244' 0"
Sandstone	2' 0"	246' 0"
Shale	4' 0"	250' 0"
Shale, sandstone	18' 0"	268' 0"
Shale	14' 0"	282' 0"
Shale, sandstone	15' 0"	297' 0"
Shale	9' 0"	306' 0"

Prospect Hole, No. 150 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	24' 0"	479' 0"
Sandstone	1' 0"	480' 0"
Coal	1' 4"	481' 4"
Shale	2' 8"	484' 0"
Shale, sandstone	13' 0"	497' 0"
Shale, sandstone	7' 0"	504' 0"
Broken shale	6' 0"	510' 0"
Coal	2' 6"	512' 6"
Broken shale	6"	513' 0"
Broken shale	2"	513' 2"
Coal	1' 1"	514' 3"
Shale	1' 11"	516' 2"
Coal	8"	516' 10"
Broken shale	7"	517' 5"
Coal	7"	518' 0"
Broken shale	1' 6"	519' 6"
Coal	4"	519' 10"
Shale	6' 2"	526' 0"
Sandstone, shale	20' 0"	546' 0"
Sandstone	12' 0"	558' 0"
Shale	4' 0"	562' 0"
Shale	6' 0"	568' 0"
Sandstone	14' 0"	582' 0"
Sandstone	18' 0"	600' 0"
Shale, hard muddy	17' 0"	617' 0"
Shale, hard muddy	3' 6"	620' 6"
Coal	8"	621' 2"
Broken shale	1' 6"	622' 8"
Coal	6"	623' 2"
Shale	9' 10"	633' 0"
Shale	2' 0"	635' 0"
Sandstone	13' 0"	648' 0"
Sandstone	15' 0"	663' 0"
Sandstone	18' 0"	681' 0"
Sandstone	8' 0"	689' 0"
Hard shale	7' 0"	696' 0"
Shale, muddy	13' 0"	709' 0"
Shale, muddy	2' 0"	711' 0"
Coal	8"	711' 8"
Broken sandstone	1' 0"	712' 8"
Broken shale	2' 6"	715' 2"
Coal	10"	716' 0"
Shale	3' 4"	719' 4"
Coal	1' 2"	720' 6"
Broken shale	8"	721' 2"
Coal	1' 8"	722' 10"
Shale	11' 2"	734' 0"
Broken shale	11' 0"	745' 0"
Broken shale	10' 0"	755' 0"
Sandstone	12' 0"	767' 0"
Sandstone	9' 0"	776' 0"

Prospect Hole. No. 150 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	4' 0"	780' 0"
Hard shale	10' 0"	790' 0"
Shale	8' 0"	798' 0"
Coal	1' 0"	799' 0"
Shale	1"	799' 1"
Coal	8"	799' 9"
Bone	3"	800' 0"
Coal	2' 0"	802' 0"
Shale	3"	802' 3"
Coal	1' 0"	803' 3"
Sandstone	5"	803' 8"
Coal and sandstone	1' 0"	804' 8"
Sandstone	11' 4"	816' 0"
Sandstone	16' 0"	832' 0"
Sandstone	13' 0"	845' 0"
Broken shale	2' 0"	847' 2"
Broken shale	2' 0"	849' 2"
Trap rock	8' 0"	857' 0"

Prospect Hole No. 149 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	1' 0"	307' 0"
Shale	4' 0"	311' 0"
Shale, sandstone	27' 0"	338' 0"
Agglomerate	38' 0"	376' 0"
Sandstone,	5' 0"	381' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 150 *CX-150*

Elevation: 371' 6" Depth: 857' 0"

Location: Sec. 34, Tsp. 10, Comox District, V.I.

Date: 1918

	<u>Thickness</u>	<u>Depth</u>
Gravel and boulders	15' 0"	15' 0"
Gravel	13' 0"	28' 0"
Boulders, gravel	10' 0"	38' 0"
Clay, sand	20' 0"	58' 0"
Gravel	4' 0"	62' 0"
Gravel, boulders	10' 0"	72' 0"
Gravel, boulders	6' 0"	78' 0"
Gravel, boulders	4' 0"	82' 0"
Boulders	3' 0"	85' 0"
Boulders and gravel	4' 0"	89' 0"
Sandstone	6' 0"	95' 0"
Shale, sandy	11' 0"	106' 0"
Shale, sandy	17' 0"	123' 0"
Shale	20' 0"	143' 0"
Shale	15' 0"	158' 0"
Shale, muddy	17' 0"	175' 0"
Sandstone	22' 0"	197' 0"
Sandstone	26' 0"	223' 0"
Sandstone	17' 0"	240' 0"
Coal	6"	240' 6"
Sandstone	9' 6"	250' 0"
Sandstone	20' 0"	270' 0"
Sandstone	17' 0"	287' 0"
Shale	3' 0"	290' 0"
Shale	10' 0"	300' 0"
Coal	6"	300' 6"
Broken shale	6' 6"	307' 0"
Sandstone	5' 0"	312' 0"
Sandstone	26' 0"	338' 0"
Sandstone	27' 0"	365' 0"
Sandstone	24' 0"	389' 0"
Sandstone	7' 0"	396' 0"
Broken shale	6"	396' 6"
Coal	1' 0"	397' 6"
Shale	3' 6"	401' 0"
Coal	8"	401' 8"
Sandy shale	7' 4"	409' 0"
Sandy shale	7' 0"	416' 0"
Broken shale	11' 0"	427' 0"
Sandstone	3' 0"	430' 0"
Sandstone	25' 0"	455' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 151 *CX-151*

Elevation: 535' 0" Depth: 787' 0"

Location: Sec. 34, Tsp. 10, Comox District, V.I.

Date: 1918

	<u>Thickness</u>	<u>Depth</u>
Glacial Till	17' 0"	17' 0"
Gravel	5' 0"	22' 0"
Gravel, boulders	9' 0"	31' 0"
Gravel	10' 0"	41' 0"
Gravel	12' 0"	53' 0"
Gravel, boulders	6' 0"	59' 0"
Gravel, boulders	11' 0"	70' 0"
Gravel, boulders	8' 0"	78' 0"
Gravel	10' 0"	88' 0"
Sand, gravel	9' 0"	97' 0"
Sand	10' 0"	107' 0"
Gravel	6' 0"	113' 0"
Gravel	1' 0"	114' 0"
Sandstone	10' 0"	124' 0"
Sandstone	25' 0"	149' 0"
Sandstone	24' 0"	173' 0"
Sandstone	22' 0"	195' 0"
Sandstone	18' 0"	213' 0"
Shale, coal	1' 0"	214' 0"
Sandstone	6' 0"	220' 0"
Sandstone	30' 0"	250' 0"
Sandstone	16' 0"	266' 0"
Shale	4' 0"	270' 0"
Shale	20' 0"	290' 0"
Shale	9' 0"	299' 0"
Sandstone	13' 0"	312' 0"
Sandstone	23' 0"	335' 0"
Sandstone	25' 0"	360' 0"
Sandstone	4' 0"	364' 0"
Shale	15' 0"	379' 0"
Coal	2' 0"	381' 0"
Shale, coal	2' 0"	383' 0"
Shale	18' 0"	401' 0"
Shale	6"	401' 6"
Coal	6"	402' 0"
Broken shale	4' 0"	406' 0"
Sandstone	21' 0"	427' 0"
Sandstone	15' 0"	442' 0"
Sandstone	21' 0"	463' 0"
Sandstone	2' 0"	465' 0"

Prospect Hole No. 151 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	1' 0"	466' 0"
Shale	18' 0"	484' 0"
Sandstone	10' 0"	494' 0"
Shale	11' 0"	505' 0"
Shale	1' 0"	506' 0"
Sandstone	20' 0"	526' 0"
Sandstone	18' 0"	544' 0"
Sandstone	18' 0"	562' 0"
Shale, coal	2' 0"	564' 0"
Shale	3' 0"	567' 0"
Sandstone	7' 0"	574' 0"
Sandstone	15' 0"	589' 0"
Shale, coal	1' 0"	590' 0"
Shale	3' 0"	593' 0"
Sandstone	22' 0"	615' 0"
Sandstone	5' 0"	620' 0"
Shale	1' 0"	621' 0"
Coal, shale	4' 0"	625' 0"
Shale	2' 0"	627' 0"
Sandstone	2' 0"	629' 0"
Sandstone	22' 0"	651' 0"
Sandstone	20' 0"	671' 0"
Sandstone	22' 0"	693' 0"
Sandstone	1' 0"	694' 0"
Shale	2' 0"	696' 0"
Coal	2' 0"	698' 0"
Shale	1' 0"	699' 0"
Sandstone	1' 0"	700' 0"
Broken shale	6' 0"	706' 0"
Shale, sandstone	15' 0"	721' 0"
Sandstone	11' 0"	732' 0"
Shale	2' 0"	734' 0"
Shale	15' 0"	749' 0"
Coal	2' 0"	751' 0"
Shale, sandstone	10' 0"	761' 0"
Shale	9' 0"	770' 0"
Shale	6' 0"	776' 0"
Coal, shale	11' 0"	787' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 153 **CX-153**

Elevation: 437' 9" Depth: 383' 0"

Location: Sec. 9, Tsp. 8, Comox District, V.I.

Date: 1919

	<u>Thickness</u>	<u>Depth</u>
Gravel, clay	8' 0"	8' 0"
Clay	4' 0"	12' 0"
Gravel	6"	12' 6"
Clay	4' 6"	17' 0"
Gravel, sand	8' 0"	25' 0"
Gravel, boulders	7' 0"	32' 0"
Sandstone	13' 0"	45' 0"
Sandstone	16' 0"	61' 0"
Shale	10' 2"	71' 2"
Coal	6"	71' 8"
Shale	5' 4"	77' 0"
Shale	8' 0"	85' 0"
Coal	6"	85' 6"
Shale	1' 2"	86' 8"
Coal	6"	87' 2"
Shale	7"	87' 9"
Coal	4"	88' 1"
Shale	4' 5"	92' 6"
Coal	4"	92' 10"
Shale	4' 2"	97' 0"
Coal	6"	97' 6"
Shale	1' 0"	98' 6"
Coal	4"	98' 10"
Shale	6"	99' 4"
Coal	4"	99' 8"
Shale	6"	100' 2"
Coal	2"	100' 4"
Shale	1' 8"	102' 0"
Shale	12' 0"	114' 0"
Sandstone	18' 0"	132' 0"
Shale	1' 0"	133' 0"
Shale	4"	133' 4"
Coal	4"	133' 8"
Sulphur	1"	133' 9"
Shale	2"	133' 11"
Coal	7"	134' 6"
Shale	3' 6"	138' 0"
Sandstone	11' 0"	149' 0"
Mud	6"	149' 6"
Coal	4"	149' 10"

Prospect Hole No. 153 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	1' 2"	151' 0"
Shale	5' 0"	156' 0"
Sandstone	5' 0"	161' 0"
Shale	5' 0"	166' 0"
Coal	4"	166' 4"
Shale	4' 8"	171' 0"
Shale	5' 0"	176' 0"
Sandstone	15' 0"	191' 0"
Sandstone	3' 0"	194' 0"
Shale	12' 0"	206' 0"
Sandstone	30' 6"	236' 6"
Shale	3"	236' 9"
Coal	4"	237' 1"
Shale	7"	237' 8"
Coal	10"	238' 6"
Shale	12' 6"	251' 0"
Shale, sandy	9' 0"	260' 0"
Shale	1' 6"	261' 6"
Coal	1' 2"	262' 8"
Shale	1' 5"	264' 1"
Coal	9"	264' 10"
Shale	1' 2"	266' 0"
Coal	3"	266' 3"
Shale	4"	266' 7"
Coal	11"	267' 6"
Sandstone	6"	268' 0"
Shale	2' 0"	270' 0"
Sandstone	16' 0"	286' 0"
Sandstone	15' 0"	301' 0"
Sandstone	2' 0"	303' 0"
Shale	14' 0"	317' 0"
Shale	14' 6"	331' 6"
Coal	4"	331' 10"
Sandstone	3' 0"	334' 10"
Coal	6"	335' 4"
Shale	4"	335' 8"
Coal	1' 5"	337' 1"
Shale	11"	338' 0"
Sandstone	9' 0"	347' 0"
Sandstone	16' 0"	363' 0"
Sandstone	4' 5"	367' 5"
Coal	1' 7"	369' 0"
Shale	3' 0"	372' 0"
Trap rock	11' 0"	383' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 155 **CX-155**

Elevation: 436' 0" Depth: 515' 0"

Location: Sec. 9, Tsp. 9, Comox District, V.I.

Date: 1919

	<u>Thickness</u>	<u>Depth</u>
Sand and gravel	8' 0"	8' 0"
Clay	6' 0"	14' 0"
Gravel	4' 0"	18' 0"
Clay, gravel	5' 0"	23' 0"
Gravel, boulders	6' 0"	29' 0"
Boulders, clay	4' 0"	33' 0"
Sandstone	50' 0"	83' 0"
Shale	3' 0"	86' 0"
Sandstone	7' 0"	93' 0"
Shale	6' 6"	99' 6"
Coal	1' 0"	100' 6"
Shale	2"	100' 8"
Coal	10"	101' 6"
Shale	6"	102' 0"
Coal	8"	102' 8"
Shale	1' 4"	104' 0"
Sandstone	40' 0"	144' 0"
Shale	3' 0"	147' 0"
Sandstone	64' 0"	211' 0"
Shale	12' 0"	223' 0"
Coal	6"	223' 6"
Shale	3' 0"	226' 6"
Coal	8"	227' 2"
Shale	2' 2"	229' 4"
Coal	6"	229' 10"
Shale	10' 2"	240' 0"
Sandstone	48' 6"	288' 6"
Shale	4' 6"	293' 0"
Sandstone	1' 0"	294' 0"
Shale	4' 0"	298' 0"
Coal, shale	1' 0"	299' 0"
Shale	12' 9"	311' 9"
Coal	4"	312' 1"
Shale	12' 11"	325' 0"
Sandstone	57' 0"	382' 0"
	48' 0"	430' 0"
Sandstone, shaly	3' 6"	433' 6"
Shale	1' 0"	434' 6"
Coal	10"	435' 4"
Shale	1' 4"	436' 8"
Sandstone	2' 2"	438' 10"

Prospect Hole No. 155 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	1"	438' 11"
Sandstone	1"	439' 0"
Coal	2' 0"	441' 0"
Broken shale	10"	441' 10"
Coal	1' 8"	443' 6"
Shale	3' 6"	447' 0"
Coal	2' 10"	449' 10"
Shale	2' 5"	452' 3"
Coal	9"	453' 0"
Shale	1' 0"	454' 0"
Sandstone	30' 0"	484' 0"
Sandstone	6' 0"	490' 0"
Coal, shale	1' 0"	491' 0"
Sandstone	6' 0"	497' 0"
Shale	2' 0"	499' 0"
Shale, sandy	2' 0"	501' 0"
Sandstone, shaly	14' 0"	515' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 156 **CX-156**

Elevation: 502' 0"

Depth: 196' 0"

Location: Sec. 33, Tsp. 10, Comox District, V.I.

Date: 1919

	<u>Thickness</u>	<u>Depth</u>
Gravel	10' 0"	10' 0"
Gravel, boulders	9' 0"	19' 0"
Gravel	31' 0"	50' 0"
Gravel	4' 0"	54' 0"
Gravel	6' 0"	60' 0"
Clay	5' 0"	65' 0"
Gravel	10' 0"	75' 0"
Gravel, boulders	10' 0"	85' 0"
Gravel	14' 0"	99' 0"
Gravel, boulders	11' 0"	110' 0"
Gravel	6' 0"	116' 0"
Sandstone	6' 0"	122' 0"
Shale	6' 0"	128' 0"
Sandstone	30' 6"	158' 6"
Coal	4"	158' 10"
Shale	2"	159' 0"
Coal	1"	159' 1"
Sandstone	1' 3"	160' 4"
Shale	1"	160' 5"
Coal	10"	161' 3"
Shale	3' 9"	165' 0"
Shale	3' 0"	168' 0"
Shale	8' 0"	177' 0"
Coal	4' 0"	181' 0"
Shale	4"	181' 4"
Coal	4"	181' 8"
Sandstone	1"	181' 9"
Shale	2' 3"	183' 0"
Agglomerate	13' 0"	196' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 157 *CX-157*

Elevation: 570' 0" Depth: 263' 0"

Location: Lot 24, Nelson District, V.I.

Date: 1921

	<u>Thickness</u>	<u>Depth</u>
Sand and gravel	3' 0"	3' 0"
Clay, boulders	7' 6"	10' 6"
Sandstone	76' 6"	87' 0"
Shale	3' 0"	90' 0"
Coal	6"	90' 6"
Sandstone	53' 0"	143' 6"
Shale	4"	143' 10"
Coal	4"	144' 2"
Shale	1' 0"	145' 2"
Coal	8"	145' 10"
Sandstone	3"	146' 1"
Coal	1"	146' 2"
Shale	1"	146' 3"
Coal	2"	146' 5"
Sandstone	54' 7"	201' 0"
Shale	3' 0"	204' 0"
Sandstone	8' 0"	212' 0"
Shale	1' 0"	213' 0"
Coal	8"	213' 8"
Shale	1' 4"	215' 0"
Sandstone	26' 6"	241' 6"
Coal	4"	241' 10"
Mud	6"	242' 4"
Trap	20' 8"	263' 0"

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WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES,
CUMBERLAND AREA

Prospect Hole No. 158

CX-158

Elevation: 474' 0"

Depth: 342' 0"

Location: Lot 24, Nelson District, V.I.

Date: 1921

	<u>Thickness</u>	<u>Depth</u>
Soil	2' 0"	2' 0"
Clay	4' 0"	6' 0"
Boulders, gravel	1' 0"	7' 0"
Sandstone	92' 8"	99' 8"
Shale	4"	100' 0"
Coal, bony	3"	100' 3"
Shale	2' 9"	103' 0"
Coal	8"	103' 8"
Coal, bony	4"	104' 0"
Sandy stone	56' 6"	160' 6"
Shale	6"	161' 0"
Coal	6"	161' 6"
Shale	1' 4"	162' 10"
Coal	1' 6"	164' 4"
Shale	10"	165' 2"
Coal	2"	165' 4"
Shale	8"	166' 0"
Coal, dirty	6"	166' 6"
Shale	1' 0"	167' 6"
Sandstone	49' 6"	217' 0"
Shale	3' 0"	220' 0"
Sandstone	24' 8"	244' 8"
Shale	1' 8"	246' 4"
Coal, dirty	1' 4"	247' 8"
Shale	2' 6"	250' 2"
Coal	6"	250' 8"
Shale	4"	251' 0"
Coal	1' 4"	252' 4"
Shale	8"	253' 0"
Coal	3' 0"	256' 0"
Sandstone	55' 6"	311' 6"
Coal	1' 0"	312' 6"
Shale	6' 6"	319' 0"
Coal	1' 4"	320' 4"
Shale	13' 8"	334' 0"
Shale, bone	2' 0"	336' 0"
Trap	6' 0"	342' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 159 *CX-159*

Elevation: 469' 0" Depth: 366' 0"

Location: Lot 24, Nelson District, V.I.

Date: 1921

	<u>Thickness</u>	<u>Depth</u>
Till	8' 0"	8' 0"
Shale	7' 0"	15' 0"
Sandy shale	9' 0"	24' 0"
Coal	3"	24' 3"
Shale	33' 9"	58' 0"
Sandstone	21' 0"	79' 0"
Coal	1' 0"	80' 0"
Sandstone	125' 7"	205' 7"
Shale	4"	205' 11"
Coal	1' 10"	207' 9"
Shale	10"	208' 7"
Sandstone	77' 7"	286' 2"
Coal	8"	286' 10"
Sandstone	33' 2"	320' 0"
Sandstone	13' 0"	333' 0"
Coal	8"	333' 8"
Shale	14' 10"	348' 6"
Coal	1' 6"	350' 0"
Shale	7' 0"	357' 0"
Shale	9' 0"	366' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

①

Prospect Hole No. 160 C X-160

Elevation: 493' 2" Depth: 425' 0"

Location: Lot 24, Nelson District, V.I.

Date: 1921

	<u>Thickness</u>	<u>Depth</u>
Soil	4' 0"	4' 0"
Sandstone	80' 6"	84' 6"
Coal, sandstone	1' 0"	85' 6"
Shale	1' 0"	86' 6"
Coal, dirty	1' 0"	87' 6"
Sandstone	59' 6"	147' 0"
Coal	1' 0"	148' 0"
Shale	3' 0"	151' 0"
Sandstone	77' 0"	228' 0"
Shale	4' 6"	232' 6"
Coal, dirty	1' 0"	233' 6"
Shale	6' 0"	239' 6"
Coal, dirty	1' 0"	240' 6"
Shale	6"	241' 0"
Coal	6"	241' 6"
Shale	1' 2"	242' 8"
Coal	2' 0"	244' 8"
Sandstone,	8"	245' 4"
Coal	1"	245' 5"
Sandstone	50' 3"	295' 8"
Coal	4"	296' 0"
Shale	5' 0"	301' 0"
Coal	7"	301' 7"
Shale	12' 5"	314' 0"
Coal	10"	314' 10"
Shale	8' 8"	323' 6"
Coal, dirty	2"	323' 8"
Shale	4"	324' 0"
Coal	1' 10"	325' 10"
Shale	1' 2"	327' 0"
Coal	1' 0"	328' 0"
Shale	2"	328' 2"
Coal	1' 0"	329' 2"
Shale	2"	329' 4"
Coal	6"	329' 10"
Shale	8"	330' 6"
Coal	8"	331' 2"
Shale	4' 10"	336' 0"
Sandstone	26' 4"	362' 4"
Shale, bone	8"	363' 0"

Prospect Hole No. 160 cont'd

(1)

	<u>Thickness</u>	<u>Depth</u>
Sandstone	3' 0"	366' 0"
Coal	5"	366' 5"
Shale	5' 7"	372' 0"
Sandstone	32' 0"	404' 0"
Trap	21' 0"	425' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 161 CX-161

Elevation: 456' 0" Depth: 268' 0"

Location: Lot 24, Nelson District, V.I.

Date: 1921

	<u>Thickness</u>	<u>Depth</u>
Brown clay	17' 0"	17' 0"
Sand, gravel	2' 0"	19' 0"
Shale	30' 0"	49' 0"
Shale, pebbles	14' 0"	63' 0"
Sandy shale	20' 0"	83' 0"
Sandstone	10' 0"	93' 0"
Shale, coal	8"	93' 8"
Sandstone	1' 4"	95' 0"
Shale, coal	6"	95' 6"
Sandstone	105' 6"	201' 0"
Shale	3' 0"	204' 0"
Coal	1' 0"	205' 0"
Shale	1' 0"	206' 0"
Sandstone	52' 0"	258' 0"
Coal	2' 0"	260' 0"
Shale	4"	260' 4"
Coal	8"	261' 0"
Shale	6"	261' 6"
Coal	10"	262' 4"
Shale	8"	263' 0"
Trap rock	5' 0"	268' 0"

WELLDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 162 *CX-162*

Elevation: 440' 0" Depth: 756' 0"

Location: Lot 24, Nelson District, V.I.

Date: 1921

	<u>Thickness</u>	<u>Depth</u>
Bog	15' 0"	15' 0"
Blue clay	12' 0"	27' 0"
Sand and gravel	1' 0"	28' 0"
Shale	4' 0"	32' 0"
Shale	153' 0"	185' 0"
Shale	19' 0"	204' 0"
Shale	11' 0"	215' 0"
Sandstone	25' 0"	240' 0"
Shale	126' 0"	366' 0"
Sandstone	4"	366' 4"
Coal	8' 2"	374' 6"
Shale	6"	375' 0"
Coal	22' 0"	397' 0"
Sandstone	35' 0"	432' 0"
Sandstone	1' 0"	433' 0"
Shale, coal	1' 0"	434' 0"
Coal	3' 0"	437' 0"
Shale	6"	437' 6"
Coal	62' 6"	500' 0"
Sandstone	8' 0"	508' 0"
Shale	21' 8"	529' 8"
Sandstone	4"	530' 0"
Coal	2"	530' 2"
Sandstone	2' 2"	532' 4"
Shale	6"	532' 10"
Coal	1' 6"	534' 4"
Shale	8"	535' 0"
Coal	1' 3"	536' 3"
Shale	10"	537' 1"
Coal	6"	537' 7"
Shale, coal	1' 10"	539' 5"
Shale, bone	6"	539' 11"
Coal	1' 2"	541' 1"
Shale	42' 5"	583' 6"
Sandstone	1' 6"	585' 0"
Coal and mud	3' 0"	588' 0"
Shale	14' 0"	602' 0"
Sandstone	13' 0"	615' 0"
Sandstone	17' 0"	632' 0"
Shale	9' 0"	641' 0"
Shale	1' 6"	642' 6"
Coal		

Prospect Hole No. 162 contd

(1)

	<u>Thickness</u>	<u>Depth</u>
Shale	4"	642' 10"
Coal	3' 0"	645' 10"
Shale	6"	646' 4"
Coal	2' 6"	648' 10"
Shale	5' 2"	654' 0"
Shale	4' 0"	658' 0"
Sandstone	5' 6"	663' 0"
Shale	4' 0"	667' 6"
Coal	2' 6"	670' 0"
Shale	1' 6"	671' 6"
Sandstone	9' 6"	681' 0"
Shale, sandstone	7' 0"	688' 0"
Coal	2"	688' 2"
Shale, sandstone	8' 10"	697' 0"
Shale	12' 0"	709' 0"
Coal, shale	2' 6"	711' 6"
Shale	3' 6"	715' 0"
Sandstone	12' 0"	727' 0"
Sandstone	22' 0"	749' 0"
Mud	1' 0"	750' 0"
Trap rock	6' 0"	756' 0"

②

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 163 C X-163

Elevation: 438' 0"

Depth: 1033' 11"

Location: Sec.25, Tsp. 10, Comox District, V.I.

Date: 1921

	<u>Thickness</u>	<u>Depth</u>
Soil	3' 0"	3' 0"
Clay	4' 0"	7' 0"
Gravel	5' 0"	12' 0"
Sand and gravel	38' 0"	50' 0"
Gravel	2' 0"	52' 0"
Gravel	5' 0"	57' 0"
Shale	1' 0"	58' 0"
Shale	71' 0"	129' 0"
Shale	85' 0"	214' 0"
Shale, sandstone	3' 0"	217' 0"
Sandstone	6' 0"	223' 0"
Shale	75' 0"	298' 0"
Shale	50' 0"	348' 0"
Sandstone	13' 0"	361' 0"
Shale	10' 0"	371' 0"
Sandstone	1' 0"	372' 0"
Shale and sandstone	30' 0"	402' 0"
Sandstone	10' 0"	412' 0"
Shale	2' 8"	414' 8"
Coal and shale	1' 2"	415' 10"
Shale	1' 2"	417' 0"
Sandstone	91' 6"	508' 6"
Coal	6"	509' 0"
Shale	8' 0"	517' 0"
Coal	6"	517' 6"
Sandstone	53' 6"	571' 0"
Shale	1' 5"	571' 5"
Coal	1' 3"	572' 8"
Shale	12' 4"	585' 0"
Sandstone	25' 0"	610' 0"
Sandstone	10' 0"	620' 0"
Sandstone	54' 0"	674' 0"
Coal	4"	674' 4"
Muddy shale	11"	675' 3"
Coal	1"	675' 4"
Shale	4' 4"	679' 8"
Coal	1' 0"	680' 8"
Shale	5' 9"	686' 5"
Coal	1' 5"	687' 10"
Shale	1' 8"	689' 6"

Prospect Hole No. 163 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	6"	690' 0"
Shale	2' 0"	692' 0"
Sandstone	38' 0"	730' 0"
Shale	1' 0"	731' 0"
Coal	4"	731' 4"
Shale	5' 8"	737' 0"
Sandstone	35' 0"	772' 0"
Shale and sandstone	18' 0"	790' 0"
Shale	4' 4"	794' 4"
Coal	2' 10"	797' 2"
Shale	1"	797' 3"
Coal	2' 2"	799' 5"
Shale	6"	799' 11"
Coal	4"	800' 3"
Shale	7"	800' 10"
Coal	1' 5"	802' 3"
Shale	5' 8"	807' 11"
Sandstone	8' 0"	815' 11"
Sandstone	14' 0"	829' 11"
Shale	5' 0"	834' 11"
Coal	1' 6"	836' 5"
Shale	4' 6"	840' 11"
Sandstone	10' 0"	850' 11"
Shale	6' 0"	856' 11"
Sandstone	11' 0"	867' 11"
Sandstone, shale	12' 0"	879' 11"
Shale	2' 0"	881' 11"
Coal	1' 4"	883' 3"
Shale	2"	883' 5"
Coal	1' 6"	884' 11"
Shale	1' 6"	886' 5"
Shale, sandy	4"	886' 9"
Bone	2"	886' 11"
Sandstone	27' 0"	913' 11"
Sandstone	56' 0"	969' 11"
Sandstone	17' 6"	987' 5"
Coal	6"	987' 11"
Coal	1' 0"	988' 11"
Shale	2' 0"	990' 11"
Coal	1' 6"	992' 5"
Shale and bone	1' 6"	993' 11"
Coal	6"	994' 5"
Shale and bone	1' 6"	995' 11"
Coal	1' 8"	997' 7"
Shale	2' 4"	999' 11"
Shale	3' 0"	1002' 11"
Coal	3' 0"	1005' 11"
Shale	7' 0"	1012' 11"
Bone	6"	1013' 5"
Shale	3' 6"	1016' 11"
Agglomerate	14' 0"	1030' 11"

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Prospect Hole No. 163 cont'd

	<u>Thickness</u>	<u>Depth</u>
Trap rock	3' 0"	1033' 11"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 164 CX-164

Elevation: 449' 0" Depth: 1217' 0"

Location: Sec. 30, Tsp. 11, Comox District, V.I.

Date: 1921 - 1922

	<u>Thickness</u>	<u>Depth</u>
Red sand	2' 0"	2' 0"
Sandstone	2' 0"	4' 0"
Shale	5' 0"	9' 0"
Sandstone	1' 6"	10' 6"
Shale	1' 0"	11' 6"
Sandstone	4' 0"	15' 6"
Shale	4' 6"	20' 0"
Sandstone, shale	11' 0"	31' 0"
Sandstone	15' 0"	46' 0"
Shale	1' 0"	47' 0"
Sandstone	3' 0"	50' 0"
Shale	8' 0"	58' 0"
Sandstone	24' 0"	82' 0"
Sandstone, shale	12' 0"	94' 0"
Shale	10' 0"	104' 0"
Shale, pebbles	3' 0"	107' 0"
Conglomerate	1' 0"	108' 0"
Shale, pebbles	2' 0"	110' 0"
Shale	7' 0"	117' 0"
Sandstone	25' 0"	142' 0"
Conglomerate	3' 0"	145' 0"
Shale and sandstone	4' 0"	149' 0"
Sandstone	1' 0"	150' 0"
Conglomerate	8' 0"	158' 0"
Shale	10' 0"	168' 0"
Sandstone, pebbles	2' 0"	170' 0"
Conglomerate	22' 0"	192' 0"
Shale, pebbles	9' 0"	201' 0"
Conglomerate	3' 0"	204' 0"
Shale	8' 0"	212' 0"
Conglomerate	12' 0"	224' 0"
Shale	27' 0"	251' 0"
Sandstone	1' 6"	252' 6"
Conglomerate	27' 6"	280' 0"
Conglomerate, loose	15' 0"	295' 0"
Conglomerate	13' 6"	308' 6"
Sandstone	6' 0"	314' 6"
Conglomerate	47' 6"	362' 0"
Shale	1' 0"	363' 0"
Conglomerate	3' 0"	366' 0"

Prospect Hole No. 164 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale, sandy	2' 0"	368' 0"
Conglomerate	2' 0"	370' 0"
Shale and pebbles	3' 0"	373' 0"
Conglomerate	12' 6"	385' 6"
Sandstone	2' 0"	387' 6"
Conglomerate	4' 6"	392' 0"
Shale	1' 0"	393' 0"
Conglomerate	13' 0"	406' 0"
Shale, sandstone	2' 0"	408' 0"
Conglomerate	5' 0"	413' 0"
Shale	27' 0"	440' 0"
Shale	40' 0"	480' 0"
Sandstone	1' 0"	481' 0"
Shale	2' 0"	483' 0"
Sandstone	1' 0"	484' 0"
Shale	69' 0"	553' 0"
Sandstone	3' 0"	556' 0"
Shale	65' 0"	621' 0"
Sandstone	5' 0"	626' 0"
Shale, sandy	4' 0"	630' 0"
Sandstone	60' 0"	690' 0"
Shale	4' 0"	694' 0"
Sandstone	81' 0"	775' 0"
Shale, coal	5"	775' 5"
Coal	7"	776' 0"
Shale	8' 10"	784' 10"
Coal	2"	785' 0"
Sandstone	44' 8"	829' 8"
Shale	9"	830' 5"
Shale, coal	5"	830' 10"
LCoal	8"	831' 6"
Shale, coal	3"	831' 9"
Shale	7' 3"	839' 0"
Shale, sandy	10' 0"	849' 0"
Sandstone	68' 0"	917' 0"
Shale	3' 0"	920' 0"
Sandstone	29' 7"	949' 7"
Coal, shale	8"	950' 3"
Shale	2"	950' 5"
Coal	2"	950' 7"
Shale	10"	951' 5"
Coal	1' 9"	953' 2"
Shale	6' 11"	960' 1"
Coal	1' 10"	961' 11"
Shale	2' 4"	964' 3"
Coal, shale	4"	964' 7"
Sandstone	• 39' 0"	1003' 7"
Shale	2' 7"	1006' 2"
Coal, shale	3"	1006' 5"
Coal	1' 3"	1007' 8"
Shale	10' 4"	1018' 0"
Sandstone	32' 0"	1050' 0"

Prospect Hole No. 164 cont'd

①

	<u>Thickness</u>	<u>Depth</u>
Shale	4' 9"	1054' 9"
Coal	2' 0"	1056' 9"
Shale and coal	7"	1057' 4"
Shale	1' 5"	1058' 9"
Shale and coal	3"	1059' 0"
Coal	3"	1059' 3"
Shale and coal	9"	1060' 0"
Shale	1' 0"	1061' 0"
Coal	1' 10"	1062' 10"
Shale	3"	1063' 1"
Coal	5"	1063' 6"
Shale	8"	1064' 2"
Coal	1' 9"	1065' 11"
Coal, dirty	4"	1066' 3"
Shale	3' 6"	1069' 9"
Sandstone, shale	15' 3"	1085' 0"
Sandstone	6' 0"	1091' 0"
Shale	1' 0"	1092' 0"
Shale, coal	1' 0"	1093' 0"
Shale	2' 0"	1095' 0"
Coal	1' 0"	1096' 0"
Shale	1' 0"	1097' 0"
Coal, shale	3"	1097' 3"
Coal	9"	1098' 0"
Shale, sandy	35' 0"	1133' 0"
Sandstone, shale	3' 10"	1136' 10"
Coal, shale	2"	1137' 0"
Shale	2"	1137' 2"
Coal	3"	1137' 5"
Shale	4"	1137' 9"
Coal	1' 3"	1139' 0"
Shale	6' 0"	1145' 0"
Sandstone	55' 4"	1200' 4"
Coal	1' 0"	1201' 4"
Shale	1' 0"	1202' 4"
Coal	1' 2"	1203' 6"
Coal, shale	11"	1204' 5"
Coal	4"	1204' 9"
Shale, coal	4"	1205' 1"
Coal	8"	1205' 9"
Coal and shale	1' 0"	1206' 9"
Coal	2"	1206' 11"
Coal and shale	1' 0"	1207' 11"
Coal	6"	1208' 5"
Shale	7"	1209' 0"
Trap	8' 0"	1217' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 165 *CX-165*

Elevation: 441' 9" Depth: 1144' 0"

Location: Sec. 25, Tsp. 10, Comox District, V.I.

Date: 1922

	<u>Thickness</u>	<u>Depth</u>
Clay	11' 0"	11' 0"
Sand and gravel	7' 0"	18' 0"
Gravel	1' 6"	19' 6"
Shale	1' 6"	21' 0"
Shale, pebbles, conglomerate	41' 0"	62' 0"
Sandstone	4' 0"	66' 0"
Shale, pebbles	8' 0"	74' 0"
Shale	95' 0"	169' 0"
Shale and sandstone	18' 0"	187' 0"
Shale	129' 0"	316' 0"
Sandstone	5' 0"	321' 0"
Shale	132' 0"	453' 0"
Sandstone	11' 6"	464' 6"
Shale	20' 0"	484' 6"
Sandstone	9' 6"	494' 0"
Shale	2' 0"	496' 0"
Sandstone	22' 6"	518' 6"
Coal	3"	518' 9"
Sandstone	2"	518' 11"
Shale and bone	7"	519' 6"
Shale	1' 0"	520' 6"
Coal, shale	1' 6"	522' 0"
Shale	5"	522' 5"
Sandstone	94' 0"	616' 5"
Coal	10"	617' 3"
Shale	7' 7"	624' 10"
Coal	3"	625' 1"
Sandstone	1"	625' 2"
Coal	2"	625' 4"
Sandstone	58' 2"	683' 6"
Shale	4"	683' 10"
Sandstone	2"	684' 0"
Shale	4"	684' 4"
Coal	9"	685' 1"
Coal	7"	685' 8"
Shale, coal	1' 2"	686' 10"
Shale	1' 7"	688' 5"
Coal	1' 7"	690' 0"
Sandstone	59' 0"	749' 0"
Shale	11' 0"	760' 0"

Prospect Hole No. 165 cont'd

(1)

	<u>Thickness</u>	<u>Depth</u>
Sandstone	18' 4"	778' 4"
Shale	2"	778' 6"
Coal	8"	779' 2"
Shale	10"	780' 0"
Coal	1' 2"	781' 2"
Shale	10' 6"	791' 8"
Coal	2' 0"	793' 8"
Shale	6"	794' 2"
Coal	7"	794' 9"
Shale	2' 0"	796' 9"
Sandstone	38' 3"	835' 0"
Shale	2' 2"	837' 2"
Coal	4"	837' 6"
Shale	2' 0"	839' 6"
Coal	3"	839' 9"
Shale	2' 0"	841' 9"
Sandstone	3"	842' 0"
Sandstone, shale	53' 6"	895' 6"
Coal	1' 8"	897' 2"
Bone	2"	897' 4"
Coal	8"	898' 0"
Bone	2"	898' 2"
Shale	5"	898' 7"
Coal	1' 9"	900' 4"
Shale	5"	900' 9"
Coal	6"	901' 3"
Shale	9"	902' 0"
Bone	5"	902' 5"
Coal	1' 2"	903' 7"
Shale	8' 5"	912' 0"
Sandstone	11' 0"	923' 0"
Shale	4' 0"	927' 0"
Coal	1' 6"	928' 6"
Shale	2' 6"	931' 0"
Sandstone	14' 5"	945' 5"
Mud and coal	7"	946' 0"
Shale	31' 10"	977' 10"
Coal	1' 3"	979' 1"
Bone	5"	979' 6"
Coal	1' 2"	980' 8"
Shale	2' 10"	983' 6"
Sandstone	6"	984' 0"
Shale	1' 0"	985' 0"
Sandstone	118' 0"	1103' 0"
Mud	6"	1103' 6"
Coal	1' 0"	1104' 6"
Shale	1' 0"	1105' 6"
Coal	8"	1106' 2"
Bone	2"	1106' 4"
Coal	2' 1"	1108' 5"
Shale	2' 5"	1110' 10"

Prospect Hole No. 165 cont'd

	<u>Thickness</u>	<u>Depth</u>
Bone, coal	6"	1111' 4"
Broken shale	6' 8"	1118' 0"
Bone and coal	4' 0"	1122' 0"
Shale	12' 0"	1134' 0"
Trap rock	10' 0"	1144' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 166 CX-166

Elevation: 439' 1" Depth: 1292' 0"

Location: Sec. 25, Tsp. 10, Comox District

Date: 1922

	<u>Thickness</u>	<u>Depth</u>
Sand and gravel	35' 0"	35' 0"
Gravel	6' 0"	41' 0"
Sand, gravel	16' 0"	57' 0"
Gravel	11' 0"	68' 0"
Gravel, sand	8' 0"	76' 0"
Gravel	17' 6"	93' 6"
Sandstone	7' 6"	101' 0"
Shale	1' 0"	102' 0"
Sandstone	34' 6"	136' 6"
Shale	1' 6"	138' 0"
Sandstone	19' 0"	157' 0"
Shale, sandstone	51' 0"	208' 0"
Sandstone	4' 6"	212' 6"
Conglomerate	16' 6"	229' 0"
Sandstone	2' 0"	231' 0"
Conglomerate	2' 0"	233' 0"
Conglomerate	14' 0"	247' 0"
Conglomerate, shale, sandstone	31' 0"	278' 0"
Shale, sandstone	36' 0"	314' 0"
Conglomerate	4' 0"	318' 0"
Shale, sandstone, conglomerate	14' 0"	332' 0"
Sandstone, shale, conglomerate	16' 0"	348' 0"
Conglomerate, sandstone	18' 0"	366' 0"
Conglomerate	4' 0"	370' 0"
Conglomerate	2' 0"	372' 0"
Conglomerate and sandstone	8' 0"	380' 0"
Conglomerate	7' 0"	387' 0"
Sandstone	4' 0"	391' 0"
Sandstone and conglomerate	8' 0"	399' 0"
Conglomerate	11' 0"	410' 0"
Conglomerate and sandstone	9' 0"	419' 0"
Conglomerate	13' 6"	432' 6"
Sandstone	4' 6"	437' 0"
Conglomerate	1' 0"	438' 0"
Shale	49' 0"	487' 0"
Conglomerate	9' 6"	496' 6"
Shale	128' 6"	625' 0"
Sandstone	13' 0"	638' 0"
Shale	21' 0"	659' 0"
Sandy shale	12' 0"	671' 0"

Prospect Hole No. 166 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	33' 6"	704' 6"
Shale	8"	705' 2"
Coal	10"	706' 0"
Shale	3' 0"	709' 0"
Sandstone	84' 7"	793' 7"
Coal	5"	794' 0"
Coal	1' 0"	795' 0"
Muddy shale	8' 0"	803' 0"
Coal	5"	803' 5"
Sandstone	57' 7"	861' 0"
Shale	6"	861' 6"
Coal	6"	862' 0"
Shale	8"	862' 8"
Coal	6"	863' 2"
Shale	7' 2"	870' 4"
Coal	1' 0"	871' 4"
Shale	5"	871' 9"
Sandstone	51' 5"	923' 2"
Shale	2' 10"	926' 0"
Sandstone	11' 0"	937' 0"
Carbonaceous shale	12' 0"	949' 0"
Sandstone	10' 6"	959' 6"
Coal	1' 0"	960' 6"
Shale	1' 6"	962' 0"
Coal	1' 0"	963' 0"
Shale	8"	963' 8"
Coal	1' 0"	964' 8"
Shale	2' 0"	966' 8"
Coal	1' 4"	968' 0"
Shale	5' 0"	973' 0"
Sandstone	47' 0"	1020' 0"
Coal	1' 6"	1021' 6"
Shale	3' 6"	1025' 0"
Sand and shale	18' 0"	1043' 0"
Shale	14' 2"	1057' 2"
Coal	10"	1058' 0"
Shale	3' 4"	1061' 4"
Coal	1' 10"	1063' 2"
Bone	2"	1063' 4"
Coal	1' 2"	1064' 6"
Shale	3' 6"	1068' 0"
Coal and bone	2' 0"	1070' 0"
Shale	5' 0"	1075' 0"
Sandstone	25' 0"	1100' 0"
Shale and sandstone	19' 0"	1119' 0"
Coal	5"	1119' 5"
Shale	6' 7"	1126' 0"
Shale and sandstone	35' 0"	1161' 0"
Mud and bone	1' 6"	1162' 6"
Shale	1' 0"	1163' 6"
Sandstone	1' 6"	1165' 0"

Prospect Hole No. 166 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	1' 0"	1166' 0"
Sandstone	69' 6"	1235' 6"
Shale	10' 6"	1246' 0"
Coal	2' 0"	1248' 0"
Shale	18' 0"	1266' 0"
Bone and coal	2' 0"	1268' 0"
Shale	16' 0"	1284' 0"
Coal	2' 8"	1286' 8"
Trap rock	5' 4"	1292' 0"

WELIWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 167 *CX-167*

Elevation: 312' 0" Depth: 1471' 4"

Location: Sec. 29, Tsp. 11, Comox District

Date: 1922

	<u>Thickness</u>	<u>Depth</u>
Gravel, boulders	36' 0"	36' 0"
Gravel, clay	2' 0"	38' 0"
Shale	369' 0"	407' 0"
Shale, sandstone	260' 0"	668' 0"
Shale	124' 0"	791' 0"
Shale, sandstone	15' 0"	806' 0"
Shale	16' 0"	822' 0"
Shale, sand	15' 0"	837' 0"
Sandy shale	54' 0"	891' 0"
Sandstone	20' 0"	911' 0"
Sandy shale	8' 0"	919' 0"
Sandstone	44' 6"	963' 6"
Coal	3"	963' 9"
Shale	9' 8"	973' 5"
Coal	1' 3"	974' 8"
Shale	1' 6"	976' 2"
Shale, coal	4"	976' 6"
Coal	2"	976' 8"
Shale	1' 0"	977' 8"
Sandstone	90' 8"	1068' 4"
Sandstone, coal	2"	1068' 6"
Coal	11"	1069' 5"
Shale	7"	1070' 0"
Coal	5"	1070' 5"
Shale	7' 8"	1078' 1"
Coal	8"	1078' 9"
Sandstone	4"	1079' 1"
Coal	2"	1079' 3"
Shale	1' 9"	1081' 0"
Sandstone	22' 0"	1103' 0"
Shale	3' 0"	1106' 0"
Coal	10"	1106' 10"
Shale, coal	4"	1107' 2"
Shale	3' 0"	1110' 2"
Shale	5' 0"	1115' 2"
Sandstone, shale	16' 0"	1131' 2"
Sandstone	74' 6"	1205' 8"
Shale, coal	3' 0"	1208' 8"
Shale	9' 3"	1217' 11"
Shale, coal	3"	1218' 2"
Coal	5"	1218' 7"

Prospect Hole No. 167 cont'd

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	<u>Thickness</u>	<u>Depth</u>
Shale, coal	4"	1218' 11"
Shale	4' 7"	1223' 6"
Coal	2"	1223' 8"
Shale	1' 6"	1225' 2"
Coal, shale	2"	1225' 4"
Coal	8"	1226' 0"
Shale	1' 10"	1227' 10"
Coal and shale	4"	1228' 2"
Shale	2' 0"	1230' 2"
Sandy shale	2' 0"	1232' 2"
Sandstone	21' 8"	1253' 10"
Coal, shale	2"	1254' 0"
Coal	1' 10"	1255' 10"
Shale	15' 4"	1271' 2 "
Sand, shale	16' 0"	1287' 2"
Sandstone	41' 3"	1328' 5"
Coal, shale	2"	1328' 7"
Coal, dirty	3"	1328' 10"
Coal	2' 6"	1331' 4"
Shale	2' 0"	1333' 4"
Coal and shale	3"	1333' 7"
Coal	1' 0"	1334' 7"
Shale	6' 0"	1340' 7"
Shale, sandy	4' 0"	1344' 7"
Sandstone	7' 0"	1351' 7"
Shale	5' 7"	1357' 2"
Coal	9"	1357' 11"
Shale	2"	1358' 1"
Coal	6"	1358' 7"
Shale	6' 0"	1364' 7"
Sandstone	15' 0"	1379' 7"
Coal and shale	3"	1379' 10"
Shale	14' 9"	1394' 7"
Sandstone	29' 0"	1423' 7"
Sandy shale	5' 7"	1429' 2"
Coal	3"	1429' 5"
Shale	4"	1429' 9"
Coal	2' 9"	1432' 1"
Coal, shale	11"	1433' 0"
Coal	2"	1433' 2"
Shale, coal	11"	1434' 1"
Shale	22' 3"	1456' 4"
Coal, shale	4"	1456' 8"
Coal	8"	1467' 4"
Coal	2' 5"	1459' 9"
Shale	5"	1460' 2"
Coal	1' 7"	1461' 9"
Shale	2' 10"	1464' 7"
Coal	5' 0"	1469' 7"
Coal	8"	1470' 3"
Shale, coal	10"	1471' 1"
Trap	3"	1471' 4"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Prospect Hole No. 168 *CX-168*

Elevation: 339' 5" Depth: 1862' 0"

Location: Sec. 36, Tsp. 10, Comox District

Date: 1922

	<u>Thickness</u>	<u>Depth</u>
Sand	56' 0"	56' 0"
Gravel, clay, boulders	6' 0"	62' 0"
Gravel, boulders	5' 6"	67' 6"
Sandstone	34' 6"	102' 0"
Shale	186' 0"	288' 0"
Sandstone	2' 0"	290' 0"
Shale	48' 0"	338' 0"
Shale, sandstone	135' 0"	473' 0"
Sandstone, shale, conglomerate	35' 0"	508' 0"
Conglomerate	3' 0"	511' 0"
Sandstone, shale, conglomerate	31' 0"	542' 0"
Conglomerate	18' 0"	560' 0"
Shale, sandstone	27' 0"	587' 0"
Sandstone, conglomerate	4' 0"	591' 0"
Conglomerate	1' 0"	592' 0"
Sandstone	36' 0"	628' 0"
Sandstone and conglomerate	9' 0"	637' 0"
Conglomerate	40' 0"	677' 0"
Conglomerate, sandstone and shale	4' 0"	681' 0"
Conglomerate	12' 0"	693' 0"
Conglomerate and sandstone	8' 0"	701' 0"
Conglomerate	19' 0"	720' 0"
Conglomerate and mud	2' 0"	722' 0"
Conglomerate	7' 0"	729' 0"
Conglomerate, shale, sandstone	8' 0"	737' 0"
Sandstone	8' 0"	745' 0"
Conglomerate	18' 0"	763' 0"
Shale	54' 0"	817' 0"
Sandstone	3' 0"	820' 0"
Shale	146' 0"	966' 0"
Sandstone	43' 0"	1009' 0"
Shale	21' 0"	1030' 0"
Sandstone	31' 0"	1061' 0"
Shale	4' 0"	1065' 0"
Sandstone	5' 0"	1070' 0"
Shale	7' 6"	1077' 6"
Coal	1' 0"	1078' 6"
Shale	1' 10"	1080' 4"
Coal	4"	1080' 8"
Sandstone	81' 4"	1162' 0"

Prospect Hole No. 168 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	1' 0"	1163' 0"
Shale	3' 0"	1166' 0"
Sandstone	5' 0"	1171' 0"
Shale, sandy	4' 6"	1175' 6"
Coal	8"	1176' 2"
Sandstone	50' 3"	1226' 5"
Shale	4"	1226' 9"
Coal	9"	1227' 6"
Shale, coal	1' 4"	1228' 10"
Sandy shale	2' 2"	1231' 0"
Muddy shale	10' 0"	1241' 0"
Sandstone	72' 0"	1313' 0"
Shale	8' 0"	1321' 0"
Coal	1' 0"	1322' 0"
Shale	2' 6"	1324' 6"
Coal	6"	1325' 0"
Sandy shale	20' 0"	1345' 0"
Coal	1' 6"	1346' 6"
Shale	12' 6"	1359' 0"
Coal	6"	1359' 6"
Shale	2' 0"	1361' 6"
Coal	1' 0"	1362' 6"
Sandstone	30' 2"	1392' 8"
Shale	3' 4"	1396' 0"
Coal	1' 4"	1397' 4"
Sandstone	2' 6"	1399' 10"
Coal	4"	1400' 2"
Shale	2"	1400' 4"
Coal	4"	1400' 8"
Shale, sandstone	3' 4"	1404' 0"
Shale	1' 0"	1405' 0"
Bone	6"	1405' 6"
Shale	16' 0"	1421' 6"
Coal	1' 6"	1423' 0"
Shale	13' 0"	1436' 0"
Bone, coal	1' 4"	1437' 4"
Shale	1' 1"	1438' 5"
Coal	1' 3"	1439' 8"
Shale	4"	1440' 0"
Coal	6"	1440' 6"
Shale	4"	1440' 10"
Coal	4"	1441' 2"
Shale	8' 4"	1449' 6"
Coal	6"	1450' 0"
Shale	6"	1450' 6"
Coal	1' 0"	1451' 6"
Shale	2' 6"	1454' 0"
Sandstone	11' 0"	1465' 0"
Shale	10' 0"	1475' 0"
Sandstone	11' 0"	1486' 0"
Mud and shale	1' 0"	1487' 0"

Prospect Hole No. 168 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	3' 0"	1490' 0"
Sandstone	17' 0"	1507' 0"
Shale	4' 0"	1511' 0"
Sandstone	11' 0"	1522' 0"
Sandstone, shale	25' 6"	1547' 6"
Coal, shale bone	1' 6"	1549' 0"
Shale	2' 0"	1551' 0"
Sandstone	2' 0"	1553' 0"
Shale	2' 6"	1555' 6"
Sandstone	15' 6"	1571' 0"
Shale	2' 0"	1573' 0"
Sandstone	28' 6"	1601' 6"
Shale	47' 6"	1649' 0"
Coal	1' 0"	1650' 0"
Shale	6"	1650' 6"
Coal	1' 5"	1651' 11"
Shale	1"	1652' 0"
Coal	1' 0"	1653' 0"
Shale	1"	1653' 1"
Coal	1' 2"	1654' 3"
Shale	6' 0"	1660' 3"
Bone	1' 0"	1661' 3"
Coal	1' 9"	1663' 0"
Coal	3' 6"	1666' 6"
Shale	4"	1666' 10"
Coal	4"	1667' 2"
Shale	4' 10"	1672' 0"
Sandstone	1' 0"	1673' 0"
Shale	8' 0"	1681' 0"
Sandstone	11' 0"	1692' 0"
Shale	15' 0"	1707' 0"
Sandstone	5' 0"	1712' 0"
Shale	7' 0"	1719' 0"
Sandstone, shale	16' 0"	1735' 0"
Shale	8' 0"	1743' 0"
Sandstone	10' 0"	1753' 0"
Shale	2' 0"	1755' 0"
Sandstone	11' 6"	1760' 6"
Coal	2"	1766' 8"
Shale	6"	1767' 2"
Sandstone	4' 6"	1771' 8"
Shale	2' 4"	1774' 0"
Sandstone	8' 0"	1782' 0"
Sandstone, conglomerate	76' 0"	1858' 0"
Trap	4' 0"	1862' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 169 CX-169

Elevation: 276' 2" Depth: 1634' 0"

Location: Lot 22, Nelson District, V.I.

Date: 1922

	<u>Thickness</u>	<u>Depth</u>
Surface	13' 0"	13' 0"
Shale	170' 0"	183' 0"
Shale with hard bands	46' 0"	216' 0"
Shale	40' 0"	256' 0"
Shale, sandy bands	47' 0"	303' 0"
Shale	148' 0"	451' 0"
Sandstone	66' 0"	517' 0"
Shale	31' 0"	548' 0"
Shale, sandstone, pebbles	22' 0"	570' 0"
Conglomerate	114' 0"	684' 0"
Shale	299' 0"	983' 0"
Sandstone	45' 0"	1028' 0"
Sandy shale	12' 0"	1040' 0"
Sandstone	42' 0"	1082' 0"
Shale	1' 0"	1083' 0"
Coal	1' 0"	1084' 0"
Sandstone	10' 0"	1094' 0"
Shale	3' 0"	1097' 0"
Coal	1' 0"	1098' 0"
Shale	3' 0"	1101' 0"
Sandstone	84' 0"	1185' 0"
Shale	3' 0"	1188' 0"
Coal	1' 6"	1189' 6"
Shale	9' 0"	1198' 6"
Coal	6"	1199' 0"
Shale	2' 0"	1201' 0"
Sandstone	39' 0"	1240' 0"
Shale	2' 0"	1242' 0"
Bone	2' 0"	1244' 0"
Coal	8"	1244' 8"
Shale	1' 4"	1246' 0"
Sandstone	56' 0"	1302' 0"
Sandy shale	4' 0"	1306' 0"
Shale	14' 0"	1320' 0"
Coal	9"	1320' 9"
Shale	18' 3"	1339' 0"
Sandstone	21' 0"	1360' 0"
Coal	6"	1360' 6"
Shale	7' 6"	1368' 0"
Shale	9' 0"	1377' 0"

Bore Hole No. 169 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	29' 0"	1406' 0"
Shale	5' 0"	1411' 0"
Coal	1' 6"	1412' 6"
Shale	1' 6"	1414' 0"
Coal	1' 0"	1415' 0"
Shale, sandy	43' 0"	1458' 0"
Sandstone	20' 0"	1478' 0"
Shale	45' 0"	1523' 0"
Muddy coal	1' 6"	1524' 6"
Coal	1' 6"	1526' 0"
Shale	2' 0"	1528' 0"
Coal	6"	1528' 6"
Shale	7' 6"	1536' 0"
Sandstone	35' 0"	1571' 0"
Shale	6' 0"	1577' 0"
Coal, bony	1' 0"	1578' 0"
Coal	3' 6"	1581' 6"
Shale	6"	1582' 0"
Coal	1' 0"	1583' 0"
Sandy shale	18' 0"	1601' 0"
Shale	22' 0"	1623' 0"
Coal	1' 6"	1624' 6"
Coal, bony	6"	1625' 0"
Shale	3' 0"	1628' 0"
Trap	6' 0"	1634' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 170 CX-170

Elevation: 390' 0" Depth: 1349' 4"

Location: Sec. 25, Tsp. 10, Comox District, V.I.

Date: 1922

	<u>Thickness</u>	<u>Depth</u>
Sand, boulders	16' 0"	16' 0"
Gravel	11' 0"	27' 0"
Sand and boulders	5' 0"	32' 0"
Gravel	10' 0"	42' 0"
Sand, boulders	5' 0"	47' 0"
Gravel	71' 0"	118' 0"
Sand	10' 0"	128' 0"
Gravel and clay	7' 0"	135' 0"
Shale	244' 0"	379' 0"
Shale, sandstone bands	2' 0"	381' 0"
Shale	207' 0"	588' 0"
Sandstone	5' 0"	593' 0"
Shale	5' 0"	598' 0"
Sandstone	3' 0"	601' 0"
Shale	120' 0"	721' 0"
Sandstone	9' 0"	730' 0"
Shale	1' 0"	731' 0"
Sandy shale	4' 0"	735' 0"
Sandstone	15' 0"	750' 0"
Shale	6' 0"	756' 0"
Sandstone	33' 4"	789' 4"
Shale	4"	789' 8"
Coal	8"	790' 4"
Shale	9"	791' 1"
Coal	11"	792' 0"
Shale	2"	792' 2"
Coal	7"	792' 9"
Shale	1' 6"	794' 3"
Sandstone	90' 9"	885' 0"
Shale, coal	1' 0"	886' 0"
Shale	8' 0"	894' 0"
Shale	3' 0"	897' 0"
Coal	4"	897' 4"
Sandstone	3"	897' 7"
Coal	5"	898' 0"
Sandstone	19' 0"	917' 0"
Sandstone	5' 0"	922' 0"
Sandstone	11' 0"	933' 0"
Shale	7' 4"	940' 4"
Coal	8"	941' 0"

(2)

	<u>Thickness</u>	<u>Depth</u>
Coal, shale	1' 0"	942' 0"
Shale	20' 0"	962' 0"
Shale	13' 0"	975' 0"
Sandstone	73' 0"	1048' 0"
Shale, coal markings	14' 0"	1062' 0"
Shale	2' 0"	1064' 0"
Coal, shale	1' 0"	1065' 0"
Shale	6' 0"	1071' 0"
Sandstone	26' 0"	1097' 0"
Sandstone	5' 0"	1102' 0"
Shale	6' 0"	1108' 0"
Coal, shale	1' 0"	1109' 0"
Shale	1' 0"	1110' 0"
Shale, sandy	11' 0"	1121' 0"
Shale	6' 6"	1127' 6"
Coal	1' 0"	1128' 6"
Coal, shale	6"	1129' 0"
Shale	9' 0"	1138' 0"
Coal	1' 0"	1139' 0"
Shale	6' 0"	1145' 0"
Coal	3' 2"	1148' 2"
Shale	3' 0"	1151' 2"
Shale	6' 0"	1157' 2"
Shale	2' 0"	1159' 2"
Sandstone	10' 0"	1169' 2"
Shale	4' 0"	1173' 2"
Coal	1' 0"	1174' 2"
Shales	9' 0"	1183' 2"
Sandstone	15' 0"	1198' 2"
Coal	2"	1198' 4"
Shale	7' 0"	1205' 4"
Sand	10' 0"	1215' 4"
Sandstone	8' 0"	1223' 4"
Shale, coal markings	8' 0"	1231' 4"
Coal, shale	8"	1232' 0"
Shale, coal markings	7' 4"	1239' 4"
Shale	7' 0"	1246' 4"
Sandstone, shale	33' 0"	1279' 4"
Sandstone, shale	14' 0"	1293' 4"
Shale	14' 0"	1307' 4"
Sandstone	5' 0"	1312' 4"
Shale	11' 0"	1323' 4"
Conglomerate	12' 0"	1335' 4"
Congomerate	9' 0"	1344' 4"
Trap	5' 0"	1349' 4"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 171 C X-171

Elevation: 370' 0" Depth: 1445' 0"

Location: Block 79, Nelson District, V.I.

Date: 1922

	<u>Thickness</u>	<u>Depth</u>
Sand and gravel	15' 0"	15' 0"
Sand, clay	25' 0"	40' 0"
Gravel	2' 0"	42' 0"
Shale	1' 0"	43' 0"
Shale	38' 0"	81' 0"
Silt	8"	81' 8"
Shale	5' 4"	87' 0"
Sandstone	1' 0"	88' 0"
Shale	2' 0"	90' 0"
Sandstone	14' 0"	104' 0"
Shale, sandstone	6' 0"	110' 0"
Sandstone	1' 0"	111' 0"
Shale	1' 0"	112' 0"
Sandstone	6' 0"	118' 0"
Shale, sandstone	6' 0"	124' 0"
Sandstone	4' 0"	128' 0"
Sandstone, pebbles	21' 0"	149' 0"
Shale, sandstone	5' 0"	154' 0"
Sandstone, pebbles	26' 0"	180' 0"
Shale, sandstone	3' 0"	183' 0"
Sandstone	11' 0"	194' 0"
Sandstone	3' 0"	197' 0"
Sandstone	2' 0"	199' 0"
Shale, sandstone	1' 0"	200' 0"
Sandstone	3' 0"	203' 0"
Shale, sandstone	6' 0"	209' 0"
Sandstone	3' 0"	212' 0"
Shale, sandstone	3' 0"	215' 0"
Sandstone	6' 0"	221' 0"
Shales, sandstone	4' 0"	225' 0"
Sandstone	6' 0"	231' 0"
Shale, sandstone	13' 0"	244' 0"
Conglomerate	14' 0"	258' 0"
Sandstone	16' 0"	274' 0"
Conglomerate	7' 0"	281' 0"
Shale, sandstone	6' 0"	287' 0"
Mud and conglomerate	2' 0"	289' 0"
Sandstone	11' 0"	300' 0"
Shale, sandstone	2' 0"	302' 0"
Conglomerate	3' 0"	305' 0"
Shale,	33' 0"	338' 0"

Bore Hole No. 171 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	8' 0"	346' 0"
Conglomerate	3' 0"	349' 0"
Shale	6' 0"	355' 0"
Conglomerate	32' 0"	387' 0"
Sandstone	5' 0"	392' 0"
Conglomerate	2' 0"	394' 0"
Conglomerate	38' 0"	432' 0"
Conglomerate	4' 0"	436' 0"
Shale	3' 0"	439' 0"
Shale	19' 0"	458' 0"
Shale	6' 0"	464' 0"
Shale	98' 0"	562' 0"
Sandstone	1' 0"	563' 0"
Shale, sandstone	7' 0"	570' 0"
Shale	72' 0"	642' 0"
Shale, sandstone	20' 0"	662' 0"
Shale	59' 0"	721' 0"
Sandstone	1' 0"	722' 0"
Sandstone	14' 0"	736' 0"
Shale	2' 0"	738' 0"
Shale, sandy	6' 0"	744' 0"
Snadstone	14' 0"	758' 0"
Shale, sandy	8' 0"	766' 0"
Sandstone	8' 0"	774' 0"
Sandstone	19' 0"	793' 0"
Shale	1' 0"	794' 0"
Sandstone, shale	4' 0"	798' 0"
Sandstone, shale	7' 10"	805' 10"
Coal	10"	806' 8"
Shale	2' 0"	808' 8"
Sandstone	45' 4"	854' 0"
Sandstone	28' 0"	882' 0"
Sandstone	14' 3"	896' 3"
Coal	6"	896' 9"
Coal	6"	897' 3"
Shale	1' 9"	899' 0"
Shale	2' 0"	901' 0"
Shale, sandy	7' 6"	908' 6"
Coal	6"	909' 0"
Sandstone	10' 0"	919' 0"
Sandstone	18' 0"	937' 0"
Sandstone, shale	4' 0"	941' 0"
Sandstone	9' 0"	950' 0"
Sandstone	3' 0"	953' 0"
Sandstone, shale	5' 0"	958' 0"
Sandstone	6' 8"	964' 8"
Shale	10"	965' 6"
Coal, bone	1' 6"	967' 0"
Shale	6"	967' 6"
Bone	4"	967' 10"
Shale	8"	968' 6"

Bore Hole No. 171 cont'd

	<u>Thickness</u>	<u>Depth</u>
Bone, coal	1' 6"	970' 0"
Sandstone	19' 0"	989' 0"
Sandstone	56' 0"	1045' 0"
Shale	1' 0"	1046' 0"
Sandstone	11' 0"	1057' 0"
Shale	10' 0"	1067' 0"
Shale, sandy	9' 6"	1076' 6"
Shale	2"	1076' 8"
Sandstone	1' 10"	1078' 6"
Coal	1' 6"	1080' 0"
Shale	1' 0"	1081' 0"
Coal	1' 0"	1082' 0"
Shale	3' 0"	1085' 0"
Coal	1' 0"	1086' 0"
Shale	1' 2"	1087' 2"
Coal	2"	1087' 4"
Shale, coal bands	1' 6"	1088' 10"
Coal	8"	1089' 6"
Shale	6"	1090' 0"
Coal	1' 0"	1091' 0"
Shale with coal layers	1' 6"	1092' 6"
Bone	6"	1093' 0"
Shale	6' 0"	1099' 0"
Sandstone	18' 0"	1117' 0"
Shale, sandstone	6' 0"	1123' 0"
Coal	4"	1123' 4"
Shale	10' 8"	1134' 0"
Shale	13' 0"	1147' 0"
Sandstone	6' 0"	1153' 0"
Shale	7' 0"	1160' 0"
Coal	1' 10"	1161' 10"
Shale	2"	1162' 0"
Coal	2' 10"	1164' 10"
Shale	4"	1165' 2"
Coal	10"	1166' 0"
Shale	1' 0"	1167' 0"
Shale	2' 6"	1169' 6"
Shale, sandy	2' 0"	1171' 6"
Sandstone	1' 6"	1173' 0"
Sandstone	33' 0"	1206' 0"
Shale	7' 8"	1213' 8"
Coal	1' 4"	1215' 0"
Shale	9' 0"	1224' 0"
Sandstone	1' 4"	1225' 4"
Coal	4"	1225' 8"
Shale	4"	1226' 0"
Shale	8' 0"	1234' 0"
Sandstone	1' 0"	1235' 0"
Sandstone	15' 0"	1250' 0"
Shale	12' 0"	1262' 0"
Coal	2' 0"	1264' 0"

②

	<u>Thickness</u>	<u>Depth</u>
Shale	1' 0"	1265' 0"
Shale	5' 0"	1270' 0"
Shale	6"	1270' 6"
Sandstone	52' 6"	1323' 0"
Bone	4"	1323' 4"
Shale	1' 8"	1325' 0"
Shale	2' 0"	1327' 0"
Shale	3' 0"	1330' 0"
Shale	5' 0"	1335' 0"
Sandstone	21' 0"	1356' 0"
Shale	9' 0"	1365' 0"
Shale, sandstone	13' 6"	1378' 6"
Shale	1' 0"	1379' 6"
Bone, shale	2' 0"	1381' 6"
Coal	2' 0"	1383' 6"
Shale	23' 0"	1406' 6"
Bone and coal	6"	1407' 0"
Shale	4' 0"	1411' 0"
Coal, bone	1' 0"	1412' 0"
Shale	4' 0"	1416' 0"
Bone	4"	1416' 4"
Shale	10' 8"	1427' 0"
Shale	3' 0"	1430' 0"
Shale	3' 0"	1433' 0"
Sandstone	2' 0"	1435' 0"
Trap	10' 0"	1445' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 172 *CX-172*

Elevation: 508' 4" Depth: 405' 0"

Location: Sec. 26; Tsp. 10, Comox District

Date: 1923

	<u>Thickness</u>	<u>Depth</u>
Surface	38' 0"	38' 0"
Sandstone	82' 0"	120' 0"
Coal	1' 0"	121' 0"
Sandstone	2"	121' 2"
Coal	6"	121' 8"
Sandstone	58' 4"	180' 0"
Shale	1' 0"	181' 0"
Coal	6"	181' 6"
Shale	1' 0"	182' 6"
Coal	6"	183' 0"
Shale	1' 6"	184' 6"
Coal	3"	184' 9"
Sandstone	101' 3"	286' 0"
Shale	2' 8"	288' 8"
Coal	10"	289' 6"
Shale	1' 0"	290' 6"
Coal	1' 0"	291' 6"
Shale	2"	291' 8"
Coal	1' 0"	292' 8"
Shale	2"	292' 10"
Coal	2' 2"	295' 0"
Sandstone	75' 0"	370' 0"
Shale	5' 0"	375' 0"
Shale	16' 6"	391' 6"
Coal	2' 5"	393' 11"
Shale	11' 1"	405' 0"

②

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 173 *CX-173*

Elevation: 466' 0" Depth: 796' 0"

Location: Sec. 26, Tsp. 10, Comox District, V.I.

Date: 1923

	<u>Thickness</u>	<u>Depth</u>
Gravel	35' 0"	35' 0"
Shale	5' 0"	40' 0"
Sandstone	9' 0"	49' 0"
Shale	25' 0"	74' 0"
Shale	102' 0"	176' 0"
Sandstone	7' 0"	183' 0"
Shale	30' 0"	213' 0"
Sandstone	181' 0"	394' 0"
Coal	2' 0"	396' 0"
Shale	2' 0"	398' 0"
Coal	1' 0"	399' 0"
Sandstone	83' 0"	482' 0"
Shale	6' 0"	488' 0"
Coal	1' 0"	489' 0"
Shale	8' 0"	497' 0"
Coal	1' 0"	498' 0"
Coal, shale	2' 0"	500' 0"
Coal	6"	500' 6"
Shale	1' 6"	502' 0"
Sandstone	64' 0"	566' 0"
Coal	1' 0"	567' 0"
Shale	9' 0"	576' 0"
Coal	1' 0"	577' 0"
Shale	19' 0"	596' 0"
Coal	4' 0"	600' 0"
Shale	9"	600' 9"
Coal	2"	600' 11"
Shale	1"	601' 0"
Coal	4"	601' 4"
Shale	4"	601' 8"
Coal	1' 0"	602' 0"
Shale	2' 0"	604' 8"
Coal, shale	4"	605' 0"
Shale	3' 0"	608' 0"
Sandstone	27' 0"	635' 0"
Shale	3' 0"	638' 0"
Coal	1' 0"	639' 0"
Shale	2' 0"	641' 0"
Sandstone	52' 2"	693' 2"
Shale	5"	693' 7"

Bore Hole No. 173 cont'd

1

	<u>Thickness</u>	<u>Depth</u>	
Sandstone	5"	694'	0"
Shale, sandstone	3' 6"	697'	6"
Shale	1' 6"	699'	0"
Coal	2' 6"	701'	6"
Shale	3' 6"	705'	0"
Sandstone	79' 0"	784'	0"
Coal	2"	784'	2"
Shale	10"	785'	0"
Coal and shale	5' 0"	790'	0"
Shale	5' 0"	795'	0"
Trap	1' 0"	796'	0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 174 *CX-174*

Elevation: 441' 0" Depth: 1015' 0"

Location: Sec. 26, Tsp. 10, Comox District, V.I.

Date: 1923

	<u>Thickness</u>	<u>Depth</u>
Surface	65' 0"	65' 0"
Sandstone	20' 0"	80' 0"
Shale	170' 0"	250' 0"
Sandstone	5' 0"	255' 0"
Shale	56' 0"	311' 0"
Sandstone	12' 0"	323' 0"
Shale	27' 0"	350' 0"
Sandstone	6' 0"	356' 0"
Shale	2' 0"	358' 0"
Sandstone	17' 0"	375' 0"
Shale	9' 0"	384' 0"
Sandstone	175' 0"	559' 0"
Coal	6"	559' 6"
Shale	7' 0"	566' 6"
Coal	8"	567' 2"
Shale	1' 10"	569' 0"
Coal	3"	569' 3"
Shale	2"	569' 5"
Coal	5"	569' 10"
Sandstone	25' 2"	595' 0"
Sandstone with shale	25' 0"	620' 0"
Shale	21' 0"	641' 0"
Sandstone	7' 0"	648' 0"
Coal	2' 0"	650' 0"
Shale	4' 6"	654' 6"
Coal	4"	654' 10"
Shale	51' 2"	660' 0"
Coal	9"	660' 9"
Shale	8' 3"	669' 0"
Sandstone	62' 0"	731' 0"
Shale	3' 0"	734' 0"
Coal	6"	734' 6"
Shale	32' 6"	767' 0"
Coal	6"	767' 6"
Shale	6"	768' 0"
Coal	1' 0"	769' 0"
Shale	1' 0"	770' 0"
Sandstone	33' 0"	803' 0"
Shale	3' 6"	806' 6"
Coal	8"	807' 2"

Bore Hole No. 174 cont'd

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	<u>Thickness</u>	<u>Depth</u>	
Shale	6"	807'	8"
Coal	1' 0"	808'	8"
Shale	1' 4"	810'	0"
Sandstone	50' 2"	860'	2"
Coal	1' 10"	862'	0"
Shale	48' 0"	910'	0"
Coal	2' 0"	912'	0"
Shale	41' 0"	953'	0"
Coal, shale	3' 0"	956'	0"
Shale	52' 0"	1008'	0"
Trap	7' 0"	1015'	0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

(2)

Bore Hole No. 175 *CX-175*

Elevation: 563' 6" Depth: 443' 0"

Location: Sec. 3, Nelson District, V.I.

Date: 1923

	<u>Thickness</u>	<u>Depth</u>
Surface	56' 0"	56' 0"
Shale, coal	7' 0"	63' 0"
Sandstone	72' 0"	135' 0"
Shale, sandstone	23' 0"	158' 0"
Sandstone	3' 0"	161' 0"
Shale	9' 0"	170' 0"
Sandstone	55' 0"	225' 0"
Coal	1' 0"	226' 0"
Shale	1' 0"	227' 0"
Sandstone	5' 0"	232' 0"
Shale	16' 0"	248' 0"
Shale	1' 0"	249' 0"
Coal	1' 6"	250' 6"
Shale	1' 6"	252' 0"
Coal	2' 0"	254' 0"
Shale	3' 0"	257' 0"
Coal	1' 3"	258' 3"
Shale	11' 9"	270' 0"
Sandstone	28' 0"	298' 0"
Shale	6' 0"	304' 0"
Shale, coal	2' 0"	306' 0"
Sandstone	32' 0"	338' 0"
Shale, sandy	2' 0"	340' 0"
Sandstone	7' 0"	347' 0"
Shale coal markings	13' 0"	360' 0"
Shale,	12' 0"	372' 0"
Sandstone	2' 0"	374' 0"
Shale	2' 0"	376' 0"
Sandstone	41' 0"	417' 0"
Shale	10' 0"	427' 0"
Shale, coal	1' 0"	428' 0"
Coal	4' 0"	432' 0"
Shale	1' 0"	433' 0"
Shale, coal	3' 0"	436' 0"
Coal	1' 0"	437' 0"
Shale, coal	2' 0"	439' 0"
Trap	4' 0"	443' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 176 CX-176

Elevation: 399' ^{5"} 399' 5" Depth: 1370' 0"

Location: Sec. 36, Comox District, V.I.

Date: 1923

	<u>Thickness</u>	<u>Depth</u>
Surface	91' 0"	91' 0"
Shale	45' 0"	136' 0"
Shale	95' 0"	231' 0"
Shale	359' 0"	590' 0"
Shale	40' 0"	630' 0"
Shale	17' 0"	647' 0"
Sandstone	8' 0"	655' 0"
Shale	30' 0"	685' 0"
Sandstone	7' 0"	692' 0"
Shale	6' 0"	698' 0"
Sandstone	27' 0"	725' 0"
Shale	4' 0"	729' 0"
Shale	2' 0"	731' 0"
Coal	1' 6"	732' 6"
Shale	1' 6"	734' 0"
Sandstone	93' 0"	827' 0"
Coal	1' 2"	828' 2"
Shale	9' 0"	837' 2"
Coal	1' 0"	838' 2"
Sandstone	66' 10"	905' 0"
Shale	1' 0"	906' 0"
Coal	1' 0"	907' 0"
Coal	1' 0"	908' 0"
Shale	3' 0"	911' 0"
Sandstone	61' 0"	972' 0"
Shale	12' 0"	984' 0"
Sandstone	6' 0"	990' 0"
Coal, shale	2' 0"	992' 0"
Coal	1' 3"	993' 3"
Shale	19' 9"	1013' 0"
Coal	1' 0"	1014' 0"
Shale	12' 0"	1026' 0"
Sandstone	42' 0"	1068' 0"
Shale	1' 0"	1069' 0"
Coal	1' 6"	1070' 6"
Shale	7' 6"	1078' 0"
Shale	3' 6"	1081' 6"
Shale	10"	1082' 4"
Coal	8"	1083' 0"
Shale	17' 0"	1100' 0"

	<u>Thickness</u>	<u>Depth</u>
Sandstone	17' 0"	1117' 0"
Shale	4' 0"	1121' 0"
Coal	8"	1121' 8"
Sandstone, shale	10' 4"	1132' 0"
Shale	3' 0"	1135' 0"
Coal	4"	1135' 4"
Shale, coal markings	3' 8"	1139' 0"
Shale	5' 0"	1144' 0"
Sandstone	5' 0"	1149' 0"
Sandstone	13' 0"	1162' 0"
Shale	9' 0"	1171' 0"
Sandstone	10' 0"	1181' 0"
Shale	8"	1181' 8"
Coal	4"	1182' 0"
Shale	8' 0"	1190' 0"
Shale	3' 0"	1193' 0"
Sandstone	24' 0"	1217' 0"
Shale	11' 0"	1228' 0"
Shale	1' 0"	1229' 0"
Coal	1' 6"	1230' 6"
Coal	1' 0"	1231' 6"
Shale	2"	1231' 8"
Coal	2' 0"	1233' 8"
Shale	2' 4"	1236' 0"
Sandstone	32' 0"	1268' 0"
Sandstone	5' 0"	1273' 0"
Shale	40' 0"	1313' 0"
Shale, coal	1' 4"	1314' 4"
Shale	1' 8"	1316' 0"
Coal	3' 0"	1319' 0"
Shale	9' 0"	1328' 0"
Shale	12' 0"	1340' 0"
Sandstone	12' 0"	1352' 0"
Shale	2' 0"	1354' 0"
Shale	4' 0"	1358' 0"
Trap	12' 0"	1370' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 177 CX-177

Elevation: 322' 0" Depth: 1399' 0"

Location: Lot 15, Nelson District, V.I.

Date: 1923

	<u>Thickness</u>	<u>Depth</u>
Boulders, coarse gravel	31' 6"	31' 6"
Shale	1' 0"	32' 6"
Shale	3' 6"	36' 0"
Shale	31' 0"	67' 0"
Shale	20' 0"	87' 0"
Shale	45' 0"	132' 0"
Sandstone	1' 6"	133' 6"
Conglomerate	7' 6"	141' 0"
Sandstone	4' 0"	145' 0"
Shale, sandstone	2' 0"	147' 0"
Sandstone	18' 0"	165' 0"
Sandstone	7' 0"	172' 0"
Sandstone	3' 0"	175' 0"
Shale	11' 0"	186' 0"
Sandstone	2' 0"	188' 0"
Shale	2' 0"	190' 0"
Sandstone	3' 0"	193' 0"
Shale	12' 0"	205' 0"
Sandstone	3' 0"	208' 0"
Sandstone	14' 0"	222' 0"
Shale, sandstone	4' 0"	226' 0"
Conglomerate	4' 0"	230' 0"
Shale, sandstone	5' 0"	235' 0"
Conglomerate	1' 0"	236' 0"
Shale, sandstone	4' 0"	240' 0"
Sandstone	7' 0"	247' 0"
Conglomerate	1' 0"	248' 0"
Shale, sandstone	2' 0"	250' 0"
Conglomerate	2' 0"	252' 0"
Shale	12' 0"	264' 0"
Shale	3' 0"	267' 0"
Shale, sandstone bands	41' 0"	308' 0"
Shale, sandstone	30' 0"	338' 0"
Shale, pebbles	37' 0"	375' 0"
Conglomerate, shale	1' 0"	376' 0"
Shale, sandstone	2' 0"	378' 0"
Conglomerate, sandstone	1' 0"	379' 0"
Sandstone	2' 0"	381' 0"
Conglomerate, sandstone	3' 0"	384' 0"
Shale, conglomerate bands	5' 0"	389' 0"

	<u>Thickness</u>	<u>Depth</u>
Shale, conglomerate	5' 0"	394' 0"
Shale	3' 0"	397' 0"
Conglomerate, sandstone	1' 0"	398' 0"
Broken conglomerate	2' 0"	400' 0"
Sandy shale	2' 0"	402' 0"
Conglomerate	7' 0"	409' 0"
Conglomerate	22' 0"	431' 0"
Shale	1' 6"	432' 6"
Conglomerate boulders	9' 0"	441' 6"
Shale, sandy	148' 6"	590' 0"
Shale	20' 0"	610' 0"
Sandstone	2' 0"	612' 0"
Shale	58' 0"	670' 0"
Shale	54' 0"	724' 0"
Shale	7' 0"	731' 0"
Sandstone	2' 0"	733' 0"
Sandstone	6' 0"	739' 0"
Sandstone	14' 0"	753' 0"
Shale	25' 0"	778' 0"
Sandstone	33' 0"	811' 0"
Shale	1' 0"	812' 0"
Shale	1' 0"	813' 0"
Shale, sandstone	13' 0"	826' 0"
Shale	4' 0"	831' 0"
Shale	3' 0"	834' 0"
Sandstone	6' 0"	840' 0"
Shale	2' 0"	842' 0"
Sandstone	10' 0"	852' 0"
Sandstone	44' 0"	896' 0"
Sandstone	20' 0"	916' 0"
Sandstone	7' 0"	923' 0"
Coal	1' 0"	924' 0"
Shale	5' 0"	929' 0"
Shale	5' 0"	934' 0"
Coal, bone	1' 6"	935' 0"
Sandstone	21' 6"	957' 0"
Sandstone	15' 0"	972' 0"
Sandstone	15' 0"	987' 0"
Sandstone	7' 0"	994' 0"
Sandstone	1' 0"	995' 0"
Coal	1' 0"	996' 0"
Shale	60' 0"	1002' 0"
Coal	1' 0"	1003' 0"
Sandstone	10' 0"	1013' 0"
Sandstone	18' 0"	1031' 0"
Sandstone	25' 0"	1056' 0"
Shale	4' 0"	1060' 0"
Sandstone	13' 6"	1073' 6"
Shale	2' 9"	1076' 3"
Coal	9"	1077' 0"
Bone, shale	1' 0"	1078' 0"

Bore Hole No. 177 cont'd

	<u>Thickness</u>	<u>Depth</u>	
Shale	2' 0"	1080'	0"
Shale	8' 0"	1088'	0"
Shale	11' 0"	1099'	0"
Shale	6"	1099'	6"
Coal	1' 10"	1101'	4"
Shale	2"	1101'	6"
Coal	1' 2"	1102'	8"
Shale	5' 4"	1108'	0"
Sandstone	13' 0"	1121'	0"
Sandstone	12' 0"	1133'	0"
Shale, sandstone	2' 0"	1135'	0"
Shale	1' 0"	1136'	0"
Coal	1' 0"	1137'	0"
Shale	3' 0"	1140'	0"
Shale	4' 0"	1144'	0"
Shale	2' 0"	1146'	0"
Shale	8' 0"	1154'	0"
Sandstone	36' 0"	1190'	0"
Coal	1' 0"	1191'	0"
Shale	6' 5"	1197'	5"
Coal	2' 11"	1200'	4"
Shale	1' 2"	1201'	6"
Coal	1' 8"	1203'	2"
Shale	2' 0"	1205'	2"
Shale, sandy	2' 10"	1208'	0"
Sandstone	11' 0"	1219'	0"
Shale	10' 0"	1229'	0"
Coal	1' 0"	1230'	0"
Shale	5' 0"	1235'	0"
Shale	3' 0"	1238'	0"
Sandstone, shale	23' 0"	1261'	0"
Shale	14' 0"	1275'	0"
Bone, mud	1' 0"	1276'	0"
Coal, shale	2' 0"	1278'	0"
Shale	4' 6"	1282'	6"
Coal	6"	1283'	0"
Shale	1' 0"	1284'	0"
Sandstone	1' 0"	1285'	0"
Shale	3' 0"	1288'	0"
Sandstone	10' 0"	1298'	0"
Shale	5' 0"	1303'	0"
Sandstone	7' 0"	1310'	0"
Sandstone	6' 6"	1316'	6"
Shale and coal	1' 0"	1317'	6"
Shale	4' 6"	1322'	0"
Sandstone	9' 0"	1331'	0"
Sandstone	10' 0"	1341'	0"
Sandstone	12' 4"	1353'	4"
Shale	16' 2"	1369'	6"
Coal	6"	1370'	0"
Shale	3' 0"	1373'	0"

Bore Hole No. 177 cont'd

	<u>Thickness</u>	<u>Depth</u>	
Bone, coal	2' 0"	1375'	0"
Shale	1' 0"	1376'	0"
Bone, shale layers	1' 0"	1377'	0"
Shale	8' 0"	1385'	0"
Coal	1' 0"	1386'	0"
Shale, bone	4' 0"	1390'	0"
Trap	9' 0"	1399'	0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 178 CX-178

Elevation: 600' 0" Depth: 629' 0"

Location: Block 344, Nelson District, V.I.

Date: 1923

	<u>Thickness</u>	<u>Depth</u>
Surface	15' 0"	15' 0"
Shale	129' 0"	144' 0"
Sandstone	41' 0"	185' 0"
Shale	4' 0"	189' 0"
Coal, shale	1' 0"	190' 0"
Sandstone	90' 0"	280' 0"
Coal	1' 0"	281' 0"
Sandstone	53' 0"	334' 0"
Shale	2' 0"	336' 0"
Coal, shale	2' 0"	338' 0"
Shale	1' 0"	339' 0"
Coal, shale	2' 0"	341' 0"
Sandstone	69' 0"	410' 0"
Shale	3' 0"	413' 0"
Shale,	20' 0"	433' 0"
Sandstone	8' 0"	441' 0"
Shale,	4' 0"	445' 0"
Coal	1' 0"	446' 0"
Shale	3' 0"	449' 0"
Sandstone	47' 0"	496' 0"
Shale	14' 0"	510' 0"
Sandstone	2' 0"	512' 0"
Shale	12' 6"	524' 6"
Coal	2' 0"	526' 6"
Shale	2' 6"	529' 0"
Coal	1' 0"	530' 0"
Shale	6"	530' 6"
Coal	1' 6"	532' 0"
Shale	7' 0"	539' 0"
Sandstone	27' 0"	566' 0"
Coal	1' 6"	567' 6"
Shale	3' 6"	571' 0"
Sandstone	19' 0"	590' 0"
Shale	5' 0"	595' 0"
Sandstone	3' 0"	598' 0"
Shale	3' 0"	601' 0"
Coal	3' 0"	604' 0"
Shale	1' 0"	605' 0"
Sandstone	18' 0"	623' 0"
Trap	6' 0"	629' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 179 *CX-179*

Elevation: 440' 0" Depth: 941' 0"

Location: Lot 24, Nelson District, V.I.

Date: 1923

	<u>Thickness</u>	<u>Depth</u>
Surface	66' 0"	66' 0"
Shale	204' 0"	270' 0"
Shale, clayey	6' 0"	276' 0"
Shale, sandy	8' 0"	284' 0"
Shale, clayey	29' 0"	313' 0"
Shale, sandstone bands	34' 0"	347' 0"
Sandstone	3' 0"	350' 0"
Shale	107' 0"	457' 0"
Shale	3' 0"	460' 0"
Sandstone	6' 0"	466' 0"
Shale	9' 0"	475' 0"
Sandstone	12' 0"	487' 0"
Shale	4' 0"	491' 0"
Sandstone	24' 6"	515' 6"
Coal	1' 6"	517' 0"
Shale	1' 0"	518' 0"
Sandstone	88' 0"	606' 0"
Shale	9' 0"	615' 0"
Coal, shale	1' 0"	616' 0"
Sandstone	43' 0"	659' 0"
Shale	2' 0"	661' 0"
Coal	2' 6"	663' 6"
Shale	4' 6"	668' 0"
Sandstone	75' 0"	743' 0"
Shale	6' 0"	749' 0"
Sandstone	28' 0"	777' 0"
Shale, coal	2' 0"	779' 0"
Shale	2' 0"	781' 0"
Sandstone	71' 0"	852' 0"
Shale	5' 0"	857' 0"
Sandstone	1' 0"	858' 0"
Shale	7' 0"	865' 0"
Shale, coal	1' 0"	866' 0"
Shale	3' 0"	869' 0"
Shale	8' 0"	877' 0"
Shale	3' 0"	880' 0"
Shale	11' 0"	891' 0"
Sandstone	10' 0"	901' 0"
Shale	5' 8"	906' 8"
Coal, shale	2' 0"	908' 8"

Bore Hole No. 179 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	1' 4"	910' 0"
Sandstone	14' 0"	924' 0"
Shale	1' 0"	925' 0"
Coal	11' 0"	936' 0"
Coal, shale	2' 0"	938' 0"
Trap	3' 0"	941' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 180' CX-180

Elevation: 442' 0" Depth: 738' 0"

Location: Lot 24, Nelson District, V.I.

Date: 1923

	<u>Thickness</u>	<u>Depth</u>
Coarse gravel and boulders	92' 0"	92' 0"
Shales	2' 0"	94' 0"
Shale	17' 0"	111' 0"
Shale	18' 0"	129' 0"
Sandstone	16' 0"	145' 0"
Shale	60' 0"	205' 0"
Shale	40' 0"	245' 0"
Sandstone	19' 0"	264' 0"
Shale	14' 0"	278' 0"
Sandstone	9' 0"	287' 0"
Shale	7' 0"	294' 0"
Sandstone	19' 6"	313' 6"
Coal	1' 6"	315' 0"
Sandstone	37' 0"	352' 0"
Sandstone	49' 0"	401' 0"
Sandstone	7' 0"	408' 0"
Shale	10' 6"	418' 6"
Coal	6"	419' 0"
Sandstone	51' 0"	470' 0"
Shale	3' 0"	473' 0"
Coal, shale	3' 0"	476' 0"
Sandstone	57' 0"	533' 0"
Shale	2' 0"	535' 0"
Sandstone	43' 0"	578' 0"
Coal	4' 0"	582' 0"
Shale	1' 0"	583' 0"
Coal, shale	1' 6"	584' 6"
Shale	1' 6"	586' 0"
Sandstone	53' 0"	639' 0"
Shale	2' 0"	641' 0"
Coal	1' 0"	642' 0"
Shale	4' 0"	646' 0"
Shale	9' 0"	655' 0"
Coal, shale	1' 0"	656' 0"
Shale	20' 0"	676' 0"
Coal, shale	5' 0"	681' 0"
Shale	4' 0"	685' 0"
Sandstone	15' 0"	700' 0"
Sandstone	8' 0"	708' 0"
Shale, coal	2' 0"	710' 0"

Bore Hole No. 180 cont'd

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	<u>Thickness</u>	<u>Depth</u>
Sandstone	14' 0"	724' 0"
Shale	5' 0"	729' 0"
Sandstone	5' 0"	734' 0"
Shale	1' 0"	735' 0"
Coal, shale	1' 0"	736' 0"
Trap	2' 0"	738' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 181 *CX-181*

Elevation: 479' 1" Depth: 289' 0"

Location: Sec. 33, Tsp. 10, Comox District

Date: 1926

	<u>Thickness</u>	<u>Depth</u>
Gravel	13' 0"	13' 0"
Sandstone	12' 0"	25' 0"
Shale, coal markings	9' 0"	34' 0"
Sandstone	28' 4"	62' 4"
Coal	8"	63' 0"
Shale	4' 0"	67' 0"
Sandstone	6' 0"	73' 0"
Shale, sandy	8' 8"	81' 8"
Coal	6"	82' 2"
Shale	4' 0"	86' 2"
Coal	4"	86' 6"
Shale	12' 6"	99' 0"
Sandstone	66' 8"	165' 8"
Shale	2' 0"	167' 8"
Coal	8"	168' 4"
Shale	5' 0"	173' 4"
Coal	4"	173' 8"
Shale	32' 4"	206' 0"
Coal	1' 4"	207' 4"
Shale	1' 3"	208' 7"
Coal	9"	209' 4"
Shale	7"	209' 11"
Coal	1' 0"	210' 11"
Coal, shale	1' 0"	211' 11"
Shale	6"	212' 5"
Coal	7"	213' 0"
Shale	4' 0"	217' 0"
Sandstone	37' 0"	254' 0"
Shale	2' 0"	256' 0"
Coal	1' 0"	257' 0"
Shale	24' 6"	281' 6"
Coal	1' 6"	283' 0"
Drilled into workings of No. 4	6' 0"	289' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 182 CX-182

Elevation: 497' 4" Depth: 251' 0"

Location: Sec. 33, Tsp. 10, Comox District, V.I.

Date: 1926

	<u>Thickness</u>	<u>Depth</u>
Gravel	36' 0"	36' 0"
Sandstone	74' 6"	111' 6"
Shale	3' 0"	114' 6"
Coal	1' 0"	115' 6"
Shale, coal	1' 6"	117' 0"
Shale	2' 0"	119' 0"
Coal	1' 0"	120' 0"
Coal, shale	1' 0"	121' 0"
Shale, sandy	9' 0"	130' 0"
Shale, sandstone bands	7' 0"	137' 0"
Coal	1' 6"	138' 6"
Coal, shale	1' 0"	139' 6"
Shale	6"	140' 0"
Coal	6"	140' 6"
Shale	13' 0"	153' 6"
Sandstone	28' 6"	182' 0"
Shale	1' 0"	183' 0"
Coal	1' 0"	184' 0"
Coal and shale	1' 0"	185' 0"
Shale, clay	3' 0"	188' 0"
Sandstone	10' 0"	198' 0"
Sandstone, shale bands	46' 6"	244' 6"
Coal	6"	245' 0"

Drilled into workings of No. 4 mine

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 183 CX-183

Elevation: 452' 0" Depth: 48' 8"

Location: Sec. 33, Tsp. 10, Comox District, V.I.

Date: 1931

	<u>Thickness</u>	<u>Depth</u>
Gravel and boulders	43' 8"	43' 8"
Trap rock	5' 0"	48' 8"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 184 *CX-184*

Elevation: 517' 0" Depth: 201' 6"

Location: Sec. 33, Tsp. 10, Comox District,

Date: 1931

	<u>Thickness</u>	<u>Depth</u>
Gravel	17' 0"	17' 0"
Sandstone	53' 0"	70' 0"
Shale	7' 0"	77' 0"
Coal	2' 0"	79' 0"
Shale	2' 0"	81' 0"
Coal	1' 6"	82' 6"
Shale	1' 0"	83' 6"
Coal	1' 6"	85' 0"
Shale	1' 6"	86' 6"
Coal	1' 0"	87' 6"
Shale	8' 0"	95' 6"
Sandstone	21' 0"	116' 6"
Coal	8"	117' 2"
Shale	4"	117' 6"
Coal	9"	118' 3"
Shale	35' 3"	153' 6"
Coal	6"	154' 0"
Shale	16' 6"	170' 6"
Coal	1' 6"	172' 0"
Shale	1' 0"	173' 0"
Coal, shale	1' 0"	174' 0"
Shale	1' 0"	175' 0"
Coal	1' 0"	176' 0"
Coal, shale	1' 0"	177' 0"
Coal	2' 0"	179' 0"
Coal, shale	6"	179' 6"
Sandstone	15' 0"	194' 6"
Sandstone, shale	7' 0"	201' 6"

2

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 185 CX-185

Elevation: 212' 0" Depth: 1322' 0"

Location: Lot 227, Comox District, V.I.

Date: 1940

	<u>Thickness</u>	<u>Depth</u>
Surface	9' 6"	9' 6"
Soft shale	9' 6"	19' 0"
Shale	97' 0"	116' 0"
Shale and sandstone	13' 0"	129' 0"
Shale	10' 0"	139' 0"
Shale and sandstone	15' 0"	154' 0"
Sandstone	4' 0"	158' 0"
Shale and sandstone	28' 0"	186' 0"
Shale	23' 0"	209' 0"
Sandstone	8' 0"	217' 0"
Sandstone, shale	12' 0"	229' 0"
Sandstone	9' 0"	238' 0"
Shale, sandstone	17' 0"	255' 0"
Sandstone, shale	10' 0"	265' 0"
Sandstone	9' 0"	274' 0"
Sandstone	7' 0"	281' 0"
Sandstone, shale	31' 0"	316' 0"
Shale	8' 0"	320' 0"
Shale	69' 0"	389' 0"
Sandstone	21' 0"	410' 0"
Shale	10' 0"	420' 0"
Shale	8' 0"	428' 0"
Shale	4' 0"	432' 0"
Sandstone, shale	14' 0"	446' 0"
Shale	34' 0"	480' 0"
Sandstone	3' 0"	483' 0"
Shale	11' 0"	494' 0"
Shale, sandstone	88' 0"	582' 0"
Shale	41' 6"	623' 6"
Sandstone	2' 6"	626' 0"
Sandstone	45' 0"	671' 0"
Sandstone, shale	2' 0"	673' 0"
Sandstone, shale	12' 0"	685' 0"
Sandstone, shale	8' 0"	693' 0"
Sandstone, shale	19' 0"	712' 0"
Sandstone, shale	16' 0"	728' 0"
Sandstone, shale	21' 6"	749' 6"
Shale	3' 6"	753' 0"
Shale	10"	753' 10"
Coal	2"	754' 0"

Bore Hole No. 185 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	2"	754' 2"
Coal	8"	754' 10"
Shale	2' 0"	755' 10"
Sandstone	83' 2"	840' 0"
Coal, shale	10"	840' 10"
Shale	6"	841' 4"
Coal	6"	841' 10"
Shale, coal	2"	842' 0"
Shale	5' 2"	847' 2"
Shale	3"	847' 5"
Coal, shale	4"	847' 9"
Coal	3"	848' 0"
Sandstone	1"	848' 1"
Coal, shale	2"	848' 3"
Coal	3"	848' 6"
Coal, shale	2"	848' 8"
Coal	3"	848' 11"
Coal, shale	2"	849' 1"
Shale	6"	849' 7"
Sandstone	53' 11"	903' 6"
Shale	1' 0"	904' 6"
Shale, coal	1"	904' 7"
Coal	3"	904' 10"
Shale	10"	905' 8"
Coal, shale	4"	906' 0"
Coal	4"	906' 4"
Shale, coal	5"	906' 9"
Coal	5"	907' 2"
Shale, coal	6"	907' 8"
Shale	8"	908' 4"
Shale, coal	6"	908' 10"
Coal	4"	909' 2"
Shale, coal	8"	909' 10"
Sandstone	39' 6"	949' 4"
Shale	6"	949' 10"
Sandstone	9' 0"	958' 10"
Shale	4' 2"	963' 0"
Sandstone	13' 0"	976' 0"
Sandstone, coal	26' 2"	1002' 2"
Sandstone, coal	4"	1002' 6"
Coal	2"	1002' 8"
Coal, shale	2"	1002' 10"
Coal	5"	1003' 3"
Shale	8"	1003' 11"
Shale	8' 1"	1012' 0"
Shale	3' 2"	1015' 2"
Coal	2"	1015' 4"
Coal, shale	2"	1015' 6"
Coal	6"	1016' 0"
Coal, shale	4"	1016' 4"

Bore Hole No. 185 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	4' 11"	1021' 3"
Coal, shale	6"	1021' 9"
Coal, shale	6"	1022' 3"
Shale	9"	1023' 0"
Sandstone, shale	3' 0"	1026' 0"
Shale	8' 0"	1034' 0"
Sandstone	10' 0"	1044' 0"
Shale	4' 0"	1048' 0"
Sandstone	5' 6"	1053' 6"
Shale	4"	1053' 10"
Shale, coal	1"	1053' 11"
Coal	3"	1054' 2"
Coal, shale	8"	1054' 10"
Shale, coal	6"	1055' 4"
Shale	2' 6"	1057' 10"
Sandstone	2' 0"	1059' 10"
Shale	1' 2"	1061' 0"
Sandstone, shale	21' 0"	1082' 0"
Shale	2' 10"	1084' 10"
Shale, coal	4"	1085' 2"
Shale	1' 0"	1086' 2"
Shale, coal	2"	1086' 4"
Coal	9"	1087' 1"
Coal, shale	1"	1087' 2"
Coal	9"	1087' 11"
Shale	1' 9"	1089' 8"
Shale, coal	4"	1090' 0"
Coal	8"	1090' 8"
Shale	2"	1090' 10"
Shale, coal	4"	1091' 2"
Coal	11"	1092' 1"
Shale	2"	1092' 3"
Shale	1' 0"	1093' 3"
Sandstone	12' 9"	1106' 0"
Shale	3' 0"	1109' 0"
Shale, coal	3"	1109' 3"
Coal	5"	1109' 8"
Shale, coal	2"	1109' 10"
Shale	2' 0"	1111' 10"
Sandstone	4' 2"	1116' 0"
Sandstone	16' 0"	1132' 0"
Sandstone	11' 4"	1143' 4"
Coal, shale	8"	1144' 0"
Shale	6"	1144' 6"
Coal	3"	1144' 9"
Shale	3' 3"	1148' 0"
Shale	6' 0"	1154' 0"
Sandstone	29' 0"	1183' 0"
Shale	2' 6"	1185' 6"
Shale	10"	1186' 4"
Coal	4"	1186' 8"

Bore Hole No. 185 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale, coal	2"	1186' 10"
Coal	4"	1187' 2"
Shale	3"	1187' 5"
Coal, shale	3"	1187' 8"
Coal	2"	1187' 10"
Shale, coal	2"	1188' 0"
Shale	6"	1188' 6"
Shale	2"	1188' 8"
Shale, coal	5"	1189' 1"
Coal	3"	1189' 4"
Shale	2"	1189' 6"
Sandstone, shale	8' 6"	1198' 0"
Sandstone	43' 0"	1241' 0"
Sandstone	1' 0"	1242' 0"
Shale	10"	1242' 10"
Shal, coal	5"	1243' 3"
Coal, shale	2"	1243' 5"
Coal	8"	1244' 1"
Shale	2"	1244' 3"
Coal	1"	1244' 4"
Shale	1' 4"	1245' 8"
Shale, coal	6"	1246' 2"
Coal	4"	1246' 6"
Coal, shale	4"	1246' 10"
Shale	1"	1246' 11"
Shale, coal	2"	1247' 1"
Shale	1' 11"	1249' 0"
Shale, sandstone	25' 0"	1274' 0"
Shale	8"	1274' 8"
Shale, coal	4"	1275' 0"
Coal	9"	1275' 9"
Shale	1' 5"	1277' 2"
Coal, shale	2"	1277' 4"
Shale	6"	1277' 10"
Coal	1' 0"	1278' 10"
Shale, coal	2"	1279' 0"
Shale	2' 6"	1281' 6"
Shale	15' 0"	1296' 6"
Shale, coal	2"	1296' 8"
Coal	6"	1297' 2"
Shale	2"	1297' 4"
Shale	2' 8"	1300' 0"
Shale, coal	11"	1300' 11"
Coal	9"	1301' 8"
Shale, coal	4"	1302' 0"
Shale	1' 0"	1303' 0"
Basalt	19' 0"	1322' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 186 *CX-186*

Elevation: 244' 0"

Depth: 1128' 0"

Location: Lot 94, Comox District, V.I.

Date: 1940

	<u>Thickness</u>	<u>Depth</u>
Surface	68' 0"	68' 0"
Shale	68' 0"	136' 0"
Shale, sandstone	22' 0"	158' 0"
Sandstone, shale	11' 0"	169' 0"
Shale	13' 0"	182' 0"
Shale, sandstone	20' 0"	202' 0"
Sandstone	6' 0"	208' 0"
Shale, sandstone	19' 6"	227' 6"
Sandstone	8' 6"	236' 0"
Sandstone, shale	80' 0"	316' 0"
Shale, sandstone	60' 0"	376' 0"
Sandstone, shale	30' 0"	406' 0"
Shale, sandstone	30' 0"	436' 0"
Shale	30' 0"	466' 0"
Shale, sandstone	30' 0"	496' 0"
Sandstone, shale	26' 0"	522' 0"
Sandstone	16' 0"	538' 0"
Shale, sandstone	10' 0"	548' 0"
Shale	56' 0"	604' 0"
Sandstone, shale	79' 0"	683' 0"
Sandstone, shale	36' 8"	719' 8"
Shale	1' 0"	720' 8"
Coal, shale	3"	720' 11"
Shale	9"	721' 8"
Sandstone	4"	722' 0"
Shale	1' 0"	723' 0"
Sandstone	77' 6"	800' 6"
Shale	2"	800' 8"
Coal	4"	801' 0"
Shale	6' 5"	807' 5"
Coal	4"	807' 9"
Shale	1"	807' 10"
Coal	2"	808' 0"
Sandstone	40' 0"	848' 0"
Shale	1' 0"	849' 0"
Coal	6"	849' 6"
Coal, shale	1"	849' 7"
Coal	4"	849' 11"
Coal, shale	2"	850' 1"
Coal	2"	850' 3"

Bore Hole No. 186 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	11' 9"	862' 0"
Sandstone	49' 0"	911' 0"
Sandstone, shale	2' 0"	913' 0"
Sandstone	30' 0"	943' 0"
Sandstone	5' 10"	948' 10"
Shale	2' 8"	951' 6"
Coal, shale	4"	951' 10"
Shale	3"	952' 1"
Coal	1' 7"	953' 8"
Shale	2"	953' 10"
Coal	5"	954' 3"
Shale	1"	954' 4"
Shale, coal	3"	954' 7"
Shale	1' 11"	956' 6"
Coal	1' 0"	957' 6"
Shale	1' 2"	958' 8"
Shale, coal	4"	959' 0"
Coal	2"	959' 2"
Shale	2' 9"	961' 11"
Coal	7"	962' 6"
Shale	4' 9"	967' 3"
Sandstone, shale	15' 9"	983' 0"
Sandstone	10' 0"	993' 0"
Sandstone, coal	6' 0"	999' 0"
Sandstone	7' 0"	1006' 0"
Shale	1' 0"	1007' 0"
Coal	1' 2"	1008' 2"
Shale, coal	1"	1008' 3"
Coal	1"	1008' 4"
Shale	2' 8"	1011' 0"
Sandstone, shale	2' 0"	1013' 0"
Sandstone	3' 6"	1016' 6"
Shale	2' 10"	1019' 4"
Coal, shale	2"	1019' 6"
Shale	2' 10"	1022' 4"
Coal	1' 4"	1023' 8"
Coal, shale	5"	1024' 1"
Coal	2"	1024' 3"
Shale, coal	3"	1024' 6"
Coal	5"	1024' 11"
Shale	3"	1025' 2"
Coal, shale	3"	1025' 5"
Coal	1' 0"	1026' 5"
Shale	1' 0"	1027' 5"
Shale, coal	3"	1027' 8"
Shale	3"	1027' 11"
Sandstone	2' 0"	1029' 11"
Sandstone	9' 7"	1039' 6"
Shale	1' 0"	1040' 6"
Shale	4"	1040' 10"
Shale	7"	1041' 5"

Bore Hole No. 186 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	7"	1042' 0"
Shale	1' 0"	1043' 0"
Shale	2' 0"	1045' 0"
Sandstone, shale	30' 0"	1075' 0"
Sandstone	3' 6"	1078' 6"
Shale, coal	3' 0"	1081' 6"
Shale	8' 6"	1090' 0"
Sandstone	9' 0"	1099' 0"
Sandstone	8' 0"	1107' 0"
Shale	1' 0"	1108' 0"
Coal	4"	1108' 4"
Shale	4"	1108' 8"
Shale, coal	1' 0"	1109' 8"
Shale	2' 4"	1112' 0"
Trap	16' 0"	1128' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 187 *CX-187*

Elevation: 276' 4"

Depth: 1252' 6"

Location: Lot 94, Comox District

Date: 1941

	<u>Thickness</u>	<u>Depth</u>
Sandy loam	4' 6"	4' 6"
Clay	4' 0"	8' 6"
Sand	1' 6"	10' 0"
Sand with clay	2' 0"	12' 0"
Clay	16' 0"	28' 0"
Clay, gravel	2' 0"	30' 0"
Shale	14' 0"	44' 0"
Shale, sandstone bands	19' 0"	63' 0"
Shale, sandstone bands	25' 0"	88' 0"
Sandstone, shale	32' 0"	120' 0"
Sandstone	14' 0"	134' 0"
Shale, sandstone bands	10' 0"	144' 0"
Sandstone, shale bands	25' 0"	169' 0"
Sandstone. Shale streaks	31' 0"	200' 0"
Shale streaks	2' 0"	202' 0"
Shale	174' 0"	376' 0"
Shale	76' 0"	452' 0"
Sandstone, shale bands	19' 0"	471' 0"
Shale, sandstone bands	22' 0"	493' 0"
Shale	34' 0"	527' 0"
Broken shale	9' 0"	536' 0"
Shale	12' 0"	548' 0"
Shale, sandstone bands	2' 0"	550' 0"
Sandstone	10' 0"	560' 0"
Sandstone with shale streaks	28' 0"	588' 0"
Sandstone, shale bands	15' 0"	603' 0"
Shale, sandstone bands	10' 0"	613' 0"
Sandstone, shale streaks	16' 0"	629' 0"
Shale and sandstone bands	3' 0"	632' 0"
Sandstone	17' 0"	649' 0"
Sandstone with shale streaks	3' 0"	652' 0"
Shale	6"	652' 6"
Shale with coal	4"	652' 10"
Coal	10"	653' 8"
Shale with coal	6"	654' 2"
Sandstone	6' 10"	661' 0"
Sandstone	80' 4"	741' 0"
Shale	1' 3"	742' 3"
Coal	6"	742' 9"
Shale and coal	3"	743' 0"

Bore Hole No. 187 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	6"	743' 6"
Sandstone, shale streaks	12' 6"	756' 0"
Sandstone	2' 6"	758' 6"
Shale with coal	2"	758' 8"
Coal	4"	759' 0"
Shale	3"	759' 3"
Coal	2"	759' 5"
Shale and coal	2"	759' 7"
Sandstone	58' 9"	818' 4"
Shale	1' 2"	819' 6"
Coal	3"	819' 9"
Shale	3' 0"	822' 9"
Shale and coal	2"	822' 11"
Coal	5"	823' 4"
Shale	5"	823' 9"
Shale and coal	4"	824' 1"
Coal	5"	824' 6"
Shale	1' 3"	825' 9"
Coal	11"	826' 8"
Shale and coal	4"	827' 0"
Coal	3"	827' 3"
Shale and coal	1"	827' 4"
Sandstone	47' 8"	875' 0"
Shale	8' 0"	883' 0"
Sandstone	5' 0"	888' 0"
Shale	3' 0"	891' 0"
Sandstone	8' 6"	899' 6"
Sandstone, coal streaks	6"	900' 0"
Coal and sandstone	2"	900' 2"
Shale	3"	900' 5"
Coal	1"	900' 6"
Shale	1"	900' 7"
Coal	1' 0"	901' 7"
Shale and coal	4"	901' 11"
Coal	6"	902' 5"
Shale	3' 7"	906' 0"
Sandstone, fine	6' 0"	912' 0"
Sandstone, shale streaks	4' 0"	916' 0"
Shale	6' 0"	922' 0"
Sandstone	1' 0"	923' 0"
Shale, coal streaks	10' 0"	933' 0"
Sandstone	10' 0"	943' 0"
Shale	1' 0"	944' 0"
Sandstone	19' 0"	963' 0"
Sandstone, shale streaks	3' 6"	966' 6"
Shale and coal	2"	966' 8"
Shale	1' 10"	968' 6"
Sandstone	2' 0"	970' 6"
Shale	2' 6"	973' 0"
Shale, sandstone streaks	2' 0"	975' 0"
Shale	12' 0"	987' 0"

Bore Hole No. 187 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	2' 0"	989' 0"
Shale	3' 0"	992' 0"
Sandstone	1' 0"	993' 0"
Shale	3' 6"	996' 6"
Shale and coal	10"	997' 4"
Coal	1' 0"	998' 4"
Shale	1' 3"	999' 7"
Coal	3"	999' 10"
Shale and coal	2"	1000' 0"
Coal	1' 0"	1001' 0"
Shale	1' 0"	1002' 0"
Shale and coal	4"	1002' 4"
Coal	2"	1002' 6"
Coal and shale	2"	1002' 8"
Coal and shale	1' 2"	1003' 10"
Shale	1' 10"	1005' 8"
Coal	4"	1006' 0"
Shale	5' 0"	1011' 0"
Shale, coal markings	2' 0"	1013' 0"
Coal	8"	1013' 8"
Coal and shale	2"	1013' 10"
Coal	4"	1014' 2"
Shale	6"	1014' 8"
Sandstone, shale streaks	31' 4"	1046' 0"
Sandstone	3' 0"	1049' 0"
Shale and sandstone streaks	6' 0"	1055' 0"
Shale with coal streaks	5' 0"	1060' 0"
Sandstone and coal streaks	2' 0"	1062' 0"
Shale and coal	1' 0"	1063' 0"
Sandstone	25' 0"	1088' 0"
Shale	6' 0"	1094' 0"
Shale and coal	3"	1094' 3"
Coal	6"	1094' 9"
Shale	1"	1094' 10"
Coal	6"	1095' 4"
Shale and coal	9"	1096' 1"
Coal	10"	1096' 11"
Brown shale	4"	1097' 3"
Shale	2' 9"	1100' 0"
Sandstone	64' 0"	1164' 0"
Shale and sandstone	1' 0"	1165' 0"
Sandstone	18' 0"	1183' 0"
Shale	2' 4"	1185' 4"
Shale, coal markings	4"	1185' 8"
Coal	8"	1186' 4"
Shale	1' 2"	1187' 6"
Shale and coal	3"	1187' 9"
Coal	8"	1188' 5"
Coal and shale	4"	1188' 9"
Coal	1' 4"	1190' 1"
Shale and coal markings	6"	1190' 7"

Bore Hole No. 187 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale and sandstone	19' 5"	1210' 0"
Shale	1' 3"	1211' 3"
Shale with coal markings	3"	1211' 6"
Shale and coal	6"	1212' 0"
Coal	9"	1212' 9"
Shale and coal markings	3"	1213' 0"
Shale	1' 0"	1214' 0"
Coal	2' 0"	1216' 0"
Shale	2"	1216' 2"
Shale and coal	6"	1216' 8"
Shale	13' 4"	1230' 0"
Coal and shale	1' 6"	1231' 6"
Shale	9"	1232' 3"
Coal	6"	1232' 9"
Shale and coal	6"	1233' 3"
Shale	4' 3"	1237' 6"
Coal and shale	3' 6"	1241' 0"
Coal	3"	1241' 3"
Coal and shale	3"	1241' 6"
Shale	6"	1242' 0"
Shale with coal markings	4' 0"	1246' 0"
Decomposed trap	6' 6"	1252' 6"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 188 CX-188

Elevation: 32.20' Depth: 1950' 0"

Location: Cumberland

Date: 1941

	<u>Thickness</u>	<u>Depth</u>
Loam	2' 0"	2' 0"
Gravel and boulders	11' 0"	13' 0"
Gravel and boulders and clay	2' 0"	15' 0"
Gravel and boulders	10' 0"	25' 0"
Gravel	1' 6"	26' 6"
Shale	21' 6"	48' 0"
Shale, broken	125' 0"	173' 0"
Shale and sandstone bands	59' 0"	232' 0"
Shale	18' 0"	250' 0"
Broken shale	16' 0"	266' 0"
Shale	38' 0"	304' 0"
Broken shale	16' 0"	320' 0"
Shale	31' 0"	351' 0"
Broken shale	8' 0"	359' 0"
Shale	77' 0"	436' 0"
Broken shale	53' 0"	489' 0"
Shale	40' 0"	529' 0"
Shale broken bands	16' 0"	545' 0"
Shale	215' 0"	760' 0"
Broken shale	6' 0"	766' 0"
Shale, sandstone streaks	49' 0"	815' 0"
Shale, sandstone bands	127' 0"	942' 0"
Shale, sandstone bands	27' 0"	969' 0"
Sandstone	2' 0"	971' 0"
Shale	2' 0"	973' 0"
Sandstone and shale bands	3' 0"	976' 0"
Sandstone	2' 0"	978' 0"
Sandstone, shale bands	13' 0"	991' 0"
Conglomerate	2' 0"	993' 0"
Loose conglomerate	7' 0"	1000' 0"
Conglomerate	2' 0"	1002' 0"
Sandy shale	6' 0"	1008' 0"
Sandstone	30' 0"	1038' 0"
Sandstone and shale	12' 0"	1050' 0"
Sandstone	8' 0"	1058' 0"
Sandstone, shale streaks	37' 0"	1095' 0"
Sandstone, shale streaks	60' 0"	1155' 0"
Sandstone	165' 0"	1320' 0"
Sandstone with broken bands	33' 0"	1353' 0"
Sandstone	13' 0"	1366' 0"

	<u>Thickness</u>	<u>Depth</u>
Shale	5' 8"	1371' 8"
Coal and shale	2"	1371' 10"
Shale	2"	1372' 0"
Coal	2"	1372' 2"
Shale	2' 0"	1374' 2"
Sandstone	10' 10"	1385' 0"
Shale	6' 0"	1391' 0"
Brown shale	1' 0"	1392' 0"
Shale and coal	6"	1392' 6"
Coal	1' 0"	1393' 6"
Shale	2"	1393' 8"
Shale, coal marks	4"	1394' 0"
Sandstone	102' 0"	1496' 0"
Coal and shale	3"	1496' 3"
Coal	9"	1497' 0"
Shale, coal markings	2' 0"	1499' 0"
Shale	4' 0"	1503' 0"
Soft shale	37' 0"	1540' 0"
Shale and coal	2"	1540' 2"
Coal	10"	1541' 0"
Shale, coal markings	6"	1541' 6"
Coal	1' 0"	1542' 6"
Shale	3"	1542' 9"
Coal	8"	1543' 5"
Shale	6"	1543' 11"
Coal	11"	1544' 10"
Shale and coal markings	1' 0"	1545' 10"
Shale	2"	1546' 0"
Sandstone shale streaks	5' 0"	1551' 0"
Sandstone	30' 0"	1581' 0"
Shale	10' 0"	1591' 0"
Broken shale, shale bands	12' 0"	1603' 0"
Sandstone	1' 0"	1604' 0"
Sandy shale	2' 0"	1606' 0"
Shale	4' 0"	1610' 0"
Shale, coal markings	4"	1610' 4"
Shale	1' 10"	1612' 2"
Shale and coal	2"	1612' 4"
Coal	2' 11"	1615' 3"
Broken shale	2' 3"	1617' 6"
Shale and coal	8"	1618' 2"
Coal	4"	1618' 6"
Shale and coal layers	8"	1619' 2"
Coal	5"	1619' 7"
Shale and coal	3"	1619' 10"
Shale	2' 8"	1622' 6"
Shale and coal	3"	1622' 9"
Coal	3"	1623' 0"
Light shale	2"	1623' 2"
Coal	10"	1624' 0"
Coal and shale	2"	1624' 2"

Bore Hole No. 188 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	9"	1624' 11"
Shale and coal	6"	1625' 5"
Coal	2"	1625' 7"
Shale	1' 2"	1626' 9"
Coal and shale	3"	1627' 0"
Shale	1' 6"	1628' 6"
Sandstone	6"	1629' 0"
Sandstone with shale streaks	32' 0"	1661' 0"
Shale, sandstone streaks	13' 6"	1674' 6"
Coal	6"	1675' 0"
Sandstone	6"	1675' 6"
Sandstone with shale streaks	31' 0"	1706' 6"
Shale	1' 6"	1708' 0"
Shale, soft	10"	1708' 10"
Shale with coal	4"	1709' 2"
Coal	3"	1709' 5"
Shale	2"	1709' 7"
Coal	8"	1710' 3"
Shale	1"	1710' 4"
Coal	8"	1711' 0"
Shale	2' 6"	1713' 6"
Coal	2' 5"	1715' 11"
Shale	6"	1716' 5"
Shale with coal markings	3"	1716' 8"
Shale	4"	1717' 0"
Sandstone, shale streaks	3' 0"	1720' 0"
Broken sandstone	2' 0"	1722' 0"
Shale, soft broken	1' 0"	1723' 0"
Sandstone	9' 6"	1732' 6"
Broken shale	2' 0"	1734' 6"
Shale and coal	2"	1736' 2"
Shale	2' 10"	1739' 0"
Coal	10"	1739' 10"
Shale	1' 8"	1741' 6"
Shale and sandstone streaks	1' 0"	1742' 6"
Shale and coal	3"	1742' 9"
Broken shale	1' 6"	1744' 3"
Shale and coal	6"	1744' 9"
Shale and sandstone streaks	1' 9"	1746' 6"
Broken sandstone	3' 6"	1750' 0"
Sandstone, coal markings	9' 0"	1759' 0"
Shale	4' 0"	1763' 0"
Shale, soft	7' 0"	1770' 0"
Sandstone, shale streaks	12' 0"	1782' 0"
Shale	1' 8"	1783' 8"
Shale with coal	4"	1784' 0"
Coal	4"	1784' 4"
Shale	3"	1784' 7"
Coal	4"	1784' 11"
Shale	2"	1785' 1"
Coal	1' 3"	1786' 4"
Shale	2"	1786' 6"

	<u>Thickness</u>	<u>Depth</u>
Coal	6"	1787' 0"
Shale	6"	1787' 6"
Shale, soft	1' 6"	1789' 0"
Sandstone, shale streaks	2' 9"	1791' 9"
Shale and sandstone streaks	15' 9"	1806' 6"
Sandstone	2' 0"	1808' 6"
Shale, sandstone streaks	1' 6"	1810' 0"
Sandstone	4' 6"	1814' 6"
Broken shale	4' 0"	1818' 6"
Shale with coal markings	2' 9"	1821' 3"
Coal	1' 0"	1822' 3"
Shale	5"	1822' 8"
Coal	1' 2"	1823' 10"
Shale	2' 10"	1826' 8"
Coal	1' 9"	1828' 5"
Shale	4' 1"	1823' 6"
Sandstone	3' 0"	1835' 6"
Sandstone and shale streaks	8' 6"	1844' 0"
Shale	2' 0"	1846' 0"
Shale and coal	2"	1846' 2"
Coal	4"	1846' 6"
Shale	5"	1846' 11"
Coal	2"	1847' 1"
Shale, coal markings	2' 0"	1849' 1"
Shale	4' 11"	1854' 0"
Shale and sandstone streaks	11' 10"	1865' 10"
Coal and shale	4"	1866' 2"
Coal	2"	1866' 4"
Coal and shale	2"	1866' 6"
Coal	1' 10"	1868' 4"
Shale	11"	1869' 3"
Coal	1' 11"	1871' 2"
Shale and coal	2"	1871' 4"
Coal	4"	1871' 8"
Shale and coal	2"	1871' 10"
Shale	8"	1872' 6"
Shale and coal	3"	1872' 9"
Broken shale	3' 3"	1876' 0"
Sandstone and shale streaks	6' 0"	1882' 0"
Broken shale	6' 0"	1888' 0"
Sandstone, shale bands	6' 0"	1894' 0"
Shale, sandstone bands	10' 0"	1904' 0"
Sandstone, shale bands	5' 0"	1909' 0"
Broken shale	5' 0"	1914' 0"
Sandstone and pebbles	19' 0"	1935' 0"
Sandstone with shale bands	6' 0"	1941' 0"
Sandstone, shale, coal markings	6"	1941' 6"
Sandstone with pebbles	6' 6"	1948' 0"
Trap	2' 0"	1950' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 189 *CX-189*

Elevation: 149' 0"

Depth: 1931' 0"

Location: Cumberland

Date: 1944

	<u>Thickness</u>	<u>Depth</u>
Sandy loam, pebbles	4' 0"	4' 0"
Sandy loam, gravel	4' 0"	8' 0"
Gravel, boulders	5' 0"	13' 0"
Gravel, little clay	1' 0"	14' 0"
Gravel, little clay	2' 0"	16' 0"
Gravel, boulders	3' 0"	19' 0"
Gravel, boulders	1' 6"	20' 6"
Gravel, clay	2' 6"	23' 0"
Shale	1' 6"	24' 6"
Shale	8' 6"	33' 0"
Shale	6' 6"	39' 6"
Shale	6"	40' 0"
Sandstone	1' 0"	41' 0"
Sandstone	6"	41' 6"
Shale	8' 6"	50' 0"
Shale	240' 0"	296' 0"
Sandstone	2' 0"	298' 0"
Shale	21' 0"	319' 0"
Sandstone	2' 6"	321' 6"
Sandy shale	1' 0"	322' 6"
Sandstone, sandy shale bands	17' 6"	340' 0"
Sandy shale	1' 0"	341' 0"
Sandy shale	1' 0"	342' 0"
Sandstone	4' 0"	346' 0"
Sandy shale	2' 0"	348' 0"
Sandstone, bands sandy shale	20' 0"	368' 0"
Sandy shale	21' 0"	389' 0"
Sandstone, shale bands	26' 0"	415' 0"
Sandstone	31' 0"	446' 0"
Sandstone with shale bands	29' 0"	475' 0"
Sandy shale	20' 0"	495' 0"
Sandstone	2' 0"	497' 0"
Sandstone, shale bands	24' 0"	521' 0"
Sandy shale	28' 0"	549' 0"
Shale	140' 0"	689' 0"
Sandstone	6' 0"	695' 0"
Sandy shale	14' 0"	709' 0"
Sandstone	10' 0"	719' 0"
Sandstone, shale bands	6' 0"	725' 0"
Shale, soft	1' 0"	726' 0"

	<u>Thickness</u>	<u>Depth</u>
Shale	29' 0"	755' 0"
Sandstone	1' 0"	756' 0"
Sandstone, shale bands	3' 0"	759' 0"
Sandstone	17' 0"	776' 0"
Sandstone, shale bands	10' 0"	786' 0"
Sandstone	6' 0"	792' 0"
Sandstone, shale bands	7' 0"	799' 0"
Sandstone	24' 0"	823' 0"
Shale	6' 0"	829' 0"
Sandstone	2' 0"	831' 0"
Shale	9' 0"	840' 0"
Sandstone	5' 0"	845' 0"
Sandstone, shale bands	37' 0"	882' 0"
Shale	10' 0"	892' 0"
Sandstone	2' 0"	894' 0"
Shale	9' 0"	903' 0"
Sandstone	3' 0"	906' 0"
Shale	28' 0"	934' 0"
Shale, soft	34' 0"	968' 0"
Sandstone	2' 0"	970' 0"
Shale	11' 0"	981' 0"
Shale, soft	12' 0"	993' 0"
Shale	42' 0"	1035' 0"
Sandstone	57' 0"	1092' 0"
Shale	1' 0"	1093' 0"
Sandstone, shale bands	13' 0"	1106' 0"
Shale, sandy	37' 0"	1143' 0"
Sandstone	21' 0"	1164' 0"
Shale	1' 0"	1165' 0"
Sandstone, shale bands	17' 0"	1182' 0"
Sandstone	8' 0"	1190' 0"
Sandstone, shale bands	18' 0"	1208' 0"
Shale, sandy	10' 0"	1218' 0"
Sandstone, shale bands	23' 0"	1241' 0"
Shale	13' 0"	1254' 0"
Sandstone	2' 0"	1256' 0"
Shale, sandy	6' 0"	1262' 0"
Sandstone	29' 6"	1291' 6"
Shale	4"	1291' 10"
Sandstone	2' 2"	1294' 0"
Shale	6"	1294' 6"
Sandstone	7' 6"	1302' 0"
Sandstone	2' 4"	1304' 4"
Shale, coal markings	5"	1304' 9"
Coal	3"	1305' 0"
Shale	6"	1305' 6"
Sandstone, shale streaks	2' 6"	1308' 0"
Sandstone, shale streaks	3' 0"	1311' 0"
Sandstone	5' 0"	1316' 0"
Sandstone, shale streaks	7' 0"	1323' 0"
Sandstone, shale streaks	3' 0"	1326' 0"

Bore Hole No. 189 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	3' 6"	1329' 6"
Shale, coal	9"	1330' 3"
Coal	6"	1330' 9"
Shale	9"	1331' 6"
Shale	1' 6"	1333' 0"
Sandstone	39' 0"	1372' 0"
Shale band	3"	1372' 3"
Shale, sandstone	2' 6"	1374' 9"
Sandstone	58' 9"	1433' 6"
Sandstone, coal markings	2"	1433' 8"
Coal	6"	1434' 2"
Brown shale	4"	1434' 6"
Shale	4"	1434' 10"
Shale	5' 2"	1440' 0"
Shale	2"	1440' 2"
Shale with coal	5"	1440' 7"
Coal	5"	1441' 0"
Coal	6"	1441' 6"
Sandstone	6"	1442' 0"
Sandstone, shale streaks	6' 0"	1448' 0"
Sandstone	25' 8"	1473' 8"
Coal	10"	1474' 6"
Shale, coal markings	3"	1474' 9"
Shale and coal	3"	1475' 0"
Coal	9"	1475' 9"
Coal, shale	3"	1476' 0"
Coal	1' 7"	1477' 7"
Sandstone	2"	1477' 9"
Sandstone	2' 3"	1480' 0"
Sandstone	26' 0"	1506' 0"
Sandstone	14' 0"	1520' 0"
Sandstone and shale	10"	1520' 10"
Shale, coal markings	6"	1521' 4"
Coal with shale	8"	1522' 0"
Sandstone	2' 0"	1524' 0"
Shale	1' 6"	1525' 6"
Shale, coal	3"	1525' 9"
Sandstone, shale streaks	2' 3"	1528' 0"
Sandstone with shale streaks	4' 0"	1532' 0"
Shale	4' 0"	1536' 0"
Shale, sandstone bands	4' 0"	1540' 0"
Sandy shale with sandstone bands	8' 0"	1548' 0"
Shale and sandstone streaks	6' 0"	1554' 0"
Sandstone	1' 3"	1555' 3"
Coal and shale	2"	1555' 5"
Coal	1' 4"	1556' 9"
Coal and shale	4"	1557' 1"
Coal	3' 0"	1560' 1"
Coal and shale	4"	1560' 5"
Coal	2"	1560' 7"
Coal and shale	2"	1560' 9"

	<u>Thickness</u>	<u>Depth</u>	
Shale	6"	1561'	3"
Coal	2"	1561'	5"
Shale with coal	2"	1561'	7"
Sandy shale	11"	1562'	6"
Sandstone	12' 6"	1575'	0"
Sandstone	1' 2"	1576'	2"
Shale	10"	1577'	0"
Shale, coal markings	6"	1577'	6"
Shale	6"	1578'	0"
Sandy shale	2' 0"	1580'	0"
Sandstone, shale	4' 0"	1584'	0"
Fine sandstone	8' 6"	1592'	6"
Sandstone, shale	1' 0"	1593'	6"
Sandstone, shale streaks	1' 6"	1595'	0"
Sandstone, shale streaks	4' 6"	1599'	6"
Sandstone, fine	9' 2"	1608'	8"
Shale and coal	4"	1609'	0"
Shale	3' 0"	1612'	0"
Sandstone, shale	1' 6"	1613'	6"
Shale	4' 0"	1617'	6"
Sandstone, shale streaks	1' 6"	1619'	0"
Shale	2' 0"	1621'	0"
Sandstone, coal markings	6' 6"	1627'	6"
Sandstone, coal markings	11' 6"	1639'	0"
Sandstone, coal markings	6' 0"	1645'	0"
Sandstone	11' 0"	1656'	0"
Sandstone, shale streaks	16' 0"	1672'	0"
Shale	3' 5"	1675'	5"
Shale	8"	1676'	1"
Coal	4"	1676'	5"
Shale	4"	1676'	9"
Coal	1' 4"	1678'	1"
Shale	2"	1678'	3"
Coal	3"	1678'	6"
Shale, coal markings	9"	1679'	3"
Shale	9"	1680'	0"
Shale	1' 9"	1681'	9"
Sandy shale	2' 3"	1684'	0"
Sandstone, shale	2' 0"	1686'	0"
Sandstone and shale streaks	5' 0"	1691'	0"
Shale	2' 0"	1693'	0"
Shale, coal markings	13' 0"	1706'	0"
Shale, coal	2' 0"	1708'	0"
Shale and coal	1' 0"	1709'	0"
Shale	6"	1709'	6"
Sandstone	3"	1709'	9"
Coal	1' 8"	1711'	5"
Shale and coal	2"	1711'	7"
Shale	2' 5"	1714'	0"
Sandstone, shale streaks	6' 6"	1720'	6"
Sandstone, coal markings	3' 6"	1724'	0"

Bore Hole No. 189 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone, shale streaks	11' 0"	1735' 0"
Sandstone, shale bands	6' 0"	1741' 0"
Broken shale	4' 0"	1745' 0"
Broken sandstone	1' 0"	1746' 0"
Broken shale	1' 6"	1747' 6"
Sandstone, shale streaks	8' 6"	1756' 0"
Sandstone, coal markings	16' 0"	1772' 0"
Sandstone	10' 0"	1782' 0"
Shale	1' 0"	1783' 0"
Sandstone	4"	1783' 4"
Broken shale	1' 0"	1784' 4"
Sandstone	3' 8"	1788' 0"
Sandstone	2' 0"	1790' 0"
Broken shale	2' 0"	1792' 0"
Broken sandstone	8' 0"	1800' 0"
Sandstone, shale bands	35' 0"	1835' 0"
Broken shale	4' 0"	1839' 0"
Sandstone	1' 0"	1840' 0"
Shale	3' 0"	1843' 0"
Shale, bands of sandstone	10' 0"	1853' 0"
Sandstone, pebbles	6' 0"	1859' 0"
Sandy shale	10' 0"	1869' 0"
Sandstone with pebbles	6' 6"	1875' 6"
Sandy shale	1' 6"	1877' 0"
Sandstone	4' 0"	1881' 0"
Broken shale	3' 0"	1884' 0"
Shale, sandstone bands	6' 0"	1890' 0"
Shale	3' 0"	1893' 0"
Shale, coal markings	3"	1893' 3"
Shale, coal markings	12' 3"	1905' 6"
Sandstone, conglomerate bands	12' 6"	1918' 0"
Broken shale	2' 0"	1920' 0"
Sandstone, conglomerate bands	6' 0"	1926' 0"
Trap	5' 0"	1931' 0"

2

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 190 CX-190

Elevation: 18' Depth: 1651' 0"

Location:

Date: 1945

	<u>Thickness</u>	<u>Depth</u>
Sandy loam, boulders	6' 0"	6' 0"
Gravel, boulders, clay	8' 0"	14' 0"
Gravel with clay	4' 0"	18' 0"
Gravel, boulders	3' 0"	21' 0"
Gravel, boulders, clay	3' 0"	24' 0"
Gravel, boulders	4' 0"	28' 0"
Gravel with clay	8' 0"	36' 0"
Gravel with clay	8' 0"	44' 0"
Shale	339' 0"	383' 0"
Shale, sandy	2' 0"	385' 0"
Shale	70' 0"	455' 0"
Sandy shale	26' 0"	481' 0"
Shale	15' 0"	496' 0"
Shale, shale bands	20' 0"	516' 0"
Shale	94' 0"	610' 0"
Sandstone	2' 0"	612' 0"
Shale	13' 0"	625' 0"
Fine sandstone	50' 0"	675' 0"
Shale	43' 0"	718' 0"
Sandstone	28' 0"	746' 0"
Sandstone	44' 0"	790' 0"
Sandy shale	6' 0"	796' 0"
Shale	6' 0"	802' 0"
Soft shale	37' 0"	839' 0"
Sandy shale	9' 0"	848' 0"
Sandstone	3' 0"	851' 0"
Shale	81' 0"	932' 0"
Sandy shale	29' 0"	961' 0"
Shale	7' 0"	968' 0"
Sandstone	35' 0"	1003' 0"
Shale	16' 0"	1019' 0"
Shale, sandstone bands	42' 0"	1061' 0"
Shale	14' 0"	1075' 0"
Shale, sandstone bands	14' 0"	1089' 0"
Sandstone	5' 0"	1094' 0"
Shale	24' 0"	1118' 0"
Shale, sandstone bands	14' 0"	1132' 0"
Shale	14' 0"	1146' 0"
Sandstone	9' 0"	1155' 0"
Shale, sandstone bands	86' 0"	1241' 0"

Bore Hole No. 190 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	3' 4"	1244' 4"
Coal, with shale	6"	1244' 10"
Shale	6' 6"	1251' 4"
Coal and shale	2"	1251' 6"
Shale	1' 6"	1253' 0"
Shale, sandstone streaks	8' 0"	1261' 0"
Broken sandstone	5' 0"	1266' 0"
Shale	5' 6"	1271' 6"
Sandstone	28' 6"	1300' 0"
Broken shale	2' 0"	1302' 0"
Sandstone	40' 0"	1342' 0"
Sandstone, coal markings	2"	1342' 2"
Coal	6"	1342' 8"
Shale	1' 4"	1344' 0"
Shale	8' 0"	1352' 0"
Shale and sandstone streaks	3' 6"	1355' 6"
Coal	6"	1356' 0"
Sandstone	1"	1356' 1"
Coal	3"	1356' 4"
Sandstone	3"	1356' 7"
Coal	5"	1357' 0"
Shale, coal markings	6"	1357' 6"
Sandstone, shale streaks	2' 6"	1360' 0"
Sandstone	1' 0"	1361' 0"
Shale, sandstone streaks	2' 0"	1363' 0"
Shale, sandstone streaks	4' 6"	1367' 6"
Shale, coal markings	1' 0"	1368' 6"
Shale, soft	3' 6"	1372' 0"
Soft shale, sandstone streaks	9' 0"	1381' 0"
Sandstone	64' 0"	1445' 0"
Shale	1' 0"	1446' 0"
Shale, sandstone streaks	6' 0"	1452' 0"
Sandstone	6' 0"	1458' 0"
Shale, sandstone streaks	9' 2"	1467' 2"
Coal, shale streaks	10"	1468' 0"
Shale	1' 2"	1469' 2"
Shale	2"	1469' 4"
Coal	1' 2"	1470' 6"
Coal, shale	4"	1470' 10"
Coal	9"	1471' 7"
Shale	3"	1471' 10"
Coal, shale	3"	1472' 1"
Shale, coal markings	8"	1472' 9"
Shale, coal	10"	1473' 7"
Shale	2' 0"	1475' 7"
Coal	1' 8"	1477' 3"
Shale	10"	1478' 1"
Coal and shale	6"	1478' 7"
Coal	8"	1479' 3"
Shale	6"	1479' 9"
Sandstone	13' 7"	1493' 4"

	<u>Thickness</u>	<u>Depth</u>
Coal	1' 2"	1494' 6"
Coal, shale	2"	1494' 8"
Shale	6' 4"	1501' 0"
Sandstone	9' 0"	1510' 0"
Shale, sandstone bands	22' 0"	1532' 0"
Soft shale	2' 5"	1534' 5"
Shale, coal markings	6"	1534' 11"
Shale and coal	3"	1535' 2"
Coal	6"	1535' 8"
Shale and coal	3"	1535' 11"
Shale	1' 0"	1536' 11"
Shale and coal	6"	1537' 5"
Coal	1' 3"	1538' 8"
Coal and shale	6"	1539' 2"
Shale	6"	1539' 8"
Shale and coal	4"	1540' 0"
Shale and coal	8"	1540' 8"
Coal	4"	1541' 0"
Coal and shale	5"	1541' 5"
Shale	2' 9"	1544' 2"
Sandstone	35' 10"	1580' 0"
Sandstone, shale streaks	2' 6"	1582' 6"
Shale	4' 6"	1587' 0"
Sandstone, shale streaks	3' 2"	1590' 2"
Sandstone and coal markings	2"	1590' 4"
Coal	10"	1591' 2"
Sandstone and shale streaks	3' 8"	1594' 10"
Shale and coal	3"	1595' 1"
Coal	5"	1595' 6"
Coal and shale	2"	1595' 8"
Shale	3' 4"	1599' 0"
Shale, coal markings	1' 0"	1600' 0"
Shale	8' 0"	1608' 0"
Sandstone and shale bands	4' 0"	1612' 0"
Sandstone, shale streaks	6' 0"	1618' 0"
Shale	6' 0"	1624' 0"
Shale and coal	3"	1624' 3"
Shale	1' 6"	1625' 9"
Shale and coal	2"	1625' 11"
Shale	4"	1626' 3"
Shale	3"	1626' 6"
Coal	2' 9"	1629' 3"
Coal and shale	3"	1629' 6"
Shale	3"	1629' 9"
Coal	2"	1629' 11"
Shale	1' 1"	1631' 0"
Broken shale	16' 0"	1647' 0"
Trap	4' 0"	1652' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 191 CX-191

Elevation: 207.6' Depth: 1879' 0"

Location: Cumberland

Date: 1945

	<u>Thickness</u>	<u>Depth</u>
Sandy loam	5' 0"	5' 0"
Sand	3' 0"	8' 0"
Clay	5' 0"	13' 0"
Clay and gravel	1' 0"	14' 0"
Shale	74' 0"	88' 0"
Soft shale	50' 0"	138' 0"
Shale	71' 0"	209' 0"
Shale, sandstone bands	29' 0"	238' 0"
Sandstone, shale bands	30' 0"	268' 0"
Sandstone	5' 0"	273' 0"
Shale	183' 0"	456' 0"
Soft shale	117' 0"	573' 0"
Shale	233' 0"	806' 0"
Soft shale	15' 0"	821' 0"
Shale	37' 0"	858' 0"
Soft shale	14' 0"	872' 0"
Shale	57' 0"	929' 0"
Conglomerate	18' 0"	947' 0"
Sandstone	2' 0"	949' 0"
Conglomerate	89' 0"	1038' 0"
Conglomerate with shale	10' 0"	1048' 0"
Shale	3' 0"	1051' 0"
Conglomerate	2' 0"	1053' 0"
Shale with pebbles	22' 0"	1075' 0"
Shale	21' 0"	1096' 0"
Sandstone	3' 0"	1099' 0"
Conglomerate	2' 0"	1101' 0"
Sandstone	63' 0"	1164' 0"
Sandstone, shale bands	19' 0"	1183' 0"
Shale	8' 0"	1191' 0"
Shale	12' 0"	1203' 0"
Sandstone	60' 0"	1263' 0"
Sandy shale	15' 0"	1278' 0"
Shale	2' 0"	1280' 0"
Shale	6' 0"	1286' 0"
Sandstone	42' 0"	1328' 0"
Shale, sandy	5' 0"	1333' 0"
Shale	2' 8"	1335' 8"
Shale	4"	1336' 0"

Bore Hole No. 191 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	10"	1336' 10"
Shale	2' 2"	1339' 0"
Sandstone	9' 0"	1348' 0"
Sandstone, shale layers	8' 6"	1356' 6"
Shale and coal	6"	1357' 0"
Coal	1' 0"	1358' 0"
Sandstone	31' 0"	1389' 0"
Shale	2' 0"	1391' 0"
Sandstone	63' 6"	1454' 6"
Shale, sandstone	4' 6"	1459' 0"
Shale	1' 6"	1460' 6"
Shale and coal	6"	1461' 0"
Shale	1' 6"	1462' 6"
Sandstone	48' 4"	1510' 10"
Coal and shale	3"	1511' 1"
Shale	1' 3"	1512' 4"
Coal	5"	1512' 9"
Shale, coal	2"	1512' 11"
Coal	2"	1513' 1"
Shale	3"	1513' 4"
Coal	4"	1513' 8"
Shale and coal	6"	1514' 2"
Coal	7"	1514' 9"
Shale and coal	6"	1515' 3"
Shale	1' 3"	1516' 6"
Coal	1' 2"	1517' 8"
Sandstone	35' 4"	1553' 0"
Shale	6' 0"	1559' 0"
Sandstone, shale streaks	29' 0"	1588' 0"
Sandstone, shale streaks	13' 6"	1601' 6"
Coal	1' 2"	1602' 8"
Shale, coal markings	2' 4"	1605' 0"
Shale	8' 4"	1613' 4"
Coal	3' 11"	1617' 3"
Shale and coal	3"	1617' 6"
Shale	1' 9"	1619' 3"
Shale, coal	2"	1619' 5"
Shale	2' 7"	1622' 0"
Sandstone, shale streaks	15' 0"	1637' 0"
Shale	1' 0"	1638' 0"
Shale, coal markings	1' 0"	1639' 0"
Coal	1' 6"	1640' 6"
Shale	1' 0"	1641' 6"
Sandstone	2' 0"	1643' 6"
Shale	6"	1644' 0"
Shale, sandstone bands	19' 0"	1663' 0"
Sandstone, shale bands	16' 0"	1679' 0"
Shale, sandstone	10' 0"	1689' 0"
Shale	4' 6"	1693' 6"
Coal	1' 6"	1695' 0"
Coal and shale	4"	1695' 4"

Bore Hole No. 191 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	6"	1695' 10"
Shale	1' 0"	1696' 10"
Coal	4"	1697' 2"
Shale	1' 9"	1698' 11"
Coal	1' 10"	1700' 9"
Shale	1' 2"	1701' 11"
Coal	1' 9"	1703' 8"
Shale	4"	1704' 0"
Coal	8"	1704' 8"
Shale, coal	2"	1704' 10"
Shale, sandstone streaks	1' 2"	1706' 0"
Shale	6"	1706' 6"
Shale and coal	1' 0"	1707' 6"
Shale	6' 9"	1714' 3"
Shale and coal	3"	1714' 6"
Coal	4"	1714' 10"
Shale	2"	1715' 0"
Shale, sandstone streaks	13' 0"	1728' 0"
Coal, shale	4"	1728' 4"
Coal	6"	1728' 10"
Shale	12' 2"	1741' 0"
Sandstone	2' 0"	1743' 0"
Sandstone, shale bands	3' 0"	1746' 0"
Shale, shale streaks	11' 4"	1757' 4"
Shale and coal	4"	1757' 8"
Shale	6"	1758' 2"
Coal	4"	1758' 6"
Shale	2"	1758' 8"
Coal	2' 0"	1760' 8"
Shale	10"	1761' 6"
Shale, coal	3"	1761' 9"
Shale	3"	1762' 0"
Shale and sandstone	3' 0"	1765' 0"
Sandstone	24' 0"	1789' 0"
Sandstone, coal markings	4' 0"	1793' 0"
Shale	4' 6"	1797' 6"
Coal	2' 4"	1799' 10"
Coal and shale	3"	1800' 1"
Shale, coal markings	1' 6"	1801' 7"
Shale	1' 6"	1803' 1"
Sandstone	15' 11"	1819' 0"
Shale, sandstone streaks	6' 0"	1825' 0"
Shale	1' 6"	1826' 6"
Shale and sandstone	3' 0"	1829' 6"
Sandstone	1' 6"	1831' 0"
Sandstone	3' 0"	1834' 0"
Shale, sandstone streaks	6' 0"	1840' 0"
Sandstone	7' 3"	1847' 3"
Coal, shale	4"	1847' 7"
Shale, coal	2"	1847' 9"
Coal	5' 10"	1853' 7"
Shale, coal	8"	1854' 3"

Bore Hole No. 191 cont'd

(2)

	<u>Thickness</u>	<u>Depth</u>
Coal	4"	1854' 7"
Coal, shale	1' 0"	1855' 7"
Shale, coal markings	5' 6"	1861' 1"
Broken shale	2' 11"	1864' 0"
Shale, coal markings	6"	1864' 6"
Shale, coal	6"	1865' 0"
Coal	2"	1865' 2"
Coal, shale	3"	1865' 5"
Coal	3"	1865' 8"
Shale, coal	2"	1865' 10"
Shale, coal	1' 0"	1866' 10"
Shale	2' 2"	1869' 0"
Decomposed trap	10' 0"	1879' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CUMBERLAND AREA

Bore Hole No. 192 CX-192

Elevation: 218' 0"

Depth: 1455' 0"

Location: Cumberland

Date: 1946

	<u>Thickness</u>	<u>Depth</u>
Surface	1' 0"	1' 0"
Loam	1' 0"	2' 0"
Gravel	3' 0"	5' 0"
Gravel, sand	6' 0"	11' 0"
Gravel, sand, clay	14' 0"	25' 0"
Shale	448' 0"	473' 0"
Shale, soft	47' 0"	520' 0"
Shale	42' 0"	562' 0"
Shale, bands of sandy shale	20' 0"	582' 0"
Shale	18' 0"	600' 0"
Shale	9' 0"	609' 0"
Shale	19' 0"	628' 0"
Shale, sandy bands	20' 0"	648' 0"
Shale	257' 0"	905' 0"
Shale, sandstone bands	21' 0"	926' 0"
Shale	50' 0"	976' 0"
Sandstone	2' 0"	978' 0"
Sandstone, shale bands	12' 0"	990' 0"
Shale	31' 0"	1021' 0"
Sandstone	18' 0"	1039' 0"
Shale	5' 0"	1044' 0"
Shale, sandstone bands	6' 0"	1050' 0"
Sandstone	11' 0"	1061' 0"
Shale	8' 0"	1069' 0"
Shale, coal	2"	1069' 2"
Shale	3' 10"	1073' 0"
Sandstone, shale bands	16' 0"	1089' 0"
Shale	4"	1089' 4"
Coal, shale	2"	1089' 6"
Sandstone	20' 6"	1110' 0"
Shale	3' 0"	1113' 0"
Sandstone	27' 0"	1114' 0"
Sandstone, shale streaks	19' 0"	1159' 0"
Sandstone	18' 6"	1177' 6"
Coal	4"	1177' 10"
Shale, coal	4"	1178' 2"
Shale	6' 1"	1184' 3"
Coal	6"	1184' 9"
Coal, shale	3"	1185' 0"
Shale, sandstone streaks	3' 0"	1188' 0"

Bore Hole No. 192 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	39' 6"	1227' 6"
Shale and coal	2"	1227' 8"
Coal	1' 0"	1228' 8"
Coal, shale	4"	1229' 0"
Coal	1' 3"	1230' 3"
Coal, shale	9"	1231' 0"
Shale	3' 4"	1234' 4"
Shale, coal markings	3"	1234' 7"
Shale	1' 3"	1235' 10"
Coal	6"	1236' 4"
Shale	8"	1237' 0"
Sandstone	38' 0"	1275' 0"
Shale	3' 0"	1278' 0"
Shale	1' 0"	1279' 0"
Sandstone	4' 0"	1283' 0"
Shale, sandstone streaks	21' 8"	1304' 8"
Shale	6"	1305' 2"
Coal and shale	8"	1305' 10"
Coal	10"	1306' 8"
Shale	9' 6"	1316' 2"
Shale and coal	9"	1316' 11"
Coal	6"	1317' 5"
Shale	3"	1317' 8"
Coal	1' 5"	1319' 1"
Coal, shale	2"	1319' 3"
Coal	5"	1319' 8"
Shale	2' 4"	1322' 0"
Shale, sandstone streaks	13' 0"	1341' 0"
Coal	2"	1341' 2"
Coal and shale	2"	1341' 4"
Coal	4"	1341' 8"
Coal, shale	4"	1342' 0"
Sandstone	18' 0"	1360' 0"
Sandstone shale streaks	2' 0"	1362' 0"
Sandstone	23' 0"	1385' 0"
Sandstone, shale	3' 0"	1388' 0"
Broken sandstone	2' 6"	1390' 6"
Shale	17' 5"	1397' 11"
Shale, coal	5"	1398' 4"
Coal	2' 3"	1400' 7"
Shale	2"	1400' 9"
Coal	10"	1401' 7"
Shale	3"	1401' 10"
Coal	2"	1402' 0"
Shale	6' 5"	1408' 5"
Shale, coal markings	8"	1409' 1"
Brown shale	2' 0"	1411' 1"
Sandstone, shale streaks	15' 7"	1426' 8"
Coal, shale	6"	1427' 2"
Shale, coal markings	1' 9"	1428' 11"
Coal, shale	4"	1429' 3"

Bore Hole No. 192 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	4"	1429' 7"
Shale	6' 5"	1436' 0"
Broken trap	19' 0"	1455' 0"

694 (12)

ADDENDUM NUMBER TWO

CAMPBELL RIVER AND QUINSAM AREA

BOREHOLE LOGS

(1895 - 1940)

CR Series
Quinsam
Area

WELWOOD OF CANADA LIMITED

VANCOUVER-BRITISH COLUMBIA

CAMPBELL RIVER AREA AND QUINSAM AREA

BOREHOLES

fx indicates that this hole has been plugged

<u>BOREHOLE NO.</u>	<u>AREA</u>	<u>SECTION OR LOT</u>	<u>ELEVATION (FEET)</u>	<u>TOTAL DEPTH (FEET)</u>
2	Out of Area	1476	62	371
3 <i>fx</i>	Out of Area	707	382	525
4	Out of Area	1476	-	658
5 <i>fx</i>	Out of Area	704	245	516
6 <i>fx</i>	Out of Area	704	222	674
7	Out of Area	705	363	544
8	C.R.	4	480	808
9	C.R.	25	270	1055
10	C.R.	8	654	231
11	C.R.	33	470	643
12	C.R.	27	329	1058
13	C.R.	24	450	1354
14	C.R.	22	341	960
15	C.R.	29	700	424
16	C.R.	25	351	1251
17	C.R.	21	376	598
18	C.R.	21	396	409
19	C.R.	16	398	226
20	C.R.	28	370	178
21	C.R.	16	408	194
22	C.R.	28	370	375
23	C.R.	21	364	359
24	C.R.	22	364	604
25	Quinsam Area	41	925	683
26	C.R.	21	356	86
27	Quinsam Area	120	980	646
28	C.R.	16	410	625
29	Quinsam Area	242	1025	667
30	C.R.	16	450	276
31	C.R.	16	500	421

(2)

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 2 CR-2

Elevation: 62'

Depth: 371' 0"

Location:

	<u>Thickness</u>	<u>Depth</u>
Overburden	244' 0"	244' 0"
Sandstone	5' 0"	249' 0"
Shale (grey)	16' 0"	265' 0"
Shale (brown)	20' 0"	285' 0"
Sandstone	1' 0"	286' 0"
Shale (grey)	10' 0"	296' 0"
Trap (?)	2' 0"	298' 0"
Shale (brown) 1" coal at 299"	4' 0"	302' 0"
Shale, coal streak at 303'	12' 0"	314' 0"
Trap	6' 0"	320' 0"
Trap with shale streaks	10' 0"	330' 0"
Trap	41' 0"	371' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 3 CR-3

Elevation: 382'

Depth: 525' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	344' 0"	344' 0"
Conglomerate	83' 0"	427' 0"
Sandstone	5' 0"	432' 0"
Shale	2' 0"	434' 0"
Sandstone with shale streaks	6' 0"	440' 0"
Sandstone with shale streaks & coal markings	15' 0"	455' 0"
Sandstone	2' 0"	457' 0"
Shale	4' 9"	461' 9"
Shale and coal	0' 6"	462' 3"
Coal	3' 3"	465' 6"
Shale and coal	0' 8"	466' 2"
Coal	1' 7"	467' 9"
Shale and coal	0' 10"	468' 7"
Shale	9' 9"	478' 4"
Coal	1' 1"	479' 5"
Bony coal	0' 10"	480' 3"
Shale	2' 0"	482' 3"
Shale and coal	4' 9"	487' 0"
Shale, stratified with coal	15' 0"	502' 0"
Sandy shale	9' 0"	511' 0"
Sandstone	1' 0"	512' 0"
Trap	13' 0"	525' 0"

(2)

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 4CR4

Elevation:

Depth: 658' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	206' 0"	206' 0"
Sandstone	7' 0"	213' 0"
Sandstone with coal markings	20' 0"	233' 0"
Sandstone	27' 0"	260' 0"
Shale	1' 0"	261' 0"
Sandstone	39' 0"	300' 0"
Shale	1' 0"	301' 0"
Sandy shale	10' 0"	311' 0"
Sandstone	30' 0"	341' 0"
Sandstone (coarse)	10' 0"	351' 0"
Sandstone	16' 0"	367' 0"
Sandy shale	10' 0"	377' 0"
Sandstone	17' 0"	394' 0"
Sandy shale	1' 0"	395' 0"
Sandstone	36' 0"	431' 0"
Shale	20' 0"	451' 0"
Sandstone	1' 6"	452' 6"
Fireclay	0' 6"	453' 0"
Shale	2' 0"	455' 0"
Sandstone	19' 0"	474' 0"
Shale	14' 0"	488' 0"
Sandy shale	7' 0"	495' 0"
Shale with coal markings	10' 0"	505' 0"
Sandy shale with coal markings	9' 0"	514' 0"
Sandstone	2' 0"	516' 0"
Sandy shale	2' 0"	518' 0"
Sandstone	1' 6"	519' 6"
Shale	22' 6"	542' 0"
Sandy shale	6' 6"	548' 6"
Sandstone	21' 6"	570' 0"
Shale (grey)	13' 0"	583' 0"
Shale	33' 0"	616' 0"
Shale (brown and grey)	22' 0"	638' 0"
Trap	20' 0"	658' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 5 CR-5

Elevation: 245'

Depth: 516' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	306' 0"	306' 0"
Sandstone with coal markings	2' 0"	308' 0"
Sandstone	30' 0"	338' 0"
Sandy shale	0' 6"	338' 6"
Sandstone	16' 6"	355' 0"
Sandy shale	8' 0"	363' 0"
Sandstone	5' 6"	368' 6"
Conglomerate	82' 6"	451' 0"
Shale	1' 0"	452' 0"
Coal	1' 0"	453' 0"
Shale	1' 6"	454' 6"
Coal	0' 10"	455' 4"
Shale	34' 8"	490' 0"
Coal	0' 4"	490' 4"
Shale	4' 4"	494' 8"
Coal	1' 1"	495' 9"
Shale	3' 6"	499' 3"
Coal	0' 3"	499' 6"
Shale	1' 6"	501' 0"
Shale with coal markings	3' 6"	504' 6"
Shale (grey)	2' 6"	507' 0"
Shale (brown)	2' 0"	509' 0"
Trap	7' 0"	516' 0"

2

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 6 CR-6

Elevation: 222'

Depth: 674' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	265' 0"	265' 0"
Sandstone	20' 0"	285' 0"
Shale	2' 0"	287' 0"
Sandstone	5' 0"	292' 0"
Shale	15' 0"	307' 0"
Sandstone	8' 0"	315' 0"
Shale	18' 0"	333' 0"
Sandstone	30' 0"	363' 0"
Shale	2' 0"	365' 0"
Sandstone	2' 0"	367' 0"
Shale	8' 0"	375' 0"
Shale with coal markings	18' 0"	393' 0"
Shale	4' 0"	397' 0"
Sandy shale	4' 0"	401' 0"
Sandstone	7' 0"	408' 0"
Sandstone with coal markings	11' 0"	419' 0"
Sandstone	1' 0"	420' 0"
Shale	9' 0"	429' 0"
Sandy shale	1' 0"	430' 0"
Sandstone with coal markings	9' 6"	439' 6"
Shale	1' 6"	441' 0"
Sandstone	5' 0"	446' 0"
Sandstone with coal markings	21' 0"	467' 0"
Shale with coal markings	3' 0"	470' 0"
Shale	5' 0"	475' 0"
Sandy shale	5' 0"	480' 0"
Shale	49' 0"	529' 0"
Sandy shale	4' 0"	533' 0"
Sandstone	4' 0"	537' 0"
Sandstone with coal markings	31' 0"	568' 0"
Sandstone	8' 6"	576' 6"
Shale	4' 4"	580' 10"
Coal and shale	0' 8"	581' 6"
Coal	1' 9"	583' 3"
Shale	0' 2"	583' 5"
Coal	2' 2"	585' 7"
Shale	5' 0"	590' 7"
Coal	0' 6"	591' 1"
Shale	0' 1"	591' 2"
Coal	3' 11"	595' 1"

Bore Hole No. 6 cont'd

①

	<u>Thickness</u>	<u>Depth</u>
Shale	0' 6"	595' 7"
Coal	1' 2"	596' 9"
Shale	0' 2"	596' 11"
Sandstone	36' 1"	633' 0"
Shale	2' 6"	635' 6"
Coal	5' 6"	641' 0"
Shale	0' 2"	641' 2"
Coal	3' 1"	644' 3"
Shale with coal streaks	10' 9"	655' 0"
Shale	15' 0"	670' 0"
Trap	4' 0"	674' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 7 *CR-7*

Elevation: 363'

Depth: 543' 10"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	185' 4"	185' 4"
Sandstone	12' 8"	198' 0"
Sandstone with bands of sandy shale	3' 4"	201' 4"
Sandstone	9' 8"	211' 0"
Sandy shale	2' 0"	213' 0"
Sandstone and laminated sandy shale	9' 0"	222' 0"
Sandy shale with coarse sandstone grains	2' 0"	224' 0"
Shale	2' 6"	226' 6"
Sandstone and laminated sandy shale	6' 0"	232' 6"
Sandy shale with coal markings	1' 4"	233' 10"
Sandstone with interlaminated sandy shale	3' 6"	237' 4"
Shale. One heavy coal mark	5' 2"	242' 6"
Shale with carbonate markings	5' 0"	247' 6"
Sandy shale interlaminated with sandstone	9' 6"	257' 0"
Sandstone with a few shale flakes	25' 6"	282' 6"
Sandstone with shale bands and flakes	2' 6"	285' 0"
Interbanded shale and sandy shale	4' 4"	289' 4"
Sandstone. Some shale.	4' 2"	293' 6"
Sandy shale. Carbonate veinlets	3' 6"	297' 0"
Sandstone, interbanded with sandy shale	13' 0"	310' 0"
Sandy shale with calcite veinlets	7' 0"	317' 0"
Interlaminated sandstone and sandy shale	4' 3"	321' 3"
Sandstone. Laminated with few shale bands and flakes. Few coal markings	35' 3"	356' 6"
Sandstone, laminated	16' 9"	373' 3"
Sandstone. Interbanded with shale & sandstone bands	4' 6"	377' 9"
Sandstone	3' 3"	381' 0"
Sandy shale (grey)	3' 6"	384' 6"
Sandy shale (reddish)	1' 0"	385' 6"
Sandy shale (dark grey)	1' 2"	386' 8"
Sandstone, some sandy shale & bands of shale	15' 4"	402' 0"
Sandstone	21' 8"	423' 8"
Sandy shale (grey)	2' 4"	426' 0"
Sandy shale (reddish)	7' 0"	433' 0"
Shale with carbonate veins	8' 0"	441' 0"
Interbanded sandstone & sandy shale	4' 3"	449' 3"
Sandstone with few shale pebbles to $\frac{1}{2}$ "	38' 9"	488' 0"

Bore Hole No. 7 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone with numerous shale flakes	1' 0"	489' 0"
Conglomerate, rounded pebbles average 1", max. 3"	5' 0"	494' 0"
Sandstone, cross bedded	2' 0"	496' 0"
Sandy shale. scant coal marks	7' 0"	503' 0"
Shale	0' 5"	503' 5"
Coal	1' 1"	504' 6"
Shale	0' 2"	504' 8"
Coal	1' 4"	506' 0"
Shale and sandy shale	3' ½"	509' ½"
Shale with coal markings	0' 7½"	509' 8"
Coal and shale	0' 4"	510' 0"
Coal	1' 7½"	511' 7½"
Shale	0' ½"	511' 8"
Coal	0' 8"	512' 4"
Shale	0' 3"	512' 7"
Coal	0' 5"	513' 0"
Coal and shale	0' 7½"	513' 7½"
Sandstone	0' 2"	513' 9½"
Shale	0' 10"	514' 7½"
Coal	1' 10"	516' 5½"
Shale (brown)	0' 4½"	516' 10"
Shale (grey)	1' 7"	518' 5"
Coal	2' 7"	521' 0"
Shale with coal markings	0' 9"	521' 9"
Shale	2' 1"	523' 10"
Shale speckled with 1/8" sandstone grains	0' 1"	523' 11"
Shale with a 2" band of sandy shale	2' 2"	526' 1"
Shale conglomerate sand grains & pebbles to 1" in shale	1' 2"	527' 3"
Sandstone	0' 3"	527' 6"
Trap (weathered)	11' 4"	538' 10"
Trap	5' 0"	543' 10"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 8 **CR-8**

Elevation: 480'

Depth: 808' 8" (Refer to stratigraphic log)

Location: Campbell River

930' depth.
corrected drillers log.

	<u>Thickness</u>	<u>Depth</u>
Boulders and sand	20' 0"	20' 0"
Sandstone	5' 0"	25' 0"
Sandstone with coal markings	1' 0"	26' 0"
Sandstone	9' 0"	35' 0"
Sandstone with coal markings	1' 0"	36' 0"
Sandstone	13' 3"	49' 3"
Shale with coal markings	0' 9"	50' 9"
Shale with coal markings 1½" coal	2' 1½"	52' 10½"
Sandy shale	3' 8½"	56' 7"
Shale	3' 0"	59' 7"
Sandstone with a few shale layers	7' 0"	66' 7"
Sandstone	5' 0"	71' 7"
Sandstone with shale nodules & coal markings	3' 10"	75' 5"
Sandstone	12' 2"	87' 7"
Sandstone with shale nodules & coal markings	2' 4"	89' 11"
Sandstone. Faint Bedding	6' 8"	96' 7"
Sandstone	5' 0"	101' 7"
Sandstone with shale nodules	0' 8"	102' 3"
Sandstone	4' 4"	106' 7"
Sandstone with a few coal markings, bedding layers	6' 0"	112' 7"
Shale with coal markings	4' 0"	116' 7"
Sandy shale	20' 0"	136' 7"
Shale becoming sandy at 140'	6' 0"	142' 7"
Sandstone. Thin bedding	4' 0"	146' 7"
Sandstone	14' 9"	161' 4"
Shale and sandstone	3' 3"	164' 7"
Sandstone with shale layers	2' 0"	166' 7"
Sandstone	11' 8"	178' 3"
Sandy shale	17' 11"	196' 2"
Sandstone	6' 5"	202' 7"
Sandstone (coarse)	14' 0"	216' 7"
Sandstone with shale nodules to 1"	3' 6"	220' 1"
Sandstone	25' 8"	245' 9"
Sandy shale	3' 10"	249' 7"
Shale	9' 0"	258' 7"
Shale with fine sandy layers	16' 0"	274' 7"

Bore Hole No. 8 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone with thin coal markings & shale layers	6' 0"	280' 7"
Sandstone	26' 7"	307' 2"
Rounded shale nodules to 1" resembling conglomerate	0' 1"	307' 3"
Sandy shale	2' 4"	309' 7"
Shale with coal markings	2' 0"	311' 7"
Shale with a few coal markings	10' 8"	322' 3"
Coal with thin calcite veinlets	0' 10"	323' 1"
Bone, coal, shale (in that order)	0' 7"	323' 8"
Bony coal	2' 5"	326' 1"
Shale	0' 6"	326' 7"
Shale and bone	0' 3"	326' 10"
Coal	1' 1"	327' 11"
Shale with a few coal marks & silty layers	3' 8"	331' 7"
Shale	2' 4"	333' 11"
Bony coal	0' 6"	334' 5"
Shale	0' 3"	334' 8"
Coal	0' 6"	335' 2"
Bony shale	0' 5"	335' 7"
Bony coal	0' 6"	336' 1"
Coal	2' 6"	338' 7"
Bony coal	0' 6"	339' 1"
Coal	0' 6"	339' 7"
Shale	1' 8"	341' 3"
Dirty coal	0' 8"	341' 11"
Coal	0' 10"	342' 9"
Shale with siltstone bands & coal markings	5' 8"	348' 5"
Coal	2' 10"	351' 3"
Shale with coal markings silty bands & coal layers	7' 4"	358' 7"
Coal	1' 2"	359' 9"
Shale	1' 7"	361' 4"
Sandy shale	0' 7"	361' 11"
Shale	0' 4"	362' 3"
Coal	0' 6"	362' 9"
Shale	0' 2"	371' 11"
Mixed coal and shale layers	0' 6"	372' 5"
Shale	4' 0"	376' 5"
Sandy shale grading into sandstone with shale (Sandstone 378' 6" to 380')	10' 0"	386' 5"
Sandstone with few coal markings	20' 0"	406' 5"
Sandstone with shale layers	11' 0"	417' 5"
Sandstone with heavy coal markings, thin shale streaks	2' 1"	419' 6"
Dirty coal	0' 11"	420' 5"
Shale	1' 8"	421' 1"
Coal with many shale lenses	0' 4"	421' 5"
Shale with many thin coal layers	0' 6"	421' 11"

Bore Hole No. 8 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	0' 8"	422' 7"
Shale with many coal layers	0' 10"	423' 5"
Bony coal	2' 0"	425' 5"
Shale	1' 7"	427' 0"
Very dirty, bony coal	0' 9"	427' 9"
Shale with many white blebs of calcite	2' 8"	430' 5"
Sandstone	2' 6"	432' 11"
Shale, grading through sandy shale to sandstone	7' 6"	440' 5"
Conglomerate (3/8") with few layers of sandy shale and sandstone	52' 0"	492' 5"
Sandstone	1' 6"	493' 11"
Shale with small rounded blebs of calcite	0' 6"	494' 5"
Shale grading into sandy shale	15' 0"	509' 5"
Sandy shale	6' 0"	515' 5"
Sandy shale grading into cross-bedded sandstone	5' 3"	520' 8"
Conglomerate with interbedded sandstone and few shale layers	23' 9"	544' 5"
Sandstone. Last 6" shale	7' 9"	552' 2"
Sandy shale grading into shale	1' 0"	553' 2"
Shale with coal markings	0' 4"	553' 6"
Conglomerate. Subangular shale fragments in sandstone matrix	2' 2"	555' 8"
Sandstone	1' 0"	556' 8"
Conglomerate with shale pebbles to 1/2" sandstone matrix	5' 0"	561' 8"
Sandstone. Some thin shale pieces and layers	48' 0"	609' 8"
Sandy shale	1' 0"	610' 8"
Sandstone	1' 0"	611' 8"
Sandy shale. Banded	18' 0"	629' 8"
Sandstone. Some thin shale bands	1' 0"	630' 8"
Banded sandstone and shale	1' 0"	631' 8"
Sandstone with indistinct shale banding	2' 0"	633' 8"
Conglomerate interformational pebbles to 1/2"	0' 9"	634' 5"
Sandy shale	52' 3"	686' 8"
Shale. Faintly banded	17' 0"	703' 8"
Sandy shale	6' 0"	709' 8"
Shale	19' 0"	728' 8"
Sandy shale	1' 0"	729' 8"
Shale (broken)	30' 0"	759' 8"
Shale (red and green)	10' 0"	769' 8"
Shale (red)	2' 0"	771' 8"
Banded shale (red and green)	3' 0"	774' 8"
Shale (with red bands)	7' 0"	781' 8"
Shale (red)	3' 0"	784' 8"
Shale (broken)	3' 0"	787' 8"
Sandy shale	6' 6"	794' 2"
Conglomerate	4' 6"	798' 8"
Shale (red)	10' 0"	808' 8"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 9 *CR-9*

Elevation: 270'

Depth: 1055' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Sandy Clay	34' 0"	34' 0"
Gravel and boulders	10' 0"	44' 0"
Sandstone	2' 0"	46' 0"
Shale with sandstone bands	8' 0"	54' 0"
Shale	1' 0"	55' 0"
Sandstone	3' 0"	58' 0"
Shale	13' 0"	71' 0"
Sandstone	7' 0"	78' 0"
Shale with sandstone bands	18' 0"	96' 0"
Sandstone with shale streaks	6' 0"	102' 0"
Sandy shale	8' 0"	110' 0"
Shale with coal markings	3' 0"	113' 0"
Shale	10' 0"	123' 0"
Sandstone	23' 0"	146' 0"
Shale with sandstone streaks	4' 0"	150' 0"
Sandstone. Fine conglomerate between 160' & 170'	44' 0"	194' 0"
Sandy shale with sandstone bands	9' 0"	203' 0"
Sandstone with shale streaks	3' 0"	206' 0"
Shale	3' 0"	209' 0"
Shale with coal markings	1' 3"	210' 3"
Shale	1' 6"	211' 9"
Shale with coal markings	0' 6"	212' 3"
Shale and coal	0' 2"	212' 5"
Shale and sandstone streaks	3' 7"	216' 0"
Shale and sandstone streaks	2' 6"	218' 6"
Shale	2' 6"	221' 0"
Sandy shale	2' 0"	223' 0"
Sandstone	34' 0"	257' 0"
Conglomerate	2' 0"	259' 0"
Sandstone	8' 0"	267' 0"
Shale	10' 0"	277' 0"
Sandstone (1" coal at 351')	116' 0"	393' 0"
Sandstone with shale	2' 0"	395' 0"
Sandstone	96' 0"	491' 0"
Shale	7' 0"	498' 0"
Sandstone with shale streaks	6' 0"	504' 0"
Shale with scattered coal markings	2' 6"	506' 6"
Shale with coal markings	0' 6"	507' 0"

Bore Hole No. 9 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	1' 6"	508' 6"
Sandstone	5' 6"	514' 0"
Sandstone	23' 0"	537' 0"
Sandstone with bands of shale	7' 0"	544' 0"
Sandstone and shale streaks	8' 0"	552' 0"
Shale with coal markings	2' 0"	554' 0"
Shale	2' 0"	556' 0"
Shale and sandstone streaks	7' 0"	563' 0"
Sandstone	62' 0"	625' 0"
Sandstone (broken)	12' 6"	637' 6"
Coal	0' 1"	637' 7"
Sandstone	30' 5"	668' 0"
Sandstone (broken)	8' 0"	676' 0"
Shale	10' 0"	686' 0"
Sandstone	24' 0"	710' 0"
Shale	15' 0"	725' 0"
Conglomerate	0' 6"	725' 6"
Shale	4' 6"	730' 0"
Sandy shale with sandstone streaks	11' 0"	741' 0"
Shale	2' 0"	743' 0"
Sandstone	13' 0"	756' 0"
Sandstone and shale streaks	6' 0"	762' 0"
Sandstone (broken)	7' 0"	769' 0"
Sandstone	3' 0"	772' 0"
Sandstone	43' 0"	815' 0"
Shale	3' 0"	818' 0"
Sandy shale	6' 0"	824' 0"
Shale with sandstone streaks	4' 0"	828' 0"
Shale	7' 0"	835' 0"
Sandstone	23' 0"	858' 0"
Shale	8' 0"	866' 0"
Sandstone and shale streaks	9' 0"	875' 0"
Shale	9' 0"	884' 0"
Sandy shale with sandstone bands	6' 0"	890' 0"
Shale	8' 6"	898' 6"
Shale (red)	0' 6"	899' 0"
Sandy shale	2' 6"	901' 6"
Shale (red)	0' 6"	902' 0"
Sandy shale with sandstone streaks	6' 0"	908' 0"
Shale	10' 0"	918' 0"
Sandstone	20' 0"	938' 0"
Sandstone with scattered shale	5' 0"	943' 0"
Conglomerate	3' 0"	946' 0"
Sandstone with shale bands	9' 0"	955' 0"
Conglomerate	5' 0"	960' 0"
Shale (broken)	6' 0"	966' 0"
Shale	3' 0"	969' 0"
Shale	10' 2"	979' 2"
Sandy shale	3' 6"	982' 8"
Sandstone with shale bands	2' 6"	985' 2"

Bore Hole No. 9 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale. Slight sandstone in blebs	9' 2"	994' 4"
Coal	1' 6"	995' 10"
Shale and coal	0' 3"	996' 1"
Shale	2' 6"	998' 7"
Coal and shale	0' 4"	998' 11"
Coal	0' 6"	999' 5"
Coal and shale	0' 3"	999' 8"
Shale	16' 0"	1015' 8"
Coal	4' 10"	1020' 6"
Coal and shale	0' 4"	1020' 10"
Coal	6' 2"	1027' 0"
Shale	0' 9"	1027' 9"
Shale and coal	0' 6"	1028' 3"
Trap (shale on top)	26' 9"	1055' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 10 *CR-10* ?

Elevation: 654'

Depth: 232' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Gravel, boulders, clay, etc.	50' 0"	50' 0"
Sand	87' 0"	137' 0"
Gravel, boulders, sand, clay	8' 0"	145' 0"
Sandstone	9' 0"	154' 0"
Sandstone with shale markings	10' 0"	164' 0"
Shale with sandstone streaks	2' 0"	166' 0"
Shale	13' 0"	179' 0"
Shale (broken)	3' 0"	182' 0"
Sandstone	6' 0"	188' 0"
Shale	3' 0"	191' 0"
Sandy shale	2' 0"	193' 0"
Conglomerate	5' 0"	198' 0"
Trap	34' 0"	232' 0"

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WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 10 CR-10 ?

Elevation: 654' Depth: 231' 6"

Location: Campbell River

* use this description. ?
not sure here

	<u>Thickness</u>	<u>Depth</u>
Gravel, Boulders, Clay, etc.	50' 0"	50' 0"
Sand	87' 0"	137' 0"
Gravel, boulders, sand, clay	8' 0"	145' 0"
Sandstone with shale streaks	20' 5"	165' 5"
Sandstone and shale	6' 7"	172' 0"
Sandstone with sandy shale	2' 6"	174' 6"
Sandy shale with shale streaks	9' 6"	184' 0"
Sandstone	1' 0"	185' 0"
Conglomerate	2' 6"	187' 6"
Trap - tuffaceous appearance	3' 0"	190' 6"
Trap - with hematite	2' 0"	192' 6"
Trap - with chlorite	1' 0"	193' 6"
Trap	38' 0"	231' 6"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 11 *CR-11*

Elevation: 470'

Depth: 642' 11½"

Location:

	<u>Thickness</u>	<u>Depth</u>
Overburden	12' 0"	12' 0"
Sandstone with many thin shale streaks	0' 6"	12' 6"
Bony shale and coal	0' 4"	12' 10"
Shale	1' 2"	14' 0"
Shale (broken)	10' 0"	24' 0"
Shale. Last 6" sandy	10' 0"	34' 0"
Shale with thin layers of sandy shale	1' 0"	35' 0"
Sandstone with considerable shale	5' 4"	40' 4"
Shale and coal	0' 5"	40' 9"
Coal with 25% bone and shale	0' 8"	41' 5"
Shale with coal markings	7' 0"	48' 5"
Shale & coal. 50% coal bands to ½"	1' 1"	49' 6"
Shale and bone	0' 11"	50' 5"
Bony coal	0' 10"	51' 3"
Shale, slight coal	2' 10"	54' 1"
Shaly sandstone	1' 3"	55' 4"
Conglomerate (shale in shaly sandstone)	4' 0"	59' 4"
Sandstone with sandy shale	1' 6"	60' 10"
Sandstone	5' 5"	66' 3"
Conglomerate	3' 0"	69' 3"
Sandy shale	2' 5"	71' 8"
Sandstone	2' 2"	73' 10"
Conglomerate	2' 11"	76' 9"
Sandstone	0' 4"	77' 1"
Sandy shale	3' 9"	80' 10"
Shale	5' 0"	85' 10"
Sandy shale	4' 8"	90' 6"
Sandstone with sandy shale	0' 6"	91' 0"
Sandy shale	2' 1"	93' 1"
Shale with coal markings	2' 9"	95' 10"
Sandstone with sandy shale	3' 0"	98' 10"
Sandy shale	1' 11"	100' 9"
Shale	1' 5"	102' 2"
Sandy shale	6' 8"	108' 10"
Shale	20' 0"	128' 10"
Sandy shale	3' 6"	132' 4"
Shale	6' 6"	138' 10"
Sandy shale with coal markings	1' 2"	140' 0"

Bore Hole No. 11 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale	3' 3"	143' 3"
Shale	1' 7"	144' 10"
Shale and conglomerate	4' 0"	148' 10"
Conglomerate	2' 2"	151' 0"
Sandstone and shale markings	1' 6"	152' 6"
Shale	1' 4"	153' 10"
Sandy shale	11' 0"	164' 10"
Shale	2' 0"	166' 10"
Coal and shale	0' 4"	167' 2"
Shale with coal markings	4' 1"	171' 3"
Shale	0' 7"	171' 10"
Coal	0' 2½"	172' ½"
Shale	1' 5"	173' 5½"
Coal	0' 8½"	174' 2"
Shale	0' 5½"	174' 7½"
Shale and coal	0' 3"	174' 10½"
Shale	0' 10"	175' 8½"
Sandy shale	0' 4"	176' 1"
Shale with sandstone	1' 10"	177' 10½"
Coal and shale	0' 2"	178' ½"
Sandstone	59' 11"	237' 11½"
Conglomerate	1' 8"	239' 7½"
Shale with sandstone	3' 8"	243' 3½"
Shale	17' 1"	260' 4½"
Sandstone	0' 7"	260' 11½"
Conglomerate	7' 4"	268' 3½"
Shale	0' 8"	268' 11½"
Conglomerate	2' 0"	269' 1½"
Shale and coal	0' 8"	269' 9½"
Shale	0' 10"	270' 7½"
Sandy shale	1' 8"	272' 3½"
Sandstone	3' 4"	275' 7½"
Shale	1' 6"	277' 1½"
Sandy shale	2' 0"	279' 1½"
Shale	2' 1"	281' 2½"
Shale and coal	0' 1"	281' 3½"
Shale	2' 0"	283' 3½"
Coal	0' 4½"	283' 8"
Shale	1' 6"	285' 2"
Coal and shale	0' 2½"	285' 4½"
Shale	4' 0"	289' 4½"
Coal and shale	0' 2"	289' 6½"
Shale	1' 5"	290' 11½"
Shale with coal markings	1' 2"	292' 1½"
Shale	1' 2"	293' 3½"
Sandy shale	1' 10"	295' 1½"
Shale	1' 10"	296' 11½"

Bore Hole No. 11 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale	4' 0"	300' 11½"
Shale	9' 9"	310' 8½"
Sandstone	24' 3"	334' 11½"
Shale	4' 0"	338' 11½"
Shale with coal markings	13' 4½"	352' 4"
Coal and shale	0' 1½"	352' 5½"
Shale with coal markings	1' 0"	353' 5½"
Sandy shale grading to sandstone	4' 6"	357' 11½"
Shale grading to sandy shale	5' 8"	363' 7½"
Shale	3' 6"	367' 1½"
Shale with sandy cross beds	1' 7"	368' 8"
Intraformational conglomerate	1' 0"	369' 8½"
Sandstone	2' 7"	372' 3½"
Conglomerate	12' 8"	384' 11½"
Sandstone	6' 6"	391' 5½"
Sandstone grading to conglomerate	1' 0"	392' 5½"
Conglomerate. Shale interbedded	3' 6"	395' 11½"
Shale	2' 0"	397' 11½"
Sandstone	7' 0"	404' 11½"
Conglomerate	0' 6"	405' 5½"
Shale	0' 6"	405' 11½"
Shale (green)	7' 0"	412' 11½"
Shale. Many coal markings	6' 0"	418' 11½"
Shale	6' 10½"	425' 10"
Bone and coal	0' 3½"	426' 1½"
Shale and bone	0' 4"	426' 5½"
Shale. Thin coal seam 3/8"	0' 3"	426' 8½"
Shale	1' 0"	427' 8½"
Shale with coal markings (black shale)	1' 6"	429' 2½"
Shale with coal markings (brown shale)	2' 3"	431' 5½"
Sandy shale. Few coal markings	19' 6"	450' 11½"
Shale	15' 6"	466' 5½"
Shale with few thin coal markings	1' 6"	467' 11½"
Sandy shale grading to sandstone. One coal mark 1/3"	2' 0"	469' 11½"
Sandstone with few thin interbeds shale. One coal mark 1"	3' 4"	473' 3½"
Sandstone grading to conglomerate thin shale interbeds	3' 10"	477' 1½"
Shale. Scattered coal markings	5' 6"	482' 7½"
Shale. Numerous thin coal markings	4' 9"	487' 4½"
Sandy shale	1' 11"	489' 3½"
Conglomerate. Interbeds shale containing numerous coal marks	0' 8"	489' 11½"
Shale. Thin coal markings	8' 10"	498' 9½"
Coal and shale	0' 2"	498' 11½"
Shale	1' 0"	499' 11½"
Shale. Few coal markings	6' 6"	506' 5½"
Sandstone grading to conglomerate few coal markings	2' 0"	508' 5½"
Sandy shale	16' 6"	524' 11½"

Bore Hole No. 11 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale with sandstone cross beds	2' 6"	527' 5½"
Sandstone. One coal mark	2' 6"	529' 11½"
Conglomerate. One coal mark	0' 7"	530' 6½"
Sandstone. Thin coal markings	0' 3"	530' 9½"
Sandy shale	21' 2"	551' 11½"
Coal and shale	0' 1½"	552' 1"
Shale with coal markings	0' 4"	552' 5"
Shale	0' 8"	553' 1"
Sandstone	2' 10½"	555' 11½"
Conglomerate with sandstone interbeds. Few coal markings	10' 0"	565' 11½"
Conglomerate	6' 0"	571' 11½"
Shale	2' 0"	573' 11½"
Shale (broken)	7' 0"	580' 11½"
Sandy shale	1' 0"	581' 11½"
Sandy shale grading to sandstone. Cross bedded	4' 2"	586' 1½"
Conglomerate	13' 4"	599' 5½"
Shale (broken)	12' 6"	611' 11½"
Shale (last few feet broken)	11' 0"	622' 11½"
Sandstone with shale interbeds	10' 0"	632' 11½"
Trap conglomerate	6' 0"	638' 11½"
Shale	4' 0"	642' 11½"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 12 *CR-12*

Elevation: 329'

Depth: 1057' 8"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	21' 0"	21' 0"
Sandstone, one pebble	4' 0"	25' 0"
Sandstone	10' 2"	35' 2"
Shale. Slight coal	0' 5"	35' 7"
Shale	2' 5"	38' 0"
Sandstone & shale. Intercross bedded	3' 0"	41' 0"
Intraformational conglomerate rounded shale chunks & bands to 2" in sandstone	3' 10"	44' 10"
Sandstone (medium to coarse)	15' 2"	60' 0"
Sandstone (very coarse)	4' 6"	64' 6"
Shale	0' 6"	65' 0"
Bone with thin shale lenses	0' 1"	65' 1"
Shale. few coal markings 1/8"	0' 4"	65' 5"
Sandy shale cross bedded with sandstone	3' 0"	68' 5"
Shale. Coal lenses to 1/4"	0' 2"	68' 7"
Coal. Some bone, calcite, pyrite	0' 7"	69' 2"
Shale	0' 6"	69' 8"
Coal and 75% shale	0' 4"	70' 0"
Sandy shale and sandstone	12' 0"	82' 0"
Sandstone (medium - coarse)	8' 0"	90' 0"
Sandstone	15' 10"	105' 10"
Shale. Few coal markings to 1/16"	1' 0"	106' 10"
Shale. Many thin coal markings	1' 4"	108' 2"
Shale. Few thin coal markings	3' 4"	111' 6"
Shale. Several coal layers 1/2" thick	1' 6"	113' 0"
Sandy shale. Few scattered thin coal markings	7' 0"	120' 0"
Sandy shale	2' 0"	122' 0"
Sandstone. One calcite veinlet 1/2" thick	8' 0"	130' 0"
Sandstone with fairly numerous shale belbs	3' 8"	133' 8"
Thin bedded alternating sandstone and shale	0' 10"	134' 6"
Sandstone with shale blebs	0' 6"	135' 0"
Sandstone	25' 0"	160' 0"
Sandstone with shale blebs	10' 0"	170' 0"
Sandstone	16' 0"	186' 0"
Sandstone with few shale blebs	9' 0"	195' 0"
Sandstone with scattered shale blebs	2' 6"	197' 6"
Conglomerate pebbles to 1/2" x 1/2"	7' 6"	205' 0"

Bore Hole No. 12 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	20' 0"	225' 0"
Sandstone with few shale blebs	7' 6"	232' 6"
Conglomerate. Many shale blebs to ½" x 1" in sandstone	0' 8"	233' 2"
Sandstone	6' 8"	239' 10"
Conglomerate. Many thin shale blebs in sandstone	0' 9"	240' 7"
Sandstone. Few calcite veinlets	15' 1"	255' 8"
Sandstone with many shale blebs and curved coaly markings 1/8" x 2"	1' 2"	256' 10"
Sandstone and sandy shale. Few small shale blebs	0' 8"	257' 6"
Sandstone. Few shale blebs at 263' - 264'	7' 6"	265' 0"
Sandstone with numerous shale blebs & pebbles ½" x 1½"	3' 0"	268' 0"
Sandstone	13' 0"	281' 0"
Conglomerate. Many rounded shale pebbles ½' x 3/4" in sandstone	0' 6"	281' 6"
Sandstone	9' 6"	291' 0"
Conglomerate. Large rounded shale pebbles in sandstone	0' 5"	291' 5"
Sandy shale and shale	5' 7"	297' 0"
Shale. Few thin coal markings	0' 10"	297' 10"
Sandy shale & intra cross bedded sandstone	5' 4"	303' 2"
Sandstone. Last 4" with small shale pebbles	21' 10"	325' 0"
Sandstone grading to conglomerate last 1"	10' 0"	335' 0"
Sandstone	2' 6"	337' 6"
Conglomerate with many rounded shale pebbles to ½" x 2"	0' 9"	338' 3"
Sandstone	1' 6"	339' 9"
Shale	3' 3"	343' 0"
Shale. Few plant remains	2' 0"	345' 0"
Sandstone. Cross bedded	10' 0"	355' 0"
Sandstone	17' 0"	372' 0"
Coal. Very slight bone	0' 7"	372' 7"
Shale	0' 6"	373' 1"
Shale. Few coal markings	5' 5"	378" 6"
Shale. Coal lenses to ½"	1' 0"	379' 6"
Shale	5' 6"	385' 0"
Sandy shale with sandstone cross beds	3' 8"	388' 8"
Shale. One band sandstone	3' 0"	391' 8"
Sandy shale	4' 4"	396' 0"
Sandstone with much shale	5' 6"	401' 6"
Sandy shale & cross bedded sandstone	3' 6"	405' 0"
Shale	1' 6"	406' 6"
Shale with several coal marks 1/8"	2' 2"	408' 8"
Shale	0' 8"	409' 4"
Sandy shale	1' 2"	410' 6"
Sandstone. Few rounded shale pebbles 1/8" x ½"	4' 6"	415' 0"
Sandstone	20' 0"	435' 0"
Conglomerate	0' 7"	435' 7"
Coal	0' 2"	435' 9"

	<u>Thickness</u>	<u>Depth</u>
Conglomerate. Also shale fragments to	3' 6"	439' 3"
Sandstone. Few bands sandy shale	5' 9"	445' 0"
Sandstone	19' 0"	464' 0"
Sandstone with numerous shale bands & blebs	2' 7"	466' 7"
Sandstone	4' 0"	470' 7"
Shale grading to cross bedded sandstone	3' 5"	474' 0"
Sandy shale laminated beds of sandstone	10' 0"	484' 0"
Sandstone laminated with sandy shale	4' 0"	488' 0"
Shale, slightly sandy	2' 6"	490' 6"
Sandy shale	1' 6"	492' 0"
Sandstone. Fairly well laminated	15' 9"	507' 9"
Sandstone. Fairly well laminated with much shale breccia	0' 3"	508' 0"
Sandstone	3' 5"	511' 5"
Sandstone. Few faint laminations	7' 2"	518' 7"
Sandstone with many thin laminations of shale blebs	2' 0"	520' 7"
Sandstone	10' 5"	531' 0"
Shale	0' 6"	531' 6"
Sandstone	5' 0"	536' 6"
Sandstone (coarse)	3' 6"	540' 0"
Sandstone (medium-coarse)	11' 0"	551' 0"
Sandstone laminated with fine sandstone and shale blebs	3' 7"	554' 7"
Sandstone laminated with shale specks	3' 0"	557' 7"
Sandstone. Few shale bleb layers	6' 2"	563' 9"
Sandstone (laminated)	0' 4"	564' 1"
Sandstone	8' 11"	573' 0"
Sandstone. Few shale fragments & irregular coal markings	8' 2"	581' 2"
As above with much shale breccia	1' 3"	582' 5"
Shale	1' 4"	583' 9"
Sandstone with thin coal markings	1' 11"	585' 8"
Sandy shale	3' 6"	589' 2"
Shale	0' 8"	589' 10"
Sandstone	3' 7"	593' 5"
Sandstone, well laminated	5' 7"	599' 0"
Sandy shale	2' 0"	601' 0"
Shale, slightly sandy	10' 4"	611' 4"
Sandstone and sandy shale	3' 4"	614' 8"
Shale	3' 3"	617' 11"
Sandstone. Few shale blebs	2' 9"	620' 8"
Sandstone	18' 0"	638' 8"
Sandstone, considerable shale in lenses	6' 4"	645' 0"
Sandstone	3' 10"	648' 10"
Broken sandstone with a layer of shale breccia fragments	0' 6"	649' 4"
Sandstone (medium)	10' 8"	660' 0"
Sandstone (coarse)	7' 8"	667' 8"

Bore Hole No. 12 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone (medium - coarse)	9' 8"	677' 4"
Sandy shale	1' 1"	678' 5"
Shale Very thin coal markings	0' 9"	679' 2"
Sandstone. One coal mark 3/8" x 2"	1' 4"	680' 6"
Shale (green)	2' 0"	682' 6"
Shale(grey)	1' 0"	683' 6"
Sandstone and sandy shale	2' 6"	686' 0"
Sandstone	3' 10"	688' 10"
Shale	5' 0"	693' 10"
Sandstone	1' 4"	695' 2"
Shale, slightly sandy	0' 5"	695' 7"
Sandstone. Few shale fragments	10' 4"	705' 11"
Shale with coal layers 1/8"	0' 1"	706' 0"
Sandstone. Few pieces shale breccia	11' 1"	717' 1"
Shale	3' 4"	720' 5"
Sandstone. Few shale lenses	1' 3"	721' 8"
Shale	2' 9"	724' 5"
Sandy shale, laminated	2' 9"	727' 2"
Sandstone	0' 2"	727' 4"
Sandy shale	3' 0"	730' 4"
Sandstone	2' 10"	733' 2"
Sandy shale & laminated sandstone	1' 8"	734' 10"
Sandstone	4' 0"	738' 10"
Sandstone	20' 2"	759' 0"
Intraformational conglomerate	1' 0"	760' 0"
Sandstone	0' 10"	760' 10"
Shale	3' 8"	764' 6"
Sandy shale	3' 1"	767' 7"
Sandstone	4' 0"	771' 7"
Sandstone (laminated with sandy shale)	3' 2"	774' 0"
Sandstone	0' 7"	775' 4"
Sandstone (laminated with sandy shale)	2' 8"	778' 0"
Sandstone with several laminated shale blebs	1' 10"	779' 10"
Sandstone	16' 4"	796' 2"
Intraformational conglomerate. Shale lenses in sandstone	1' 10"	798' 0"
Sandstone, few large shale fragments	1' 9"	799' 9"
Sandstone. Few extaline & shale pebbles to 1/2"x1"	21' 11"	821' 8"
Sandstone. Few tiny pebbles last 6"	7' 0"	828' 8"
Sandstone and sandy shale	2' 8"	831' 4"
Shale. Few plant remains	2' 11"	834' 3"
Shale	0' 6"	834' 9"
Sandy shale	1' 5"	836' 2"
Sandstone grading to shale	2' 3"	838' 5"
Sandy shale and shale	6' 9"	845' 2"
Sandstone. Thinly laminated	2' 1"	847' 3"
Sandstone grading to sandy shale	1' 4"	848' 7"
Sandy shale	1' 3"	849' 10"
Shale	5' 0"	854' 10"

Bore Hole No. 12 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	1' 7"	856' 5"
Sandy shale	2' 5"	858' 10"
Sandstone with intermixed shale	5' 8"	864' 6"
Conglomerate 2" \emptyset	1' 0"	865' 6"
Sandstone	3' 0"	868' 6"
Conglomerate. Pebbles xtalline to 4" \emptyset	12' 9"	881' 3"
Sandstone	2' 2"	883' 5"
Sandstone with coal markings	0' 4"	883' 9"
Shale	0' 3"	884' 0"
Coal	0' 10"	884' 10"
Coal, slightly bony	0' 6"	885' 4"
Bone	0' 3"	885' 7"
Shale with thin coal markings	0' 8"	886' 3"
Shale with sandy laminations	23' 7"	909' 10"
Shale and coal	0' 2"	910' 0"
Coal	0' 7"	910' 7"
Shale and coal	0' 5"	911' 0"
Shale. Few coal marks to $\frac{1}{2}$ " thick	5' 4"	916' 4"
Coal	3' 10"	920' 2"
Shale	0' 2"	920' 4"
Coal	0' 4"	920' 8"
Shale and coal	1' 6"	922' 2"
Coal - dirty	2' 5"	924' 7"
Shale	0' 8"	925' 3"
Coal	0' 3"	925' 6"
Shale and coal markings	0' 3"	925' 9"
Shale	2' 6"	928' 3"
Coal	1' 8"	929' 11"
Shale and coal markings	0' 8"	930' 7"
Shale	1' 0"	931' 7"
Coal	0' 8"	932' 3"
Bony shale	0' 11"	933' 2"
Shale	6' 0"	939' 2"
Coal	2' 0"	941' 2"
Shale and coal markings	6' 0"	947' 2"
Coal	0' 6"	947' 8"
Shale and coal markings	2' 6"	950' 2"
Shale and 20% coal in thin lenses	0' 8"	950' 10"
Coal	0' 5"	951' 3"
Shale with coal markings	6' 8"	957' 11"
Shale	0' 4"	958' 3"
Shale with coal markings	1' 5"	959' 8"
Sandy shale with laminated sandstone	21' 3"	980' 11"
Shale with sandstone streaks, one coal markings 1" thick	0' 9"	981' 8"
Sandstone with shale laminations	3' 6"	985' 2"
Sandy shale with coal marks to 1"	1' 6"	986' 8"
Sandy shale	5' 0"	991' 8"
Sandy shale	8' 6"	1000' 2"
Sandstone with intermixed shale	0' 7"	1000' 9"

Bore Hole No. 12 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	2' 2"	1002' 11"
Sandstone	0' 6"	1003' 5"
Shale, somewhat sandy	5' 0"	1008' 5"
Shale & sandy shale (grey)	4' 4"	1012' 9"
Shale and sandy shale (red)	9' 10"	1022' 7"
Sandy shale (dark red)	1' 5"	1024' 0"
Sandy shale (green)	0' 10"	1024' 10"
Sandstone, sandy shale & laminated conglomerate	2' 10"	1027' 8"
Sandy shale	2' 6"	1030' 2"
Conglomerate with bands of sandstone	6' 0"	1036' 2"
Trap, conglomerate. Boulders trap with a few granite fragments	4' 6"	1040' 8"
Altered trap	5' 0"	1045' 8"
Altered trap. 99% chlorite	10' 6"	1056' 2"
Trap	1' 6"	1057' 8"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 13 *CR-13*
 Elevation: 450' *(375' on log)* Depth: 1354' 3"
 Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	9' 0"	9' 0"
Sandstone	28' 0"	37' 0"
Sandstone with shale	3' 0"	40' 0"
Sandstone with floating pebbles at 118-120; 130-140 and 150-156	116' 0"	156' 0"
Sandy shale grading to shale	4' 0"	160' 0"
Shale	0' 6"	160' 6"
Bone	0' 2"	160' 8"
Shale with thin coaly markings	1' 10"	162' 6"
Sandstone with sandy shale	6' 0"	168' 6"
Shale	1' 6"	170' 0"
Shale with coaly markings	0' 6"	170' 6"
Sandy shale and sandstone	4' 3"	174' 9"
Bony shale	0' 3"	175' 0"
Shale partly sandy. Few coaly markings	6' 9"	181' 9"
Black carbonaceous shale. Few thin coaly markings	0' 7"	182' 4"
Sandstone	6' 6"	188' 10"
Sandstone grading into shale with coal markings	0' 9"	189' 7"
Shale. Few coaly markings	3' 0"	192' 7"
Coal and shale	0' 1½"	192' 8½"
Sandy shale. Few coaly markings	4' 4½"	197' 1"
Sandstone	10' 10"	207' 11"
Conglomerate with rounded pebbles to 1"	1' 8"	209' 7"
Shale	0' 6"	210' 1"
Conglomerate	1' 6"	211' 7"
Sandy shale and sandstone	3' 0"	214' 7"
Sandstone	3' 0"	217' 7"
Shale	1' 0"	218' 7"
Sandstone and sandy shale	2' 0"	220' 7"
Shale	1' 6"	222' 1"
Sandy shale	12' 9"	234' 10"
Sandstone. Thin shale beds top 2'.	10' 9"	245' 7"
Sandstone. One calcite veinlet	15' 6"	261' 1"
Conglomerate pebbles to ¾" in coarse sandstone	5' 0"	266' 1"
Shale. Many thin coal markings to ½" thick	2' 0"	268' 1"
Sandy shale	1' 0"	269' 1"

Bore Hole No. 13 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale many thin coal markings	0' 4"	269' 5"
Shale becoming sandy shale	0' 2"	269' 7"
Sandy shale	1' 0"	270' 7"
Shale	0' 7"	271' 2"
Shale. Few coal markings to 1" thick	2' 10"	274' 0"
Coal. Good slight pyrite	0' 5½"	274' 5½"
Shale, few thin coal markings	6' 9½"	281' 3"
Sandstone	0' 6"	281' 9"
Shale. Patches with brown structures few thin coal markings 1/8"	6' 2"	287' 11"
Sandstone	0' 3"	288' 2"
Shale. Faint brown structures very thin coal marks	1' 5"	289' 7"
Shale. Brown structures, coal markings	1' 0"	290' 7"
Coal	0' 4½"	290' 11½"
Bony shale and coal	0' 2"	291' 1½"
Coal	0' 8"	291' 9½"
Shale	0' 8½"	292' 6"
Coal and shale	0' 3"	292' 9"
Shale. One lense coal 2" thick at 296'	3' 10"	296' 7"
Sandy shale	1' 0"	297' 7"
Sandstone with sandy shale	4' 8"	302' 3"
Sandstone with shale	4' 4"	306' 7"
Shale with numerous coal markings	1' 2"	307' 9"
Shale. Brown structures many thin coal markings	2' 0"	309' 9"
Sandstone with sandy shale. One 3/4" coal marking at 313'	3' 8"	313' 5"
Sandy shale and shale. 30° bedding angle	1' 2"	314' 7"
Shale. Brown structures,	½" 1' 4½"	315' 11½"
Coal and bone	0' 1½"	316' 1"
Shale. One thin sandstone bed	0' 6"	316' 7"
Coal and bone	0' 4"	316' 11"
Sandstone	2' 5"	319' 4"
Shale. Faint brown structures	0' 10"	320' 2"
Bony shale	0' 9"	320' 11"
Sandy shale	1' 9"	322' 8"
Sandstone	26' 8"	349' 4"
Conglomerate	2' 6"	351' 10"
Sandstone. Few shale blebs & angular fragments. One floating pebbles 356'	14' 2"	366' 0"
Shale	0' 7"	366' 7"
Sandstone (medium)	20' 0"	386' 7"
Sandstone (coarse)	7' 6"	394' 1"
Sandstone and sandy shale	1' 2"	395' 3"
Sandstone. Few coal markings shale nodules	1' 4"	396' 7"
Sandstone. Numerous shale blebs	3' 0"	399' 7"
Sandstone (coarse to medium)	7' 0"	406' 7"
Sandstone (medium)	7' 0"	413' 7"
Sandstone. Numerous shale blebs. Few coal markings to ½" thick	3' 0"	416' 7"

Bore Hole No. 13 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone (medium)	6' 0"	422' 7"
Sandstone (fine)	4' 0"	426' 7"
Sandstone (coarse)	6' 5"	433' 0"
Sandstone (fine)	3' 7"	436' 7"
Sandstone (coarse)	10' 0"	446' 7"
Sandstone (medium-coarse)	14' 7"	461' 2"
Shale with sandy shale	0' 5"	461' 7"
Sandstone	11' 6"	473' 1"
Sandstone with shale fragments	1' 6"	474' 7"
Sandstone	10' 0"	484' 7"
Sandstone. Shale blebs last 3'	13' 4"	497' 11"
Shaly conglomerate	0' 4"	498' 3"
Sandstone	23' 7"	521' 10"
Sandstone with scattered pebbles	0' 5"	522' 3"
Sandstone	9' 6"	531' 9"
Shale. Some coal markings to 1/8"	1' 0"	532' 9"
Coal	0' 6"	533' 3"
Sandy shale. Faint brown structures	0' 4"	533' 7"
Sandy shale. Intraformational conglomerate below	5' 0"	538' 7"
Sandstone	16' 0"	554' 7"
Sandstone with few floating pebbles to 3/4" Also some coal marks	2' 6"	557' 1"
Sandy shale and shale	2' 11"	560' 0"
Shale. Brown structures	0' 3"	560' 3"
Shale. One coal marking 1/8" thick	1' 5"	561' 8"
Shale. Brown structures	0' 5"	562' 1"
Sandy shale	12' 2"	574' 3"
Sandstone with shale	0' 7"	574' 10"
Sandstone	17' 3"	592' 1"
Conglomerate	2' 0"	594' 1"
Sandstone. Few scattered pebbles	10' 6"	604' 7"
Sandstone (medium)	15' 0"	619' 7"
Sandstone (coarse)	3' 0"	622' 7"
Sandy shale and shale	2' 6"	625' 1"
Sandstone	14' 6"	639' 7"
Sandy shale	1' 3"	640' 10"
Shale. Coal markings to 1/2"	0' 2"	641' 0"
Sandy shale. One coal marking	2' 8"	643' 8"
Bone and coal	0' 2"	643' 10"
Shale with blotches of sandstone	0' 2 1/2"	644' 1 1/2"
Coal and bone	0' 2"	644' 2 1/2"
Sandy shale	2' 7 1/2"	646' 10"
Sandy shale and sandstone	2' 9"	649' 7"
Shale and sandy shale	8' 0"	657' 7"
Shale	0' 4"	657' 11"
Sandy shale	4' 6"	662' 5"
Sandstone and sandy shale inter cross bedded	6' 8"	669' 1"
Sandy shale	0' 6"	669' 7"
Intraformational conglomerate sandy shale fragments in sandstone	0' 6"	670' 1"

Bore Hole No. 13 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone. Few scattered pebbles	15' 6"	685' 7"
Sandstone with more pebbles	2' 0"	687' 7"
Sandstone	9' 0"	696' 7"
Shale. Few coal markings to 1/8"	1' 0"	697' 7"
Shale	3' 4"	700' 11"
Sandstone and shale	1' 8"	702' 7"
Shale. Few coal markings to 1/8"	3' 0"	705' 7"
Sandy shale and sandstone	1' 0"	706' 7"
Shale and sandy shale	3' 4"	709' 11"
Sandy shale	2' 9"	712' 8"
Sandstone. Few thin interbeds of sandy shale	3' 11"	716' 7"
Sandstone	40' 0"	756' 7"
Sandstone. Few pebbles at 763'	8' 0"	764' 7"
Sandstone	8' 6"	773' 1"
Sandy shale and shale	3' 2"	776' 3"
Sandstone with shale beds	2' 4"	778' 7"
Sandy shale & sandstone. Grading to sandy shale	5' 0"	783' 7"
Sandy shale. Few thin coal markings	2' 10"	786' 5"
Sandy shale	7' 2"	793' 7"
Sandstone and sandy shale	3' 3"	796' 10"
Sandy shale	0' 4"	797' 2"
Bony shale	0' 2"	797' 4"
Sandy shale (brown and green)	6' 3"	803' 7"
Sandy shale (green)	3' 6"	807' 1"
Sandstone and sandy shale	12' 0"	819' 1"
Shale. Few thin coal markings	3' 0"	822' 1"
Sandy shale and sandstone	1' 0"	823' 1"
Shale. Few sandy layers, thin coal markings	8' 3"	831' 4"
Shale. Many thin coal markings 1/40"	0' 8"	832' 0"
Shale. Severed coal markings 1/16" x 2"	0' 6"	832' 6"
Sandstone. One coal marking 1/8" x 4"	1' 1"	833' 7"
Sandstone and sandy shale	3' 2"	836' 9"
Sandy shale	2' 0"	838' 9"
Sandy shale. Very few tiny coal marks	2' 2"	840' 11"
Sandy shale and sandstone	2' 8"	843' 7"
Sandstone and sandy shale	3' 0"	846' 7"
Shale. Slightly sandy. Few thin coal markings. One coal marking 1/2"	2' 0"	848' 7"
Sandy shale	5' 0"	853' 7"
Sandy shale. Few sandstone beds	10' 0"	863' 7"
Sandstone	10' 0"	873' 7"
Sandstone with a few rounded shale pebbles	19' 0"	892' 7"
Conglomerate pebbles to 2" in sandstone	0' 3"	892' 10"
Sandstone	2' 11"	895' 9"
Sandstone with many shale pebbles	0' 8"	896' 5"
Sandstone and sandy shale	7' 2"	903' 7"
Sandy shale. Few thin sandstone beds. One coal mark	6' 0"	909' 7"
Sandstone	7' 9"	917' 4"

Bore Hole No. 13 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone and sandy shale	7' 3"	924' 7"
Sandy shale	3' 8"	928' 3"
Sandy shale grading to sandstone	2' 2"	930' 5"
Sandstone & sandy shale, one coal marking 1/8"	7' 4"	937' 9"
Shale	1' 3"	939' 0"
Sandy shale	4' 7"	943' 7"
Shale	4' 6"	948' 1"
Sandy shale and sandstone	5' 6"	953' 7"
Sandstone (medium)	10' 0"	963' 7"
Sandstone (medium-coarse)	8' 6"	972' 1"
Sandstone with few pebbles 1/2" x 1"	3' 0"	975' 1"
Sandstone. Few pieces shale breccia	11' 3"	986' 4"
Sandstone. Many pieces shale breccia. Few pebbles	0' 3"	986' 7"
Sandstone with many small pebbles	7' 0"	993' 7"
Shale and coal	0' 1/2"	993' 7 1/2"
Sandstone with many small pebbles	0' 5 1/2"	994' 1"
Sandstone	4' 0"	998' 1"
Sandstone with many rounded shale fragments	1' 1"	999' 2"
Sandstone. Few pebbles 1/2" x 1"	0' 3"	999' 5"
Sandstone	12' 10"	1012' 3"
Sandstone. Few tiny coal markings	0' 5"	1012' 8"
Conglomerate	1' 3"	1013' 11"
Sandy shale	0' 9"	1014' 8"
Shale. Coal markings 1/2"	0' 4"	1015' 0"
Sandy shale and sandstone	2' 0"	1017' 0"
Shale	2' 6"	1019' 6"
Sandstone and sandy shale, laminated	1' 8"	1021' 2"
Shale	0' 7"	1021' 9"
Bony coal	0' 2 1/2"	1021' 11 1/2"
Shale, some sand grains	0' 9"	1022' 8 1/2"
Bony coal	0' 1 1/2"	1022' 10"
Sandy shale & sandstone. Many thin coal markings	2' 4"	1025' 2"
Sandstone	2' 6"	1027' 8"
Sandy shale and shale	1' 11"	1029' 7"
Sandstone & sandy shale, laminations	4' 0"	1033' 7"
Shale	0' 11"	1034' 6"
Coal. Slight bone throughout	2' 3"	1036' 9"
Shale, sandy shale OKN	0' 7"	1037' 4"
Sandy shale with laminated sandstone	7' 6"	1044' 10"
Sandstone, laminated sandy shale	1' 5"	1046' 3"
Sandstone, faintly laminated	15' 0"	1064' 3"
Sandstone with much laminated shale	1' 0"	1065' 3"
Shale, faintly laminated. Few coal markings	3' 5"	1068' 8"
Shale and coal	0' 4"	1069' 0"
Sandstone	0' 1"	1069' 1"
Bone with thin streaks of coal	1' 6"	1070' 7"
Coal	1' 0"	1071' 7"
Bone with thin streaks of coal	1' 0"	1072' 7"
Shale. thin coal markings	0' 8"	1073' 3"

Bore Hole No. 13 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale, well laminated	4' 10"	1078' 1"
Sandstone, few thin coal marks	1' 6"	1079' 7"
Bony shale, few lenses coal	0' 3"	1079' 10"
Shale	3' 6"	1083' 4"
Sandy shale and sandstone	2' 0"	1085' 4"
Bony coal	0' 4"	1085' 8"
Bony shale	1' 3"	1086' 11"
Shale	1' 3"	1088' 2"
Sandstone and sandy shale	3' 4"	1091' 6"
Shale. Several coal markings to 1/2"	1' 1"	1092' 7"
Coal	0' 4"	1092' 11"
Bony coal and shale	0' 3"	1093' 2"
Shale. Few coal markings to 1/2"	1' 5"	1094' 7"
Coal. Slight bone	3' 6"	1098' 1"
Shale and bone	1' 0"	1099' 1"
Bony coal	0' 6"	1099' 7"
Shale with coal markings	1' 6"	1101' 1"
Sandy shale and well laminated sandstone	8' 1"	1109' 2"
Sandstone with shale streaks	15' 0"	1124' 2"
Shale. 35% coal in lenses to 1/2"	0' 10"	1125' 0"
Coal	0' 6"	1125' 6"
Coal and shale	0' 2"	1125' 8"
Coal	0' 7"	1126' 3"
Coal, some bone, sandy shale	0' 6"	1126' 9"
Shale. 10% coal in thin lenses	0' 3"	1127' 0"
Shale and coal (35% coal)	1' 5"	1128' 5"
Shale with sandstone streaks.	18' 0"	1146' 5"
Coal	0' 5"	1146' 10"
Shale with sandstone streaks	2' 7"	1149' 5"
Coal	1' 0"	1150' 5"
Shale with many coal markings 1/8"	5' 0"	1155' 5"
Coal with streaks of pyrite	0' 8"	1156' 1"
Sandy shale and sandstone	6' 6"	1162' 7"
Bone with 25% coal	0' 5"	1163' 0"
Shale and coal (20% coal)	0' 4"	1163' 4"
Bone with 35% coal	0' 8"	1164' 0"
Shale	1' 0"	1165' 0"
Speckled sandy shale and sandstone	2' 6"	1167' 6"
Sandstone	0' 8"	1168' 2"
Sandy shale and sandstone	6' 3"	1174' 5"
Sandstone with shaly blotches	6' 0"	1180' 5"
Shale	1' 0"	1181' 5"
Sandstone with scattered pebbles	13' 0"	1194' 5"
Sandstone and laminated sandy shale	1' 8"	1196' 1"
Sandstone	6' 0"	1202' 1"
Conglomerate. Pebbles 1/2" x 3/8"	2' 1"	1204' 2"
Sandstone with fine conglomerate	2' 8"	1206' 10"
Coalic sandstone grading to fine conglomerate	3' 6"	1210' 4"
Conglomerate pebbles to 1" subangular	3' 6"	1213' 10"
Sandstone (coarse)	6' 2"	1220' 0"
Sandstone (medium-fine)	15' 5"	1235' 5"

Bore Hole No. 13 cont'd

	<u>Thickness</u>	<u>Depth</u>
Conglomerate	3' 4"	1238' 9"
Sandy shale and sandstone	4' 6"	1243' 3"
Shale with few coal markings $\frac{1}{2}$ "	0' 8"	1243' 11"
Sandy shale	0' 6"	1244' 5"
Shale with a few thin plant remains	0' 4"	1244' 9"
Shale. Several coal markings $\frac{1}{2}$ " - $\frac{1}{2}$ "	1' 0"	1245' 9"
Sandy shale	4' 3"	1250' 0"
Shale	1' 6"	1251' 6"
Bony shale and 15% coal	0' 4"	1251' 10"
Shale with several thin bony layers containing coal marks to $\frac{1}{2}$ "	5' 5"	1257' 3"
Shale with few bony layers	4' 0"	1261' 3"
Shale. Few coal markings $\frac{1}{2}$ " bony layers	6' 0"	1267' 3"
Sandy shale	1' 0"	1268' 3"
Sandstone with intermingled shale	0' 10"	1269' 1"
Coal. Some bone, calcite	0' 3"	1269' 4"
Shale and coal (40% coal)	0' 5"	1269' 9"
Shale. Few coal markings	6' 6"	1276' 3"
Sandy shale (blotchy)	4' 0"	1280' 3"
Sandy shale (red)	34' 8"	1314' 11"
Sandy shale (grey)	5' 0"	1319' 11"
Sandstone with pebbles ($\frac{1}{2}$ " x $\frac{1}{2}$ "), scattered more or less in layers	2' 4"	1322' 3"
Conglomerate (pebbles rounded 1") in sandstone.	32' 0"	1354' 3"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 14 *CR-14*

Elevation: 341' Depth: 959' 6"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	90' 3"	90' 3"
Sandstone. Few shale specks and blebs	46' 9"	137' 0"
Sandstone	10' 2"	147' 2"
Sandstone. Shale specks	2' 5"	149' 7"
Sandstone	7' 5"	157' 0"
Shale	0' 3"	157' 3"
Sandstone with scattered shale blebs	1' 5"	158' 8"
Sandstone	4' 0"	162' 8"
Sandstone (cross-bedded)	7' 5"	170' 1"
Sandstone	0' 11"	171' 0"
Sandstone, shale specks	5' 0"	176' 0"
Sandstone	14' 0"	190' 0"
Sandstone. Shale specks and blebs	19' 6"	209' 6"
Shale	3' 0"	212' 6"
Sandstone. Few shale fragments	3' 0"	215' 6"
Shale	0' 6"	216' 0"
Sandstone	2' 0"	218' 0"
Shale, faintly sandy	10' 0"	228' 0"
Shale	2' 8"	230' 8"
Sandstone	11' 3"	241' 11"
Sandstone	3' 5"	245' 4"
Shale	0' 2"	245' 6"
Sandstone	12' 4"	257' 10"
Sandstone	6' 0"	263' 10"
Sandy shale. Many sandstone laminations. Few thin coal marks	10' 6"	274' 4"
Sandy shale with sandstone laminations	6' 0"	280' 4"
Sandstone	2' 0"	282' 4"
Sandstone. Few laminations of shale specks	17' 6"	299' 10"
Sandstone	3' 2"	303' 0"
Sandstone	4' 0"	307' 0"
Shale	0' 9"	307' 9"
Sandstone	2' 3"	310' 0"
Shale	11' 0"	321' 0"
Sandstone	1' 0"	322' 0"
Sandy shale	1' 0"	323' 0"
Sandstone and sandy shale	5' 6"	328' 6"

Bore Hole No. 14 cont'd

	Thickness	Depth
Sandstone with laminations of sandy shale	4' 0"	332' 6"
Sandstone. Well laminated with sandy shale	0' 3"	332' 9"
Sandstone	8' 6"	341' 3"
Sandstone with scattered shale pebbles 3/4" x 1/2"		
One coal mark 3/8" x 1 1/2". One band of sandy shale	0' 5"	341' 8"
Sandstone	7' 2"	348' 10"
Shale	1' 8"	350' 6"
Sandstone	1' 6"	352' 0"
Shale. Few coal markings	2' 0"	354' 0"
Sandstone	2' 8"	356' 8"
Shale	3' 0"	359' 8"
Shale	4' 9"	364' 5"
Sandstone laminated with sandy shale	2' 3"	366' 8"
Sandstone	30' 0"	396' 8"
Sandstone	6' 0"	402' 8"
Shale	0' 11"	403' 7"
Sandy shale	0' 7"	404' 2"
Sandstone	2' 3"	406' 5"
Sandstone. Many calcite filled fractures 1/2"	3' 7"	410' 0"
Sandstone	8' 0"	418' 0"
Sandy shale	2' 6"	420' 6"
Shale	0' 6"	421' 0"
Sandstone. Laminated with sandy shale	6' 0"	427' 0"
Sandstone	24' 0"	451' 0"
Sandstone with many scattered pebbles xtalline Also 1/2" shale blebs	3' 0"	454' 0"
Sandstone. Few pebbles to 3/4" x 2"	6' 7"	460' 7"
Sandstone. Few bands of fine conglomerate	2' 6"	463' 1"
Sandstone. Few shale fragments 1/8" x 1/2"	3' 3"	466' 4"
Shale, slightly sandy	1' 1"	467' 5"
Sandy shale	16' 9"	484' 2"
Sandy shale	3' 10"	488' 0"
Sandy shale with many coal markings to 1/8" thick	0' 10"	488' 10"
Sandy shale	1' 6"	489' 4"
Sandstone	2' 2"	491' 6"
Shale	0' 6"	492' 0"
Sandy shale with thin sandy streaks	0' 10"	492' 10"
Sandy shale	1' 6"	493' 4"
Sandy shale	11' 1"	504' 5"
Sandstone. Several bands of boulders 1 1/2" Ø scattered throughout	12' 0"	516' 5"
Sandstone	5' 0"	521' 5"
Conglomerate. Boulders average 2" Ø	16' 4"	537' 9"
Sandstone with a few pebbles	1' 3"	539' 0"
Conglomerate, boulders 2" Ø. Last 8" gritty sandstone	3' 6"	542' 6"
Sandy shale (grey)	1' 0"	543' 6"
Sandy shale (red)	8' 6"	552' 0"
Sandy shale (grey)	0' 5"	552' 5"

Bore Hole No. 14 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale (red)	1' 0"	553' 5"
Sandstone with intermixed shale	3' 6"	556' 11"
Conglomerate. Pebbles over 1" Ø	4' 1"	561' 0"
Conglomerate. Pebbles over ½" Ø scattered. Much shale in ground mass	10' 0"	571' 0"
Shale	2' 6"	573' 6"
Coal (poor recovery)	2' 4"	575' 10"
Shale with coal markings	0' 4"	576' 2"
Shale. Few coal markings	2' 6"	578' 8"
Sandy shale. Laminated with sandstone	9' 4"	588' 0"
Shale and sandy shale	14' 0"	602' 0"
Sandy shale. Laminated with sandstone	0' 5"	602' 5"
Bone	0' 1"	602' 6"
Coal (fair recovery)	1' 6"	604' 0"
Shale. Many thin coal markings	0' 4"	604' 4"
Sandy shale. Coal marks to ½" thick	3' 8"	608' 0"
Sandy shale	8' 0"	616' 0"
Sandy shale with a few bands of sandstone	10' 0"	626' 0"
Sandy shale. Numerous coal marks to 1/16"	5' 10"	631' 10"
Coal (poor recovery)	1' 0"	632' 10"
Sandy shale	5' 10"	638' 8"
Sandy shale	6' 1"	644' 9"
Sandy shale (red)	1' 3"	646' 0"
Sandy shale (grey)	6' 0"	652' 0"
Sandstone(very fine grained)	2' 0"	654' 0"
Sandstone (very coarse)	12' 0"	666' 0"
Sandy shale. Few tiny coal markings	0' 6"	666' 6"
Sandstone (very coarse). Few shale fragments and streaks scattered throughout.	20' 6"	687' 0"
Conglomerate	15' 0"	702' 0"
Sandstone with bands of sandy shale	10' 0"	712' 0"
Sandy shale with some bands of shale	10' 0"	722' 0"
Sandy shale	16' 0"	738' 0"
Sandstone	15' 0"	753' 0"
Sandstone with bands of conglomerate, scant shale streaks and fragments	35' 0"	788' 0"
Sandstone & sandy shale. Slight conglomerate	10' 0"	798' 0"
Sandstone(coarse) with laminations of fine-grained sandstone & conglomerate in sandy shale	20' 0"	818' 0"
Sandy shale	3' 0"	821' 0"
Sandstone with shale mixed throughout. Few coal marks and shale lenses	3' 0"	824' 0"
Sandy shale and sandstone	4' 0"	828' 0"
Sandstone mixed with shale	12' 0"	840' 0"
Conglomerate	5' 0"	845' 0"
Sandstone	10' 0"	855' 0"
Conglomerate. Pebbles average 3/8". Few bands of sandy shale	11' 0"	866' 0"
Sandy shale	12' 3"	878' 3"

Bore Hole No. 14 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone with shale fragments	0' 9"	879' 0"
Sandy shale	5' 0"	884' 0"
Sandstone. Few coal lenses 1/8" thick	1' 6"	885' 6"
Conglomerate. Pebbles average 1" \emptyset nearly all trap	23' 0"	908' 6"
Sandy shale (red)	12' 0"	920' 6"
Sandy shale	1' 0"	921' 6"
Conglomerate	8' 0"	929' 6"
Sandy shale (red)	4' 0"	933' 6"
Sandy shale	18' 0"	951' 6"
Sandy shale (red)	5' 0"	956' 6"
Conglomerate	3' 0"	959' 6"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 16 *CR-16*

Elevation: 351'

Depth: 1251' 4"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Sand and clay	16' 0"	16' 0"
Sand and clay with bands of gravel	14' 0"	30' 0"
Clay	34' 0"	64' 0"
Gravel	1' 0"	65' 0"
Clay with bands of gravel	9' 0"	74' 0"
Boulder	1' 0"	75' 0"
Gravel & boulders (clay?) (till)	2' 0"	77' 0"
Nest of boulders in gravel (clay?) (till)	10' 0"	87' 0"
Gravel and boulders (clay?) (till)	37' 0"	124' 0"
Clay with bands of gravel & boulders	50' 0"	174' 0"
Sand and gravel in clay	22' 0"	196' 0"
Sandstone	4' 0"	200' 0"
Sandstone	15' 0"	215' 0"
Shale	14' 0"	229' 0"
Sandy shale, laminated with sandstone	2' 0"	231' 0"
Shale, slightly sandy	3' 0"	234' 0"
Sandstone. Few thin coal marks	1' 0"	235' 0"
Sandy shale. Few coal markings	5' 0"	240' 0"
Sandstone with a few shale fragments	7' 0"	247' 0"
Sandy shale with sandstone laminations	11' 0"	258' 0"
Sandstone	7' 0"	265' 0"
Sandstone and sandy shale	5' 0"	270' 0"
Shale	7' 0"	277' 0"
Shale with coal markings	1' 6"	278' 6"
Coal	0' 2"	278' 8"
Shale with coal	0' 4"	279' 0"
Coal	0' 2"	279' 2"
Shale	2' 0"	281' 2"
Coal	0' 2"	281' 4"
Shale with coal markings	1' 8"	283' 0"
Shale	3' 0"	286' 0"
Sandstone	2' 0"	288' 0"
Shale	2' 0"	290' 0"
Sandy shale	7' 0"	297' 0"
Shale	9' 0"	306' 0"
Sandstone	19' 6"	325' 6"
Sandstone, laminated with sandy shale	1' 3"	326' 9"
Sandstone with interlaminated shale	5' 3"	332' 0"
Shale. Few coal markings	8' 0"	340' 0"
Sandstone	6' 0"	346' 0"

Bore Hole No. 16 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	2' 0"	348' 0"
Sandstone	11' 0"	359' 0"
Shale	3' 6"	362' 6"
Sandstone	1' 6"	364' 0"
Shale	3' 0"	367' 0"
Shale	2' 0"	369' 0"
Sandstone	6' 0"	375' 0"
Shale	1' 0"	376' 0"
Sandy shale	2' 0"	378' 0"
Sandstone	18' 0"	396' 0"
Sandstone. Few shale fragments 3/8" Ø	23' 0"	419' 0"
Sandstone	7' 0"	426' 0"
Sandy shale	5' 0"	431' 0"
Shale	6' 0"	437' 0"
Sandy shale	1' 0"	438' 0"
Shale	3' 0"	441' 0"
Sandstone, slight sandy shale	3' 0"	444' 0"
Shale	9' 0"	453' 0"
Sandstone	6' 0"	459' 0"
Sandstone, Few shale fragments	36' 0"	495' 0"
Shale	2' 0"	497' 0"
Coal with shale	0' 2"	497' 2"
Shale	3' 6"	500' 8"
Shale with thin beds of sandstone	1' 0"	501' 8"
Sandy shale	4' 4"	506' 0"
Sandstone	2' 0"	508' 0"
Sandstone	33' 0"	541' 0"
Sandstone	8' 0"	549' 0"
Sandstone. Few shale fragments	12' 6"	561' 6"
Conglomerate with 30% shale fragments	1' 0"	562' 6"
Sandstone	4' 0"	566' 6"
Sandstone	5' 6"	572' 0"
Sandstone	14' 8"	586' 8"
Sandstone	0' 10"	587' 6"
Sandstone	4' 6"	592' 0"
Sandstone. Few shale fragments	65' 6"	657' 6"
Sandstone	1' 6"	659' 0"
Sandstone with numerous small shale fragments	19' 6"	678' 6"
Shale	0' 6"	679' 0"
Sandstone	21' 4"	700' 4"
Shale, slightly sandy	3' 9"	704' 1"
Sandstone. Few shale fragments	27' 7"	731' 8"
Sandstone. Many shale laminations	3' 0"	734' 8"
Shale. Few scattered coal marks	7' 10"	742' 6"
Calcite-coal. 75% calcite in thin veinlets	0' 1"	742' 7"
Shale	14' 5"	757' 0"
Sandy shale with interbedded sandstone	12' 6"	769' 6"
Sandstone	8' 8"	778' 2"
Shale, very few coal markings	1' 0"	779' 2"
Shale with coal markings	0' 10"	780' 0"

Bore Hole No. 16 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale, faintly sandy	2' 3"	782' 3"
Sandy shale with beds of sandstone	4' 0"	786' 3"
Sandstone	1' 9"	788' 0"
Sandy shale	0' 5"	788' 5"
Sandstone with shale fragments	17' 0"	805' 5"
Sandstone	8' 7"	814' 0"
Sandstone with scattered xtalling pebbles 3/8"Ø	10' 0"	824' 0"
Same as above with large shale fragments and one coal mark ½"	0' 8"	824' 8"
Sandstone	7' 0"	831' 8"
Conglomerate with 15% pebbles xtalline rocks to 1"Ø	5' 0"	836' 8"
Sandstone	13' 4"	850' 0"
Sandstone with shale pebbles	28' 8"	878' 8"
Shale	10' 0"	888' 8"
Shale, slightly sandy	1' 8"	890' 4"
Sandy shale becoming quite sandy	3' 6"	893' 10"
Sandstone	21' 4"	915' 2"
Shale	2' 0"	917' 2"
Sandstone with laminated sandy shale	2' 4"	919' 6"
Shale (begin driller)	14' 6"	934' 0"
Sandstone	9' 0"	943' 0"
Sandy shale	2' 0"	945' 0"
Shale	6' 0"	951' 0"
Sandy shale	3' 0"	954' 0"
Sandstone	34' 0"	988' 0"
Shale and sandstone	1' 0"	989' 0"
Sandstone	11' 0"	1000' 0"
Shale	2' 0"	1002' 0"
Sandy shale	2' 0"	1004' 0"
Shale with sandstone structures	5' 0"	1009' 0"
Shale	4' 0"	1013' 0"
Sandy shale	6' 0"	1019' 0"
Sandstone with shale structures	4' 0"	1023' 0"
Sandstone	28' 0"	1051' 0"
Shale	2' 0"	1053' 0"
Sandy shale	2' 0"	1055' 0"
Sandstone	2' 0"	1057' 0"
Sandstone with shale structures	6' 0"	1063' 0"
Shale	0' 6"	1063' 6"
Sandy shale	4' 6"	1068' 0"
Sandy shale with bands of sandstone	4' 0"	1072' 0"
Sandstone	5' 0"	1077' 0"
Shale	9' 6"	1086' 6"
Shale with sandstone structures	2' 0"	1088' 6"
Sandstone	44' 6"	1133' 0"
Shale	5' 6"	1138' 6"
Sandstone	18' 0"	1156' 6"
Shale	6' 6"	1163' 0"

Bore Hole No. 16 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale	6' 0"	1169' 0"
Sandstone	1' 6"	1170' 6"
Shale	9' 6"	1180' 0"
Sandstone	1' 0"	1181' 0"
Shale with sandstone structures	9' 0"	1190' 0"
Sandstone with shale structures	5' 0"	1195' 0"
Conglomerate	1' 0"	1196' 0"
Shale	2' 0"	1198' 0"
Altered (decomposed) trap	14' 0"	1212' 0"
Trap	39' 4"	1251' 4"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPELL RIVER AREA

Bore Hole No. 17 *CR-17*

Elevation: 376'

Depth: 598' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	3' 0"	3' 0"
Sandstone	30' 0"	33' 0"
Sandy shale	2' 0"	35' 0"
Shale	6' 6"	41' 6"
Shale, faintly sandy	1' 6"	43' 0"
Shale	2' 0"	45' 0"
Sandy shale	1' 4"	46' 4"
Shale	2' 8"	49' 0"
Sandstone	16' 0"	65' 0"
Sandstone (broken)	5' 0"	70' 0"
Sandstone	12' 0"	82' 0"
Sandstone with a few rounded shale fragments	3' 0"	85' 0"
Sandy shale with a few coal markings and sandstone laminations	8' 0"	93' 0"
Sandstone and sandy shale	39' 0"	132' 0"
Sandy shale	0' 3"	132' 3"
Sandstone with numerous small shale fragments	5' 0"	137' 3"
Sandy shale (grey)	8' 9"	146' 0"
Sandy shale (red)	3' 0"	149' 0"
Sandy shale (grey)	1' 8"	150' 8"
Sandstone with a few scattered xtalline pebbles 3/4" \emptyset in th top 20'	39' 4"	190' 0"
Sandy shale	12' 0"	202' 0"
Sandy shale (red)	10' 6"	212' 6"
Sandy shale grading to sandstone	2' 0"	214' 6"
Sandy shale	9' 0"	223' 6"
Sandstone with broad bands of sandy shale	3' 6"	227' 0"
Sandstone	5' 6"	232' 6"
Sandstone with coal markings	2' 6"	235' 0"
Sandstone (white)	2' 3"	237' 3"
Sandstone (grey)	2' 0"	239' 3"
Sandstone. Top 1" with many xtalline pebbles 1/2" \emptyset	3' 0"	242' 3"
Conglomerate. Cobbles maximum 3" \emptyset	17' 9"	260' 0"
Sandstone with scattered xtalline pebbles to 1" \emptyset	11' 0"	271' 0"
Sandy shale	0' 8"	271' 8"
Bony shale	0' 2"	271' 10"
Bony coal	0' 6"	272' 4"
Sandy shale. Several 1/2" coal marks	2' 6"	274' 10"
Shale	2' 0"	276' 10"

Bore Hole No. 17 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale becoming sandstone	3' 10"	280' 8"
Sandstone	12' 0"	292' 8"
Shale with numerous small coal marks	1' 10"	294' 6"
Sandstone thinly laminated with sandy shale	44' 9"	339' 3"
Coal with some sulfur bands & calcite streaks. Otherwise good.	1' 1"	340' 4"
Shale with 3/8" coal markings	1' 0"	341' 4"
Coal with a few 1/8" shale & sulfur lenses	0' 6"	341' 10"
Sandy shale. Top 5' contains numerous coal marks to 3/8"	8' 2"	350' 0"
Sandstone, well laminated with sandy shale and V.F.G. sandstone	4' 4"	354' 4"
Sandy shale with increasing amounts of coal lenses. Last 1" bony coal	1' 8"	356' 0"
Shale. Many small coal markings	0' 8"	356' 8"
Sandstone laminated with sandy shale. Few small coal markings	1' 3"	357' 11"
Shale with many small coal markings. Few 1/2" x 2". Coal markings	2' 7"	360' 6"
Coal (bony on top and bottom)	1' 2"	361' 8"
Bony shale	1' 2"	362' 10"
Sandy shale with sandstone laminations. Several 1/2" coal lenses. Many thin coal markings	10' 0"	372' 10"
Shale and coal	0' 2"	373' 0"
Coal	1' 2"	374' 2"
Coal and shale	0' 6"	374' 8"
Coal	2' 0"	376' 8"
Shale and coal	0' 4"	377' 0"
Coal	2' 10"	379' 10"
Shale and coal	0' 2"	380' 0"
Sandstone laminated with sandy shale. Few 1" coal lenses	5' 6"	385' 6"
Sandstone	8' 6"	394' 0"
Sandstone with a few thin laminations of sandy shale	29' 6"	423' 6"
Conglomerate	3' 0"	426' 6"
Sandstone	5' 6"	432' 0"
Conglomerate	1' 0"	433' 0"
Sandy shale grading to sandstone	1' 0"	434' 0"
Sandstone	2' 0"	436' 0"
Sandstone with bands of conglomerate	58' 0"	494' 0"
Conglomerate	2' 0"	496' 0"
Sandstone	2' 0"	498' 0"
Conglomerate in a sandy shale matrix	4' 0"	502' 0"
Sandy shale	12' 0"	514' 0"
Conglomerate in a sandy shale matrix	1' 6"	515' 6"
Sandy shale	1' 6"	517' 0"
Conglomerate in a sandy shale matrix	2' 0"	519' 0"

Bore Hole No. 17 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale	4' 6"	523' 6"
Conglomerate in a sandy matrix	1' 6"	525' 0"
Sandy shale	1' 0"	526' 0"
Conglomerate in a sandy matrix	0' 6"	526' 6"
Sandy shale (red)	13' 6"	540' 0"
Sandy shale (grey)	1' 0"	541' 0"
Sandy shale (red)	2' 6"	543' 6"
Conglomerate in a shale matrix	3' 0"	546' 6"
Sandy shale	1' 6"	548' 0"
Conglomerate in a sandy shale matrix	0' 6"	548' 6"
Sandy shale	1' 0"	549' 6"
Conglomerate in a sandy shale matrix	7' 6"	557' 0"
Sandy shale	2' 0"	559' 0"
Trap conglomerate	4' 0"	563' 0"
Sandy shale with a few pebbles & coal marks	4' 0"	567' 0"
Trap conglomerate	3' 0"	570' 0"
Shale	6' 0"	576' 0"
Trap conglomerate	22' 0"	598' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 18 *CR-18*

Elevation: 396'

Depth: 409' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	66' 0"	66' 0"
Sandstone	5' 0"	71' 0"
Sandstone with scattered xtalline pebbles to ½" Ø	8' 0"	79' 0"
Conglomerate. Pebbles to 3" Ø	6' 0"	85' 0"
Sandstone with coal markings	1' 6"	86' 6"
Conglomerate. Pebbles to 3" Ø	6' 6"	93' 0"
Sandstone with scattered pebbles to 3/4" Ø	13' 4"	106' 4"
Sandy shale (grey)	1' 1"	107' 5"
Sandy shale (red)	2' 6"	109' 11"
Shale becoming sandy	3' 0"	112' 11"
Sandy shale & sandstone. Few coal markings	2' 7"	115' 6"
Shale	4' 6"	120' 0"
Laminated sandstone & sandy shale	4' 0"	124' 0"
Conglomerate. Pebbles average 1" Ø, maximum 5" Ø in sandstone	28' 9"	152' 9"
Sandy shale, with thin coal markings	0' 9"	153' 6"
Coal	1' 0"	154' 6"
Shale and coal	0' 6"	155' 0"
Coal	0' 6"	155' 6"
Shale and coal	0' 6"	156' 0"
Shale with coal markings	3' 0"	159' 0"
Shale with coal markings	0' 3"	159' 3"
Shale and coal	0' 6"	159' 9"
Coal	0' 6"	160' 3"
Shale and coal	0' 9"	161' 0"
Shale with coal markings	0' 6"	161' 6"
Shale	0' 11"	162' 5"
Coal	1' 4"	163' 9"
Shale with coal markings	0' 2"	163' 11"
Shale	2' 3"	166' 2"
Coal	1' 2"	167' 4"
Shale	0' 4"	167' 8"
Coal	0' 2"	167' 10"
Shale with coal markings	3' 6"	171' 4"
Sandy shale with laminations of sandstone	18' 8"	190' 0"
Shale and bony shale with coal lenses	0' 6"	190' 6"
Sandy shale with heavy coal marks in th last 12"	6' 8"	197' 2"

Bore Hole No. 18 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	0' 4"	197' 6"
Coal in thin bony bands	0' 4"	197' 10"
Sandy shale with many coal markings	0' 8"	198' 6"
Sandy shale with numerous coal markings 1/8"	12' 6"	211' 0"
Coal	2' 0"	213' 0"
Shale	0' 4"	213' 4"
Shale (brown)	0' 2"	213' 6"
Shale	0' 3"	213' 9"
Coal	3' 8"	217' 5"
Shale and coal	0' 10"	218' 3"
Laminated sandstone & sandy shale	4' 3"	222' 6"
Sandstone with a few shale blebs and very thin coal markings	6' 0"	228' 6"
Sandy shale (grey)	10' 0"	238' 6"
Sandy shale (red)	22' 0"	260' 6"
Sandy shale (grey)	6' 0"	266' 6"
Sandstone and sandy shale	9' 0"	275' 6"
Sandstone	5' 6"	281' 0"
Conglomerate. (quartz grains, maximum 3/8" - 3/4" in sandstone)	16' 0"	297' 0"
Conglomerate. (coarser and more pebbles than above)	3' 0"	300' 0"
Conglomerate (as next above). Subangular pebbles 1/2" \emptyset	7' 0"	307' 0"
Coarse conglomerate (as next above)	0' 2"	307' 2"
Shaly conglomerate. 15% angular. Quartz pebbles in sandy shale	1' 10"	309' 0"
Conglomerate (similar to above) angular 1" \emptyset pebbles with a few shaly bands. One coal mark 1/8"	5' 0"	314' 0"
Sandy shale speckled with quartz grains	4' 6"	318' 6"
Trap conglomerate. Subangular, Trap cobbles maximum 8" \emptyset , average 2" \emptyset with ground mass showing small amounts of sandy shale. Carbonate rings around many of the cobbles 1/8" thick. Few thin bands of shale. No coal marks	88' 6"	407' 0"
Trap (?)	2' 0"	409' 0"

(2)

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No.19 *CR-19*

Elevation: 398'

Depth: 226' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	52' 0"	52' 0"
Sandy shale with bands of sandstone	6' 8"	58' 8"
Sandy shale with coal markings	1' 0"	59' 8"
Sandy shale with bands of sandstone	1' 6"	61' 2"
Sandstone. Few thin coal markings	4' 0"	65' 2"
Sandstone and sandy shale	3' 2"	68' 4"
Sandy shale with bands of sandstone	12' 4"	80' 8"
Sandstone. Some sandy shale & coal markings	0' 4"	81' 0"
Coal	0' 6"	81' 6"
Sandy shale laminated with sandstone	6' 0"	87' 6"
Conglomerate	3' 6"	91' 0"
Conglomerate. Some small shale lenses, few tiny coal marks	21' 0"	112' 0"
Sandy shale (grey)	13' 0"	125' 0"
Sandy shale (red)	11' 6"	136' 6"
Sandy shale (grey)	10' 3"	146' 9"
Sandstone	10' 2"	156' 11"
Sandstone. Few scattered pebbles	1' 8"	158' 7"
Conglomerate. Nearly all subangular trap pebbles to 3" ϕ . Averaging 1" ϕ	5' 8"	164' 3"
As above with several 12" bands of sandy shale	18' 9"	183' 0"
Altered trap with hematite bands and thin calcite stringers	10' 0"	193' 0"
Altered trap	3' 6"	196' 6"
Altered trap. Boulders show deep weathering	17' 6"	214' 0"
Trap. Hematite replacement at two shear zones. Native copper from 203' - 227'	12' 0"	226' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 20 *CR-20*

Elevation: 370'

Depth: 178' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Sand	169' 0"	169' 0"
Trap (somewhat altered)	3' 0"	172' 0"
Trap (unaltered)	6' 0"	178' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 21 *CR-21*

Elevation: 408'

Depth: 194' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Broken & weathered conglomerate cobbles to 3" in diameter	23' 0"	23' 0"
Medium sandstone white, laminated with shale and coarse sandstone, few small coal marks	7' 0"	30' 0"
Dark sandy shale with many thin lenses of fine white sandstone	12' 0"	42' 0"
Medium sandstone white, with blotchy laminae of shale	0' 7"	42' 7"
Shale, faintly sandy, with faint brown streaks and coal marks	2' 0"	44' 7"
Dark sandy shale with thin laminae or lenses of fine white sandstone	17' 9"	62' 4"
Dark sandy shale with few thin bands yellowish-brown very fine grain sandstone	10' 8"	73' 0"
Medium-coarse white sandstone. Few shale fragments, coal marks	9' 7"	82' 7"
Dark sandy shale with bands of yellow, very fine grain sandstone	9' 9"	92' 4"
Shale and coal	0' 4"	92' 8"
Coal	0' 4"	93' 0"
Shale with coal marks	0' 8"	93' 8"
Coal	0' 5"	94' 1"
Brown shale and coal	0' 10"	94' 11"
Coal	0' 2"	95' 1"
Shale and coal	0' 2"	95' 3"
Coal	1' 6"	96' 9"
Shale and coal	0' 4"	97' 1"
Light grey sandy shale, few thin lenses of white fine grain sandstone	6' 1"	103' 2"
Medium sandstone with laminae of dark sandy shale	5' 5"	108' 7"
Very coarse white sandstone	11' 5"	120' 0"
Fine white conglomerate with a few rounded shale fragments	13' 0"	133' 0"
Sandy shale, grey	10' 4"	143' 4"
Sandy shale, maroon	4' 4"	147' 8"
Grey sandy shale becoming speckled and grading to grey medium sandstone with shale	2' 0"	149' 8"
Conglomerate, white, fine	3' 6"	153' 2"

Bore Hole No. 21 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale medium	5' 2"	158' 4"
Sandy shale, grey	5' 1"	163' 5"
Bony coal	0' 2"	163' 7"
Shale with coal marks	0' 2"	163' 9"
Grey shale, faintly sandy	0' 6"	164' 3"
Bone with thin lenticles of coal	0' 3"	164' 6"
Sheared shale with few coal marks	2' 5"	166' 11"
Coarse white sandstone	10' 8"	177' 7"
Sandy shale, red, speckled	2' 10"	180' 5"
Coarse conglomerate cobbles trap to 3" in diameter in red sandy shale matrix	13' 7"	194' 0"

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WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 22 *CR-22*

Elevation: 370'

Depth: 475' 6"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	142' 0"	142' 0"
Sandstone, becoming laminated	6' 6"	148' 6"
Sandstone with scattered xtaline pebbles to 2"Ø	15' 6"	165' 0"
Sandy shale	10' 0"	175' 0"
Sandstone (fine becoming medium)	2' 0"	177' 0"
Sandstone (medium becoming coarse)	5' 0"	182' 0"
Conglomerate. Pebbles to 2" Ø	35' 0"	217' 0"
Shale with much coaly matter	0' 11"	217' 11"
Coal and shale	0' 10"	218' 9"
Shale with coal markings	0' 6"	219' 3"
Coal	0' 8"	219' 11"
Shale and coal	0' 6"	220' 5"
Shale	1' 2"	221' 7"
Coal and shale	0' 5"	222' 0"
Shale with coal markings	4' 0"	226' 0"
Coal	1' 0"	227' 0"
Shale with coal markings and bands of coal to 4" thick	5' 2"	232' 2"
Shale	2' 10"	235' 0"
Coal	1' 0"	236' 0"
Shale and coal	0' 6"	236' 6"
Coal	1' 0"	237' 6"
Shale	8' 10"	346' 4"
Coal and shale	0' 5"	346' 9"
Shale with coal markings on the top and bottom portions	3' 6"	350' 3"
Coal	0' 6"	350' 9"
Shale with coal markings on the top & bottom portions	5' 3"	356' 0"
Coal	0' 6"	356' 6"
Shale	3' 6"	360' 0"
Sandstone with shale streaks	7' 0"	367' 0"
Coarse sandstone verging on conglomerate with a few thin shale bands	42' 0"	409' 0"
Sandy shale with blotches of sandstone	3' 4"	412' 4"
Sandy shale (red)	1' 9"	414' 1"
Sandy shale (grey)	2' 5"	416' 6"
Sandy shale (red)	0' 9"	417' 3"
Sandy shale (grey)	1' 3"	418' 6"
Sandy shale (red)	25' 4"	443' 10"
Sandy shale (red and grey)	6' 10"	450' 8"

Bore Hole No. 22 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale (grey) becoming more shaly	7' 0"	457' 8"
Laminated sandy shale and sandstone	1' 0"	458' 8"
Conglomerate with xtalline pebbles to $\frac{1}{2}$ " \emptyset	5' 9"	464' 5"
Sandstone	0' 7"	465' 0"
Conglomerate with xtalline pebbles to $\frac{1}{2}$ " \emptyset	10' 6"	475' 6"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 23 **CR-23**

Elevation: 364'

Depth: 359' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	42' 0"	42' 0"
Sandstone. Scattered small xtaline pebbles top 2'	21' 10"	63' 10"
Conglomerate with small shale lenses	5' 2"	69' 0"
Laminated sandstone and sandy shale	2' 6"	71' 6"
Sandstone	5' 0"	76' 6"
Shale	1' 6"	78' 0"
Shale, slightly sandy	6' 8"	84' 8"
Sandy shale	3' 4"	88' 0"
Laminated sandstone and sandy shale	6' 0"	94' 0"
Sandstone with thin laminations of sandy shale	5' 0"	99' 0"
Sandstone. Scattered xtaline & shale pebbles to 1" Ø	9' 6"	108' 6"
Conglomerate. Broken pebbles over 1" Ø	8' 0"	116' 6"
Sandstone. One layer of pebbles at 124'	13' 6"	130' 0"
Sandy shale with thin bands of sandstone. One 2" coal lense at 147'	25' 0"	155' 0"
Coal	3' 2"	158' 2"
Shale	0' 1"	158' 3"
Coal	1' 5"	159' 8"
Shale and coal	0' 3"	159' 11"
Coal	1' 0"	160' 11"
Shale and coal	0' 4"	161' 3"
Shale	0' 8"	161' 11"
Coal	0' 3"	162' 2"
Shale with many coal lenticles	0' 4"	162' 6"
Shale with coal markings	3' 6"	166' 0"
Coal. Bottom ½ with thin bony bands	1' 6"	167' 6"
Shale with few coal markings	3' 6"	171' 0"
Sandstone. Thin laminations of shale	5' 0"	176' 0"
Bony shale with sandstone lenses	0' 3"	176' 3"
Coal with sulfur and bone bands	0' 5"	176' 8"
Shale. Few bands & laminations of sandstone	8' 9"	185' 5"
Coal	2' 11"	188' 4"
Shale. Few thin coal markings	3' 0"	191' 4"
Sandy shale with a few bands of sandstone	17' 11"	209' 3"
Thinly laminated sandstone and sandy shale	4' 6"	213' 9"
Fairly sandy shale with a few thin bands of sandstone	10' 3"	224' 0"
Sandstone & shale. Few coal marks	0' 7"	224' 7"

Bore Hole No. 23 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale. Several coal marks to 1" thick	8' 11"	233' 6"
Coal and bony shale	0' 6"	234' 0"
Sandy shale. Few coal & sandstone lenses	1' 0"	235' 0"
Coal	5' 3"	240' 3"
Shale	0' 6"	240' 9"
Shale and coal	9' 4"	241' 1"
Shale	3' 3"	244' 4"
Sandy shale (quite sandy)	9' 0"	253' 4"
Sandy shale	2' 0"	255' 4"
Sandstone with intermixed shale	2' 8"	258' 0"
Sandy shale (grey)	6' 0"	264' 0"
Sandy shale (red)	18' 8"	272' 8"
Sandstone with some sandy shale	6' 10"	279' 6"
Conglomerate (½" crystalline pebbles)	31' 0"	310' 6"
Shale becoming very sandy	1' 0"	311' 6"
Conglomerate	17' 6"	339' 0"
Sandstone with intermixed shale	1' 0"	340' 0"
Conglomerate	4' 0"	344' 0"
Shale becoming shaly conglomerate. Angular crystalline pebbles to ½" Ø throughout	2' 0"	346' 0"
Sandy shale	4' 0"	350' 0"
Shaly conglomerate & sandy shale with numerous layers of angular pebbles to ½" Ø. Few thin coal marks	5' 0"	355' 0"
Trap conglomerate. Boulders in altered trap to 10"	4' 0"	359' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 24 *CR-24*

Elevation: 364'

Depth: 604' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	105' 0"	105' 0"
Sandstone becoming shale	5' 0"	110' 0"
Shale becoming sandstone and sandy shale	2' 0"	112' 0"
Shale with bands of sandstone	2' 0"	114' 0"
Sandy shale becoming sandier	1' 0"	115' 0"
Sandstone	3' 0"	118' 0"
Shale	1' 0"	119' 0"
Sandy shale	2' 6"	121' 6"
Shale	3' 0"	124' 6"
Sandy shale	10' 0"	134' 6"
Sandy shale becoming sandstone	5' 0"	139' 6"
Sandstone	20' 9"	160' 3"
Shale	4' 9"	165' 0"
Sandy shale	4' 8"	169' 8"
Sandstone becoming sandy shale	1' 3"	170' 11"
Sandy shale	4' 4"	175' 3"
Sandstone	3' 5"	178' 8"
Sandstone	6' 0"	184' 8"
Sandstone with a few shale lenses. 2 coal marks 1" and ½" thick in the last 16"	36' 0"	220' 8"
Conglomerate with 1" angular shale fragments	1' 4"	222' 0"
Shale	4' 0"	226' 0"
Sandstone and sandy shale	19' 0"	245' 0"
Sandstone	11' 0"	256' 0"
Sandstone with a few scattered pebbles	10' 0"	266' 0"
Conglomerate	3' 10"	269' 10"
Sandstone	8' 6"	278' 4"
Shale, faintly sandy	7' 8"	286' 0"
Sandy shale	9' 0"	295' 0"
Sandy shale (green)	7' 0"	302' 0"
Sandy shale (maroon)	2' 0"	304' 0"
Sandy shale becoming laminated with sandstone	4' 0"	308' 0"
Sandstone laminated with sandy shale. 2 coal marks ½" & 1/8" in the last 6"	6' 0"	314' 0"
Sandstone with scattered xtalline pebbles averaging 1½" ø	8' 0"	322' 0"
Conglomerate (xtalline pebbles as above) one 12" sandstone band	4' 0"	326' 0"

Bore Hole No. 24 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone	1' 3"	327' 3"
Conglomerate	25' 9"	353' 0"
Sandstone with a shaly matrix	1' 9"	354' 9"
Shale with a few layers of sandstone	3' 9"	358' 6"
Sandy shale and sandstone	24' 4"	382' 10"
Shale and coal	0' 3"	383' 1"
Coal	1' 2"	384' 3"
Shale with coal markings	1' 0"	385' 3"
Coal	0' 3"	385' 6"
Shale and coal	0' 3"	385' 9"
Shale	0' 9"	386' 6"
Shale with coal markings	0' 3"	386' 9"
Shale	1' 8"	388' 5"
Shale with coal markings	0' 5"	388' 10"
Shale and coal	0' 10"	389' 8"
Coal	0' 3"	389' 11"
Coal and shale	0' 2"	390' 1"
Coal	0' 10"	390' 11"
Shale with coal markings	0' 4"	391' 3"
Sandy shale with a few thin bands of sandstone	1' 0"	392' 3"
Coal	0' 8"	392' 11"
Bony shale	0' 5"	393' 4"
Shale with thin sandy bands	15' 8"	409' 0"
Sandstone with much laminated sandy shale	8' 0"	417' 0"
Sandy shale becoming shale with bands of sandstone	19' 0"	436' 0"
Sandstone laminated with thin shaly bands. Few coal marks	12' 0"	448' 0"
Shale. Few tiny coal markings	6' 8"	454' 8"
Shale and coal	0' 6"	455' 2"
Coal	2' 6"	457' 8"
Shale and coal	0' 11"	458' 7"
Shale with coal markings	0' 6"	459' 1"
Shale	2' 8"	461' 9"
Shale and coal	0' 3"	462' 0"
Coal	0' 8"	462' 8"
Coal and shale	0' 2"	462' 10"
Coal	1' 2"	464' 0"
Sandy shale	11' 0"	475' 0"
Sandy shale	2' 3"	477' 3"
Sandstone (grey)	3' 0"	480' 3"
Sandstone (white)	2' 2"	482' 5"
Sandstone with thin coal markings	4' 8"	487' 1"
Sandy shale	0' 11"	488' 0"
Sandstone (white)	1' 10"	489' 10"
Sandstone (greyish yellow)	4' 2"	494' 0"
Sandstone (white)	6' 0"	500' 0"
Conglomerate with bands of sandstone & shale	11' 0"	511' 0"
Sandstone and very sandy shale	6' 0"	517' 0"
Conglomerate with bands of sandstone	16' 0"	533' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 25 *CR-25*

Elevation: 925'

Depth: 683' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	139' 0"	139' 0"
Sandstone	8' 6"	147' 6"
Sandstone with a few ½" pebbles	1' 6"	149' 0"
Sandstone	1' 0"	150' 0"
Sandy shale with coal markings	0' 6"	150' 6"
Sandstone with a few shale streaks	2' 0"	152' 6"
Sandstone	13' 8"	166' 2"
Coal (poor recovery)	0' 8"	166' 10"
Coal and shale	0' 8"	167' 6"
Sandstone with several thin bands of shale & coal specks	1' 6"	169' 0"
Sandstone	2' 6"	171' 6"
Sandstone with a shale matrix	0' 2"	171' 8"
Coal (poor recovery)	1' 4"	173' 0"
Sandstone with thin coal markings	2' 0"	175' 0"
Coal and sandstone. Thickest seam 2"	0' 6"	175' 6"
Sandstone. Top 18" with coal markings	6' 0"	181' 6"
Sandstone with streaks & bands to 6" wide Fe ₃ O ₄	8' 0"	189' 6"
Sandstone	13' 6"	203' 0"
Sandstone with 25% coal in veinlets to ½"	0' 10"	203' 10"
Sandstone. Few bands to 6" wide with much Fe ₃ O ₄	4' 10"	208' 8"
Sandstone	2' 0"	210' 8"
Sandstone with thin bands of Fe ₃ O ₄	24' 9"	235' 5"
Sandstone with a shale matrix and several ½" coal markings	0' 9"	236' 2"
Sandstone	11' 10"	248' 0"
Sandstone, broke 257'-260' & 268'-269'	24' 0"	272' 0"
Sandstone with scattered xtalline pebbles to 2" ø	16' 5"	288' 5"
Shale	0' 1"	288' 6"
Coal	0' 4"	288' 10"
Sandstone with bands of coal to ½"	1' 0"	289' 10"
Sandstone	13' 0"	302' 10"
Sandy shale with coal markings	0' 5"	303' 3"
Shale and coal	0' 5"	303' 8"
Sandy shale & sandstone with coal lenses	0' 6"	304' 2"
Coal	0' 2"	304' 4"
Sandstone	2' 3"	306' 7"
Coal	0' 11"	307' 6"

Bore Hole No. 24 cont'd

	<u>Thickness</u>	<u>Depth</u>
Conglomerate with a few thin bands of very sandy shale	25' 0"	558' 0"
Sandy shale with intraformational conglomerate	2' 7"	560' 7"
Conglomerate pebbles increasing to 2" \emptyset	12' 5"	573' 0"
Sandy shale	9' 0"	582' 0"
Sandstone with sandy shale bands	1' 6"	583' 6"
Shale with scattered small pebbles and one 2" thick coal seam	0' 6"	584' 0"
Sandy shale	13' 0"	597' 0"
Sandy shale with scattered coal marks	2' 3"	599' 3"
Sandy shale	4' 9"	604' 0"

Bore Hole No. 25 cont'd

	<u>Thickness</u>	<u>Depth</u>
Shale and coal	0' 2"	307' 8"
Sandstone (yellowish)	11' 4"	319' 0"
Sandstone (white)	7' 3"	326' 3"
Sandstone (yellowish)	10' 0"	336' 3"
Sandstone	2' 6"	338' 9"
Sandstone with streaks & lenses of sandy shale	23' 7"	362' 4"
Sandstone with streaks of sandy shale	7' 1"	369' 5"
Intraformational conglomerate	0' 6"	369' 11"
Sandy shale with coal markings to 1/8"	3' 1"	373' 0"
Sandy shale with 25% coal in thin lenses	2' 0"	375' 0"
Sandy shale with coal markings	3' 0"	378' 0"
Sandstone with tiny scattered shale specks	13' 6"	391' 6"
Shale with many coal markings	1' 3"	392' 9"
Coal	1' 0"	393' 9"
Shale with many thin coal markings	1' 3"	395' 0"
Sandstone with sandy shale matrix	4' 6"	399' 6"
Sandstone with a few shale streaks	12' 6"	412' 0"
Shale with coal & sandstone streaks	1' 5"	413' 5"
Sandy shale & shale with coal marks	2' 0"	415' 5"
Coal	2' 2"	417' 7"
Shale with many coal marks to 1/2"	1' 2"	418' 9"
Sandy shale with a few coal marks to 2" Ø and sandstone	3' 1"	421' 10"
Sandstone with a blotchy shale matrix	5' 0"	426' 10"
Shale with a few coal markings	0' 9"	427' 7"
Shale with many thin coal markings	0' 2"	427' 9"
Coal and shale	0' 10"	428' 7"
Sandstone (medium - coarse)	44' 7"	473' 2"
Sandstone (medium)	7' 7"	480' 9"
Sandstone with a few xtalline pebbles	2' 9"	483' 6"
Sandstone with streaks of sandy shale	21' 6"	505' 0"
Sandstone with shale streaks	4' 10"	509' 10"
Coal and shale	0' 2"	510' 0"
Shale with coal markings	1' 8"	511' 8"
Sandy shale	3' 0"	514' 8"
Shale and coal	0' 4"	515' 0"
Coal	0' 6"	515' 6"
Coal and shale	0' 2"	515' 8"
Shale with coal markings	1' 6"	517' 2"
Sandy shale	1' 0"	518' 2"
Coal	0' 2"	518' 4"
Shale with coal markings	0' 2"	518' 6"
Coal	0' 5"	518' 11"
Shale with coal markings	0' 4"	519' 3"
Shale	11' 0"	530' 3"
Shale with coal markings	1' 3"	531' 6"
Shale and coal	0' 2"	531' 8"
Coal	0' 6"	532' 2"
Shale	8' 8"	540' 10"

Bore Hole No. 25 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale	5' 0"	545' 10"
Shale with sandstone bands	6' 0"	551' 10"
Shale with coal markings	2' 0"	553' 10"
Shale with coal markings	0' 2"	554' 0"
Shale with coal markings	1' 4"	555' 4"
Shale and coal	0' 5"	555' 9"
Shale (broken)	16' 3"	572' 0"
Shale	4' 0"	576' 0"
Sandy shale	2' 0"	578' 0"
Sandy shale (red)	2' 0"	580' 0"
Sandy shale	8' 0"	588' 0"
Sandstone	4' 0"	592' 0"
Sandstone with bands of conglomerate & coal marks	6' 0"	598' 0"
Conglomerate	8' 0"	606' 0"
Shale	3' 0"	609' 0"
Shale (red)	8' 0"	617' 0"
Sandstone	4' 0"	621' 0"
Conglomerate	4' 0"	625' 0"
Shale	3' 0"	628' 0"
Sandstone with coal markings	1' 0"	629' 0"
Sandy shale	6' 0"	635' 0"
Conglomerate	7' 0"	642' 0"
Broken conglomerate	8' 0"	650' 0"
Conglomerate (broken)	33' 0"	683' 0"

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WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 26 CR-26

Elevation: 356' Depth: 86' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	81' 0"	81' 0"
Trap	5' 0"	86' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 27

CR-27

Elevation: 980'

Depth: 646' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	11' 0"	11' 0"
Sandstone with a few small scattered xtalline pebbles	94' 2"	105' 2"
Sandy shale with a few coal markings	3' 10"	109' 0"
Sandstone with shale lenses & small pebbles	6' 0"	115' 0"
Sandstone with a few lenses and bands of shale. Few small xtalline pebbles	36' 0"	151' 0"
Sandstone with a few small bands of conglomerate	6' 5"	157' 5"
Shale	1' 1"	158' 6"
Shale and bony coal	0' 7"	159' 1"
Coal - very poor quality	0' 4"	159' 5"
Sandstone with shale bands containing coal markings	2' 8"	163' 1"
Shale with thin sandstone layers & tiny coal marks	0' 11"	164' 0"
Sandstone with tiny coal markings	2' 0"	166' 0"
Bony shale	0' 2"	166' 2"
Coal	0' 2"	166' 4"
Sandy shale with thin coal markings and lenses of sandstone	5' 0"	171' 4"
Sandstone with a few shale blotches	16' 8"	188' 0"
Sandstone with 10% Fe ₃ O ₄	2' 0"	190' 0"
Sandstone	2' 6"	192' 6"
Shale. Top half sandy speckled	2' 0"	194' 6"
Sandstone (blotchy and banded)	21' 6"	216' 0"
Sandstone	7' 0"	223' 0"
Sandstone with a few scattered xtalline pebbles	36' 6"	259' 6"
Sandstone	7' 5"	266' 11"
Coal and shale	0' 4"	267' 3"
Coal	0' 4"	267' 7"
Shale and coal	0' 5"	268' 0"
Shale with thin coal markings	2' 4"	270' 4"
Coal with thin bony bands	2' 4"	272' 8"
Shale and coal	0' 8"	273' 4"
Coal	1' 0"	274' 4"
Shale and coal	0' 3"	274' 7"
Coal	2' 0"	276' 7"
Shale with coal lenses to 3/8" thick	0' 10"	277' 5"
Shale with sandy lenses & a few coal markings	5' 7"	283' 0"
Coal with a few thin shale partings	2' 1"	285' 1"
Bony coal and shale	0' 6"	285' 7"

Bore Hole No. 27 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale with considerable coal lenses $\frac{1}{2}$ "	7' 5"	293' 0"
Coal	0' 6"	293' 6"
Sandstone	11' 6"	305' 0"
Sandstone with a few scattered small xtalline pebbles	32' 0"	337' 0"
Sandstone with a blotchy matrix and a few shale fragments	18' 0"	355' 0"
Coal and bone	1' 0"	356' 8"
Shale with sandstone grains & layers	2' 0"	358' 8"
Sandstone	8' 7"	367' 3"
Sandy shale with sandstone grains and layers. ' Fairly numerous coal lenses to $\frac{1}{2}$ "	7' 9"	375' 0"
Coal with thin shale bands	1' 3"	376' 3"
Shale	0' 10"	377' 1"
Coal	0' 4"	377' 5"
Shale	0' 5"	377' 10"
Coal	0' 10"	378' 8"
Shale	0' 2"	378' 10"
Coal	0' 2"	379' 0"
Shale with coal markings	0' 6"	379' 6"
Sandy shale	5' 0"	384' 6"
Shale with coal markings	5' 0"	389' 6"
Sandy shale	3' 0"	392' 6"
Shale with coal markings	2' 7"	395' 1"
Coal	0' 8"	395' 9"
Shale with coal markings	1' 9"	397' 6"
Sandstone	8' 0"	405' 6"
Sandstone with many small xtalline pebbles	16' 0"	421' 6"
Coal	0' 6"	422' 0"
Shale with coal markings	0' 4"	422' 4"
Shale	1' 0"	423' 4"
Bony shale and coal	0' 4"	423' 8"
Shale with some sandy layers	1' 6"	425' 2"
Sandy shale with small coal markings	19' 0"	444' 2"
Coal	1' 9"	445' 11"
Bone & coal with some sand grains	1' 1"	447' 0"
Sandy shale with some coal markings	2' 0"	449' 0"
Sandstone	1' 0"	450' 0"
Sandy shale with scattered coal markings	18' 8"	468' 8"
Sandy shale (maroon)	17' 0"	485' 8"
Sandy shale (grey)	2' 8"	488' 4"
Sandstone with bands of sandy shale	2' 7"	490' 11"
Conglomerate xtalline pebbles to $\frac{1}{2}$ " \emptyset	0' 5"	491' 4"
Sandy shale	7' 0"	498' 4"
Sandstone with bands of sandy shale. Few bands of coarse sandstone near the bottom	13' 2"	511' 6"
Diorite (altered)	0' 6"	512' 0"
Diorite	134' 0"	646' 0"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 28 *CR-28*

Elevation: 410'

Depth: 624' 10"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	3' 0"	3' 0"
Sandstone	30' 0"	33' 0"
Shale with considerable coal in thin lenses	1' 0"	34' 0"
Shale	2' 0"	36' 0"
Sandy shale	2' 0"	38' 0"
Sandstone with one 1" coal mark	3' 6"	41' 6"
Sandstone with streaks of shale	0' 9"	42' 3"
Sandstone	8' 9"	51' 0"
Sandy shale	10' 1"	61' 1"
Sandstone (grey)	2' 2"	63' 3"
Sandstone (white)	25' 9"	89' 0"
Shale with coal markings	0' 6"	89' 6"
Sandy shale	2' 0"	91' 6"
Shale with coal markings	1' 6"	93' 0"
Sandy shale	1' 0"	94' 0"
Shale	1' 6"	95' 6"
Sandy shale	3' 0"	98' 6"
Sandstone with numerous shale fragments in the bottom 6'	29' 6"	128' 0"
Shale	3' 0"	131' 0"
Sandstone with a blotchy shale matrix	1' 4"	132' 4"
Sandy shale (grey)	4' 6"	136' 10"
Sandy shale (faintly maroon)	8' 0"	144' 10"
Sandy shale (grey)	1' 2"	146' 0"
Sandstone with laminations of sandy shale. Few coal marks	4' 6"	150' 6"
Shale	1' 0"	151' 6"
Sandy shale	4' 0"	155' 6"
Sandstone (blotchy)	1' 0"	156' 6"
Sandstone	5' 6"	162' 0"
Sandstone with a few shale fragments	15' 0"	177' 0"
Shale (red)	1' 0"	178' 0"
Shale (grey)	1' 7"	179' 7"
Sandy shale (red)	8' 1"	187' 8"
Sandy shale (grey)	3' 4"	191' 0"
Sandy shale (red)	6' 6"	197' 6"
Sandy shale (grey)	1' 8"	199' 2"
Sandstone	2' 3"	201' 5"

Bore Hole No. 28 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandstone with a few angular shale fragments	26' 7"	228' 0"
Shale	2' 0"	230' 0"
Sandstone with bands of conglomerate, a few coal markings and shale fragments	10' 0"	240' 0"
Laminated sandstone and sandy shale	4' 6"	244' 6"
Sandstone	39' 6"	284' 0"
Conglomerate. Cobbles to 3" Ø	13' 0"	297' 0"
Sandstone with thin coal markings & shale fragments	6' 0"	303' 0"
Conglomerate. Cobbles to 2" Ø in sandstone	7' 0"	310' 0"
Sandstone with few scattered pebbles	13' 6"	323' 6"
Sandstone and sandy shale	2' 6"	326' 0"
Sandy shale with a few bands of sandstone(broken)	9' 0"	335' 0"
Above, with thin bands of sandstone	4' 0"	339' 0"
Sandy shale with bands of sandstone	7' 4"	346' 4"
Sandstone with thin laminations of sandy shale	1' 1"	347' 5"
Sandy shale with bands of sandstone	3' 9"	351' 2"
Sandstone with thin laminations of sandy shale	5' 4"	356' 6"
Sandy shale with bands of sandstone	18' 0"	374' 6"
Sandstone with thin bands of sandy shale	2' 9"	377' 3"
Sandy shale and sandstone	8' 9"	386' 0"
Coal	0' 2"	386' 2"
Shale and coal	0' 6"	386' 8"
Shale with a few thin coal marks	2' 4"	389' 0"
Coal and shale	0' 2"	389' 2"
Shale with thin coal markings	1' 0"	390' 2"
Shale, sandy shale and a few coal marks	3' 10"	394' 0"
Shale & sandstone (laminated)	6' 0"	400' 0"
Shale	21' 0"	421' 0"
Coal	0' 8"	421' 8"
Shale and coal	0' 4"	422' 0"
Coal	0' 6"	422' 6"
Coal and shale	0' 3"	422' 9"
Coal	0' 3"	423' 0"
Shale	2' 0"	425' 0"
Shale	8' 0"	433' 0"
Shale with dark blotches	5' 4"	438' 4"
Sandstone	3' 6"	441' 10"
Sandy shale (red)	2' 6"	444' 4"
Sandy shale (grey)	2' 0"	446' 4"
Sandy shale (red)	3' 6"	449' 10"
Shale, faintly sandy	9' 3"	459' 1"
Sandstone laminated with sandy shale	6' 2"	465' 3"
Conglomerate	6' 7"	471' 10"
Shale	4' 0"	475' 10"
Sandy shale	4' 0"	479' 10"
Sandstone with bands of conglomerate	6' 0"	485' 10"
Conglomerate	2' 0"	487' 10"
Sandstone with laminations of sandy shale	15' 0"	502' 10"
Sandstone (coarse)	3' 0"	505' 10"
Sandstone (fine)	9' 0"	514' 10"

Bore Hole No. 28 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale	7' 6"	522' 4"
Conglomerate. Pebbles to 1" Ø	3' 6"	525' 10"
Sandy shale. One thin band of conglomerate pebbles	7' 6"	533' 4"
Sandstone with much shale in the matrix	2' 9"	536' 1"
Sandy shale	7' 0"	543' 1"
Sandy shale with xtalline pebbles to ½" Ø	6' 9"	549' 10"
Sandy shale	1' 0"	550' 10"
Shale and conglomerate	2' 0"	552' 10"
Sandy shale	5' 0"	557' 10"
Sandstone	1' 0"	558' 10"
Conglomerate	6' 0"	564' 10"
Sandy shale	3' 6"	568' 4"
Sandy shale (grey)	1' 0"	569' 4"
Conglomerate. Subangular. Poorly-sorted pebbles	6' 0"	575' 4"
Sandy shale	2' 0"	577' 4"
Sandy shale (red)	2' 0"	579' 4"
Conglomerate	7' 0"	586' 4"
Sandy shale. One 1/8" coal marking	4' 6"	590' 10"
Sandy shale	5' 0"	595' 10"
Sandy shale & sandstone, with thin bands of conglomerate	2' 0"	597' 10"
Sandstone	2' 0"	599' 10"
Conglomerate	5' 0"	604' 10"
Sandy shale	4' 0"	608' 10"
Sandy shale with scattered pebbles	3' 0"	611' 10"
Sandstone	0' 8"	612' 6"
Conglomerate	1' 0"	613' 6"
Sandy shale with pebbles	1' 0"	614' 6"
Sandy shale	5' 4"	619' 10"
Conglomerate with pebbles to ½" Ø and thin bands of sandy shale	5' 0"	624' 10"

WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 29 *CR-29*

Elevation: 1025'

Depth: 666' 11"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Overburden	8' 0"	8' 0"
Sandstone with dark shaly matrix	13' 9"	21' 9"
Sandstone (top 3' with pebbles to 3/4")	10' 3"	32' 0"
Sandstone with dark shaly matrix	2' 0"	34' 0"
Sandstone	17' 7"	51' 7"
Conglomerate	0' 8"	52' 3"
Sandstone (2" pebbles at 75', broken 75'-80')	30' 1"	82' 4"
Conglomerate	3' 8"	86' 0"
Sandstone	1' 7"	87' 7"
Sandstone with large, broken irregular masses of sandy shale	0' 5"	88' 0"
Sandstone (V.C.) with few thin bands and laminations grey sandstone (V.F.)	15' 0"	103' 0"
Sandstone (top 5' broken, bottom 5' with few tiny pebbles)	17' 0"	120' 0"
Sandstone (few thin bands sandy shale and fine conglomerate)	19' 4"	139' 4"
Sandstone (numerous bands fine conglomerate and few thin bands grey sandstone)	19' 1"	158' 5"
Sandstone (few thin bands becoming conglomerate)	10' 8"	169' 1"
Sandy shale	3' 3"	172' 4"
Sandstone	41' 9"	214' 1"
Sandstone (greenish, much Fe ₃ O ₄)	13' 0"	227' 1"
Sandstone with 1" marcasite & coal at 243-6'	19' 7"	246' 8"
Coal and shale (much sulfur)	0' 4"	247' 0"
Shale with marcasite and coal markings	0' 6"	247' 6"
Sandstone	15' 6"	263' 0"
Coal (some bone and sandstone)	0' 7"	263' 7"
Bony coal (some marcasite)	0' 4"	263' 11"
Sandstone with thin bands bone and coal	1' 1"	265' 0"
Sandstone	4' 4"	269' 4"
Sandstone with numerous bands 1-3" wide of bone and coal	3' 9"	273' 1"
Sandstone	21' 7"	294' 8"
Coal	0' 8"	295' 4"
Sandstone and coal	0' 8"	296' 0"
Coal	0' 5"	296' 5"
Sandstone	4' 0"	300' 5"

Bore Hole No. 29 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	0' 2"	300' 7"
Sandstone with coal markings	2' 9"	303' 4"
Coal with sandstone layers	1' 0"	304' 4"
Coal	1' 0"	305' 4"
Shale (dark and speckled)	1' 4"	306' 8"
Sandstone	5' 11"	312' 7"
Sandy shale (slightly speckled)	0' 7"	313' 2"
Sandstone	15' 5"	328' 7"
Conglomerate (pebbles to 1") with sandstone bands	12' 7"	341' 2"
Sandstone	8' 10"	350' 0"
Sandy shale with coal markings	4' 5"	354' 5"
Sandstone with shaly matrix and a few coarse coal marks	5' 0"	359' 5"
Sandstone	5' 3"	364' 8"
Sandstone with shly matrix	0' 11"	365' 7"
Sandstone (broken 365')	9' 10"	376' 4"
Very sandy shale, few coal markings	1' 7"	377' 11"
Sandstone with shaly matrix	2' 6"	380' 5"
Sandstone	9' 4"	389' 9"
Sandy shale with coal markings	5' 8"	395' 5"
Sandstone	2' 0"	397' 5"
Sandstone	3' 0"	400' 5"
Sandy shale, black and broken	1' 3"	401' 8"
Sandstone	26' 4"	428' 0"
Sandstone (med. coarse, few bands very coarse)	18' 5"	446' 5"
Sandstone with few scattered shale fragments some what broken)	36' 4"	482' 9"
Coal	4' 6"	487' 3"
Shale and coal	0' 3"	487' 6"
Coal	2' 6"	490' 0"
Brown shale	0' 10"	490' 10"
Coal and shale	0' 4"	491' 2"
Shale	0' 10"	492' 0"
Coal	2' 5"	494' 5"
Coal and shale	0' 8"	495' 1"
Shale	6' 2"	501' 3"
Sandstone	3' 0"	504' 3"
Bony shale	0' 4"	504' 7"
Sandstone	14' 0"	518' 7"
Sandstone with bands of conglomerate	25' 8"	544' 3"
Sandstone	7' 0"	551' 3"
Shale with coal markings	5' 0"	556' 3"
Conglomerate	2' 0"	558' 3"
Shale with coal markings	7' 0"	565' 3"
Conglomerate	2' 0"	567' 3"
Shandy shale with coal markings	1' 0"	568' 3"
Conglomerate	1' 0"	569' 3"
Shale with coal markings and bands of conglomerate	6' 0"	575' 3"
Shale	4' 0"	579' 3"
Conglomerate	1' 0"	580' 3"

Bore Hole No. 29 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale	2' 0"	582' 3"
Conglomerate	5' 0"	587' 3"
Sandy shale	7' 0"	594' 3"
Conglomerate	1' 0"	595' 3"
Sandstone and shale	2' 0"	597' 3"
Conglomerate	1' 0"	598' 3"
Sandy shale	1' 0"	599' 3"
Conglomerate	3' 0"	602' 3"
Shale	4' 0"	606' 3"
Sandy shale with bands of conglomerate	12' 0"	618' 3"
Conglomerate. Angular pebbles to 1/2" Ø last 6" contains much sandy shale	5' 0"	623' 3"
Sandy shale. One 1/2" coal markings	3' 2"	626' 5"
Sandy shale with angular conglomerate pebbles and thin bands . Few calcite and coal marks	9' 0"	635' 5"
Conglomerate. Mostly diorite pebbles in small quantity of reddish sandy matrix	27' 10"	663' 3"
Sandy shale. Few bands of conglomerate	1' 2"	664' 5"
Conglomerate (same as next above)	2' 6"	666' 11"

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WELDWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 30 CR-30

Elevation: 450'

Depth: 117' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Gravel	2' 0"	2' 0"
Clay with gravel	12' 0"	14' 0"
Gravel and boulders	6' 0"	20' 0"
Sand and gravel with boulders	4' 0"	24' 0"
Coarse white sandstone - broken	10' 0"	34' 0"
Coarse conglomerate - pebbles to 1" diam. broken	4' 0"	38' 0"
Coarse white sandstone - few scattered pebbles	9' 0"	47' 0"
Light brown, faintly sandy shale	2' 0"	49' 0"
Darker brown, faintly sandy shale, brownish	0' 10"	49' 10"
Brown shale with sandstone becoming medium sandstone with shale matrix	6' 0"	55' 10"
Shale, hard, brown; brown streak, broken	0' 6"	56' 4"
Sandy shale, hard, dark brown, broken	3' 8"	60' 0"
Shale, hard, dark brown, brown streak, faintly sandy	1' 9"	61' 9"
Sandy shale, light brown, one ½" coal markings	1' 0"	62' 9"
Shale, hard, dark brown, brown streak, few coal markings; sulphur at 63'	3' 5"	66' 2"
Coal and bone	0' 3"	66' 5"
White sandstone; lenses of bony shale	0' 1"	66' 6"
Coal	5' 8"	72' 2"
Shale	1' 2"	73' 4"
Coal	0' 4"	73' 8"
Shale with coal markings	1' 0"	74' 8"
Coal	0' 4"	75' 0"
Shale	0' 2"	75' 2"
Coal	0' 6"	75' 8"
Brown shale	0' 6"	76' 2"
Coal	0' 8"	76' 10"
Brown shale	6' 2"	83' 0"
Coal	0' 8"	83' 8"
Shale	6' 10"	90' 6"
Shale with coal markings	0' 6"	91' 0"
Coal	0' 4"	91' 4"
Broken shale	1' 8"	93' 0"
Broken shale with coal markings	2' 8"	95' 8"
Coal	0' 8"	96' 4"
Broken shale	4' 0"	100' 4"
Shale and coal	0' 3"	100' 7"

Bore Hole No. 30 cont'd

	<u>Thickness</u>	<u>Depth</u>
Coal	0' 8"	101' 3"
Broken shale	5' 1"	106' 4"
Coal	0' 8"	107' 0"
Shale and coal	0' 3"	107' 3"
Broken dark shale	2' 0"	109' 3"
Coal	0' 9"	110' 0"
Soft shale with coal markings	3' 0"	113' 0"
Shale	4' 0"	117' 0"

WELWOOD OF CANADA LIMITED
VANCOUVER ISLAND COAL PROPERTIES
CAMPBELL RIVER AREA

Bore Hole No. 31 *CR-31*

Elevation: 500'

Depth: 421' 0"

Location: Campbell River

	<u>Thickness</u>	<u>Depth</u>
Nothing recorded	3' 0"	3' 0"
Broken sandstone	5' 0"	8' 0"
Nothing recorded	1' 0"	9' 0"
Broken sandstone	14' 0"	23' 0"
Sandstone	6' 0"	29' 0"
Shale with sandstone streaks	4' 0"	33' 0"
Shale with sandstone streaks	5' 0"	38' 0"
Sandy shale	9' 0"	47' 0"
Sandstone	35' 0"	82' 0"
Sandy shale	6' 0"	88' 0"
Sandy shale (red)	3' 0"	91' 0"
Fine sandstone	4' 0"	95' 0"
Shale (red)	3' 0"	98' 0"
Fine sandstone	10' 0"	108' 0"
Sandstone	7' 0"	115' 0"
Shale with sandstone streaks	1' 6"	116' 6"
Sandstone	13' 6"	130' 0"
Shale	0' 6"	130' 6"
Shale and sandstone	0' 6"	131' 0"
Sandstone with coal markings	1' 0"	132' 0"
Sandstone	7' 6"	139' 6"
Conglomerate	0' 6"	140' 0"
Sandstone	3' 6"	143' 6"
Conglomerate	4' 0"	147' 6"
Sandstone with bands of conglomerate	14' 6"	162' 0"
Shale	6' 0"	168' 0"
Sandstone with shale and conglomerat markings	3' 6"	171' 6"
Conglomerate	0' 6"	172' 0"
Broken shale	2' 0"	174' 0"
Broken dark shale	1' 0"	175' 0"
Broken brown shale	1' 0"	176' 0"
Dark shale	2' 0"	178' 0"
Dark shale with coal markings	1' 0"	179' 0"
Shale	2' 0"	181' 0"
Shale with coal markings	1' 0"	182' 0"
Shale with sandstone streaks	6' 0"	188' 0"
Shale	2' 0"	190' 0"
Shale with sandstone streaks	4' 0"	194' 0"

Bore Hole No. 31 cont'd

	<u>Thickness</u>	<u>Depth</u>
Dark shale with light shale layers	10' 0"	204' 0"
Shale with sandstone streaks	4' 0"	208' 0"
Sandstone with shale streaks	2' 0"	210' 0"
Shale	2' 0"	212' 0"
Shale with sandstone streaks	2' 6"	214' 6"
Shale	1' 0"	215' 6"
Sandstone and shale layers	1' 6"	217' 0"
Shale	2' 0"	219' 0"
Broken sandstone with shale streaks	3' 6"	222' 6"
Sandstone with coal	0' 6"	223' 0"
Broken sandstone with coal markings	1' 0"	224' 0"
Broken shale	1' 0"	225' 0"
Broken sandstone and shale layers	2' 0"	227' 0"
Broken shale	1' 0"	228' 0"
Sandstone with coal markings	0' 6"	228' 6"
Shale and coal	0' 2"	228' 8"
Coal	1' 2"	229' 10"
Broken shale	2' 0"	231' 10"
Broken shale with coal markings	1' 2"	233' 0"
Broken shale	1' 6"	234' 6"
Broken shale and coal	0' 6"	235' 0"
Broken shale with coal markings	2' 0"	237' 0"
Broken shale	9' 0"	246' 0"
Broken sandstone with shale streaks	5' 0"	251' 0"
Sandstone with coal markings	1' 0"	252' 0"
Shale	11' 0"	263' 0"
Soft dark shale	1' 6"	264' 6"
Shale with coal markings	0' 9"	265' 3"
Coal	0' 10"	266' 1"
Shale and coal	0' 3"	266' 4"
Shale	0' 8"	267' 0"
Shale and coal markings	2' 0"	269' 0"
Shale	2' 0"	271' 0"
Broken sandy shale	3' 0"	274' 0"
Broken shale with coal markings	0' 6"	274' 6"
Shale and coal	0' 2"	274' 8"
Sandy shale	1' 4"	276' 0"
Soft sandstone (not caving)	7' 0"	283' 0"
Sandstone - speckled with red spots & coal markings	3' 0"	286' 0"
Sandstone - red speckled	1' 0"	287' 0"
Sandstone with coal markings	12' 0"	299' 0"
Broken shale	2' 0"	301' 0"
Broken sandstone & shale with coal markings	0' 6"	301' 6"
Broken fine sandstone	0' 6"	302' 0"
Sandy shale	6' 0"	308' 0"
Shale with coal markings	1' 0"	309' 0"
Broken shale with scattered coal markings	6' 0"	315' 0"
Dark shale with coal markings	0' 6"	315' 6"
Shale	1' 0"	316' 6"

Bore Hole No. 31 cont'd

	<u>Thickness</u>	<u>Depth</u>
Sandy shale	5' 0"	321' 6"
Sandy shale (red)	17' 6"	339' 0"
Broken sandy shale with bands of coarse sandstone	16' 0"	355' 0"
Broken conglomerate	1' 9"	356' 9"
Coal	0' 3"	357' 0"
Sandstone with coal	0' 2"	357' 2"
Broken sandstone	17' 10"	375' 0"
Sandstone	8' 0"	383' 0"
Broken hard sandstone	3' 0"	386' 0"
Sandstone	3' 0"	389' 0"
Hard sandstone	5' 0"	394' 0"
Sandstone with shale streaks	15' 0"	409' 0"
Shale with sandstone markings	2' 0"	411' 0"
Broken shale	1' 0"	412' 0"
Shale	9' 0"	421' 0"

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COMOX BASIN - REPORT #694

Introduction:

The information contained in this report on the Comox Basin is a compilation of data from various sources.

The Ministry (Coal Section) received boxes of maps and borehole records from old company reports. Driller's notes, borehole logs, mine plans, coal quality, etc. were present. C. Bickford supplied some interpreted data from old driller's notes. In 1975, M. P. Curcio prepared a report for Weldwood for Canada Limited called "Coal Resource Study of Comox Basin - Nanaimo Series, Vancouver Island - British Columbia".

Because of the renewed interest in Vancouver Island Coals, with respect to utilizations, such as coal seam gas, coal-water fuel and traditional thermal applications, it was imperative to organize the data for logical and easy access by industry, as well as government personnel.

The most efficient method for compiling and filing the data was to incorporate M. Curcio's report with the other data. Since 1975, geologists working on the Island have disputed some of the borehole locations according to Curcio. Many of these holes have since been surveyed and hence discrepancies result.

A computerized print-out of all the boreholes contained in this report is included. Some have been very accurately surveyed and others have been picked off a 1:50,000 map. The locations and elevations may be incorrect, but no more than 40 - 50 metres. The locations are as accurate as presently known. Certainly this information will be edited if new data is obtained. It is advisable to refer to the computer listing for location information. (The ~~old~~ location elevation, and depth will be missing - we continue to search for this information).

For Ease of Filing and Accessing the Data:

The Comox Basin has been broken into three major areas.

1. T'Sable River
2. Cumberland (includes Anderson Lake)
3. Quinsam (includes Campbell River Area)

The folders containing the information are numbered 1 to 70. A detailed index to report #694 follows this Introduction. A description of each map is also included in the "List of Figures".

We would appreciate it if people accessing this report could please place all the data back in the correct folder because of the large volume of information that has been sorted. Thank you for your cooperation.

Information of the same type for the "Nanaimo Coal Basin" resides in Report #720.

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REPORT #694 - COMOX BASIN

LIST OF FIGURES

A. T'Sable River Area

1. Maps Submitted by M. Curcio:

FIG. 1 - T'Sable River Area geology and boreholes.
Scale: 4 inches = 1 mile; 1975

FIG. 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, and 12
- Cross sections corresponding with FIG. 1; 1975.

FIG. 13 - T'Sable and Cumberland Area - geology, boreholes,
slack waste location.
Scale 4 inches = 1 mile; 1975

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corresponding to FIG 13; 1975.

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FIG. 17 - T'Sable River Area - 3rd coal seam contours.
Scale: 4 inches = 1 mile; 1975

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FIG. 19 - T'Sable River Area - Reserve outline.
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2. Maps not Submitted by M. Curcio for the T'Sable River Area

FIG. 20 - General map of T'Sable River Area, Feb. 20, 1919,
Nelson and New Castle Districts.
Scale: 1 inch = 1 mile (Canadian Collieries)

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with these cross sections is not present, but the
TR-Series holes can provide the location of the
section, see FIG. 20.

FIG. 31 - T'Sable River Coalfield Development Plan.
Scale 1 inch = 800 feet (Canadian Collieries);
Year = ?

- FIG. 32 - T'Sable River Coalfield Plan of workable seams, 1921.
Scale: 1 inch = 800 feet (Canadian Collieries)
- FIG. 33 - Development Plan of portion of T'Sable River coalfield, 1943.
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- FIG. 34 - T'Sable River mine workings, adits and boreholes are on this map, year - ?
- FIG. 35 - T'Sable River mine, trap contours, 1954.
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- FIG. 36 - T'Sable River mine, 1954.
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- FIG. 37 - T'Sable River mine, sequence of diagonal development, 1951.
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- FIG. 38 - T'Sable River - Plan showing proven and indicated tonnages in T'Sable River mine, 1957.
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1. Maps Submitted by M. Curcio:

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- FIG. 50 - Anderson Lake Area, geology, boreholes, property boundary.
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- FIG. 58 - Anderson Lake Area (and Campbell River) - geology, boreholes, property boundary.
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- FIG. 62 - Cumberland Area - No. 2 upper seam coal workings - Mines 5, 6 and 8.
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- FIG. 67 - Campbell River and Anderson Lake Area, geology, boreholes, property boundary.
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Scale: 4 inches = 1 mile; 1975
- FIG. 70 - Anderson Lake Area - 2nd coal seam contours.
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- FIG. 71 - Anderson Lake Area - 3rd coal seam contours.
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- FIG. 73 - Anderson Lake Area, 1st coal seam contours.
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- FIG. 74 - Cumberland Area, existing and abandoned transportation network.
Scale: 1.25 inches = 1 mile; 1975
- FIG. 75 - Union Bay slack pile and cross sections of area; 1975.
- FIG. 76 - Pigeon Lake S.E. and S.W. slack pile and cross sections of area; 1975.
- FIG. 77 - Pigeon Lake N.W. and N.E. slack pile and cross sections of area; 1975.
- FIG. 78 - Bevan and China Town slack pile and cross sections of area; 1975.

3. Maps not Submitted by M. Curcio for the Cumberland Area

- FIG. 79 - Location of boreholes between Brown's River and Puntledge River.
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- FIG. 80 - Topographical map of territory north of Puntledge River showing boreholes and outcrops near mine #7.
Scale: 1 inch = 400 feet; (Canadian Collieries); 1915
- FIG. 81 - Cumberland Coalfield - Plan of part of the coalfield with hole locations and seams found in each hole.
Scale: 1 inch = 800 feet; no year
- FIG. 82 - Map showing location of bores 144, 145 and 146.
Scale: 1 inch = 1/4 mile; (Canadian Collieries); 1917
- FIG. 83 - Surface geology of Fanny Bay and Cowie Creek Area.
Scale: 1:50,000; no year
- FIG. 84 - Map of Cumberland Area - showing borehole and outcrop locations.
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- FIG. 85 - Cumberland - borehole location map (associated seams).
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Scale: 1 inch = 1 mile; no year
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Location of seams mined.
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Scale: 1 inch = 1,000 feet; no year (Seam Data also).
- FIG. 91 - Borehole locations in the Puntledge River Area.
Scale 1 inch = 800 feet; no year (Seam Data also)
- FIG. 92 - Present B.H. Development of new seam at Cumberland.
Scale: 4 inches = 1 mile; 1922
- FIG. 93 - Stratigraphic sections of CX - 102 and 103, Cumberland coalfield (with location map as well).
Scale: 1 inch = 1 mile; no year
- FIG. 94 - Plan of proposed boreholes - Cumberland. Section through accompanying map showing trap contours.
Scale: 1 inch = 400 feet; 1921
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- FIG. 96 - Stratigraphic sections of CX - 150, 101 and 104, Cumberland coalfield (with location map as well).
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- FIG. 99 - Sections through boreholes. Cumberland coal field development.
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Scale: 1 inch = 300 feet; 1936
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- FIG. 102 - Profile showing coal seams in boreholes CX - 135, 134, 132, 131 and 116.
Hor. Scale: 1 inch = 200 feet
Vert. Scale: 1 inch = 100 feet (Canadian Collieries); 1918
- FIG. 103 - Plans and sections of part of Cumberland coalfield.
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No scale or year.
- FIG. 106 - No. 8 mine, sections of shafts showing coal seams.
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no year

- FIG. 107 - No. 8 mine - progress profile, main and air shafts.
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1913
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1922
- FIG. 110 - Cumberland Coalfield Development Plan, showing
trap contours.
Scale: 1 inch = 300 feet (Canadian Collieries);
no year
- FIG. 111 - Plan showing coal workings in the lower (No. 4)
seam in No. 1, 4, 5 and 7 mines in the Cumberland
Area.
Scale: 1 inch = 300 feet (Canadian Collieries);
no year
- FIG. 112 - Plan showing coal workings in lower (No. 4) seam,
with seam traces No. 1, 4, 5 and 7 mines.
Scale: 1 inch = 600 feet (Canadian Collieries);
no year 1935
- FIG. 113 - Plan showing coal workings in lower (No. 4) seam,
No. 1, 4, 5 and 7 mines.
Scale: 1 inch = 600 feet (Canadian Collieries);
1935
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1931
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Cumberland Area.
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- FIG. 116, 117, 118 and 119
- Detailed plans of the No. 7 mine - Cumberland
Area.
Scale: 1 inch = 100 feet; no year

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Scale: 1 inch = 300 feet (Canadian Collieries); 1945
- FIG. 122 - Development Plan, Cumberland coalfield. No. 8 shaft area, trap contours and seam sections.
Scale: 1 inch = 300 feet (Canadian Collieries); no year
- FIG. 123 - Development Plan, Cumberland coalfield. No. 8 shaft area, No. 1 seam contours.
Scale: 1 inch = 300 feet (Canadian Collieries); no year
- FIG. 124 - Development Plan, Cumberland coalfield. No. 8 shaft area, No. 2 seam contours.
Scale: 1 inch = 300 feet (Canadian Collieries); no year
- FIG. 125 - Development Plan, Cumberland coalfield. No. 8 shaft area, No. 4 seam contours.
Scale: 1 inch = 300 feet (Canadian Collieries); no year
- FIG. 126 - Plan showing workings in No. 2 seam, No. 8 mine, Cumberland Area.
Scale: 1 inch = 300 feet (Canadian Collieries); no year
- FIG. 127 - Plan showing workings in No. 2 seam, No. 8 mine, Cumberland Area.
Scale: 1 inch = 300 feet (Canadian Collieries); no year
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Scale: 1 inch = 300 feet (Canadian Collieries); no year

- FIG. 130 - Plan showing workings in No. 2 seam, No. 8 mine, Cumberland Area.
Scale: 1 inch = 300 feet (Canadian Collieries);
no year
- FIG. 131 - No. 2 seam contours for the No. 8 mine.
Scale: 1 inch = 300 feet; no year
- FIG. 132 - Underground workings of Comox mine No. 8, Cumberland Area.
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1914
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Scale: 1 inch = 300 feet (Canadian Collieries);
no year
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Scale: 1 inch = 100 feet (Canadian Collieries);
no year
- FIG. 135 - Plan showing workings in No. 2 seam, No. 5 mine, Cumberland Area.
Scale: 1 inch = 300 feet (Canadian Collieries);
1943
- FIG. 136 - Plan showing workings in No. 2 seam, No. 5 mine, Cumberland Area.
Scale: 1 inch = 300 feet (Canadian Collieries);
1941
- FIG. 137 - Plan showing workings in No. 2 seam, No. 5 mine, Cumberland Area.
Scale: 1 inch = 300 feet (Canadian Collieries);
no year
- FIG. 138, 139, 140, 141, 142, 143, 144, 145, 146, 147 & 147A
- Detailed plans of the No. 5 mine, Cumberland Area.
Scale: 1 inch = 100 feet; no year
- FIG. 148, 149, 150, 151, 152, 153, 154, 155, 156 and 157
- Detailed plans of the upper seam coal workings in mines No. 5 and 6, Cumberland Area.
Scale: 1 inch = 100 feet; no year

- FIG. 158 - Maple Lake Area, Cumberland trap contours.
Scale: 1 inch = 300 feet; no year
- FIG. 159 - Maple Lake Area, Cumberland, No. 1 seam contours.
Scale: 1 inch = 300 feet; no year
- FIG. 160 - Maple Lake Area, Cumberland, No. 2 seam contours.
Scale: 1 inch = 300 feet; no year
- FIG. 161 - Maple Lake Area, Cumberland, No. 4 seam contours.
Scale: 1 inch = 300 feet; no year

C. Quinsam Area (Including Campbell River)

1. Maps Submitted by M. Curcio:

- FIG. 162 - Quinsam and Campbell River Area - Geology, Bore Holes and Property Boundary.
Scale: 4 inches = 1 mile; 1975
- FIG. 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, & 173
- Cross sections corresponding with FIG. 162; 1975
- FIG. 174 - Quinsam and Campbell River Area - 1st coal seam contours.
Scale: 4 inches = 1 mile; 1975
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Scale: 4 inches = 1 mile; 1975
- FIG. 176 - Quinsam and Campbell River Area - Basalt contours.
Scale: 4 inches = 1 mile; 1975
- FIG. 177 - Reserve Outline, Quinsam Area.
Scale: 4 inches = 1 mile; 1975
- FIG. 178 - Reserve Outline, Campbell River Area.
Scale: 4 inches = 1 mile; 1975
- FIG. 179 - Existing and abandoned transportation network, Quinsam and Campbell River Area.
Scale: 1.25 inches = 1 mile; 1975
- FIG. 180 - Stratigraphic sections - Quinsam Area; 1975
- FIG. 181 - Stratigraphic sections - Campbell River Area; 1975

FIG. 182 - Subsurface structure, Campbell River Area.
Scale: 1.25 inches = 1 mile; 1975

FIG. 183 - Structure section A-B-C, Campbell River Area;
1975

FIG. 184 - Structure section X-Z - Campbell River Area;
1975

2. Maps not Submitted by M. Curcio for the Quinsam/
Campbell River Area

FIG. 185 - Land ownership on old plan - Quinsam/Campbell
River Area.
Scale 1 inch = 20 chains; 1920

FIG. 186 - Quinsam/Campbell River Area - rough sketch map
with borehole locations.
Scale: 4 inches = 1 mile; no year

FIG. 187 - Rough sketch map of Quinsam/Campbell River Area
with borehole locations.
Scale 4 inches = 1 mile; also a cross section of
this map with hole locations; no year

COMOX BASIN
QUINSAM / CAMPBELL RIVER
AREA.

OUTCROP ANALYSIS
DATA

694 (14)

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 30, 1922

Laboratory Number 22 - 628

Sample of coal received August 24, 1922

Marked C 4 Upper bench of coal outcropping on Iron river 1 1/2 mile above junction
of Iron and Quinsam

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	5.30	" "
Volatile Matter - - -	34.80	" 36.73 "
Fixed Carbon - - -	45.32	" 47.87 "
Ash - - - -	14.58	" 15.40 "
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - -		" "

Heating Power of dry sample, B.T.U., per pound of coal 11025

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coke poor

Respectfully submitted,

A. A. Mathies
CHEMIST

To:

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 30, 1922

Laboratory Number 22 - 630

Sample of coal received August 24, 1922

Marked ~~6~~ See out cropping on Ghute creek or Coal Creek, 1 mile above junction of it
and Iron River

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	4.40	"	"	"
Volatile Matter - - -	39.40	"	41.21	"
Fixed Carbon - - -	47.99	"	50.00	"
Ash - - - -	8.40	"	8.77	"
	<u>100.00</u>		<u>100.00</u>	
Sulphur - - - -		"		"

Heating Power of dry sample, B.T.U., per pound of coal 12526

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Coke brittle

Respectfully submitted,

A. A. Williams
CHEMIST

To:

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 30, 1922

Laboratory Number **22 - 827**

Sample of **coal** received **August 24, 1922**

Marked **C 5 Lower bench Quinsam River seam**

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	4.20	"	"	"
Volatile Matter - - -	39.60	"	41.34	"
Fixed Carbon - - - -	43.92	"	45.84	"
Ash - - - -	12.28	"	12.82	"
	<u>100.00</u>		<u>100.00</u>	
Sulphur - - - -		"		"

Heating Power of dry sample, B.T.U., per pound of coal **11943**

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Coke poor

Respectfully submitted,

A. G. Mathison
CHEMIST

To:

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 30, 1922

Laboratory Number 22 - 526

Sample of coal received August 24, 1922

Marked C 2 Upper bench seam outcropping in Quinsam River, 1 mile below
middle of Quinsam Lake

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	3.70	"	"	"
Volatile Matter - - -	38.70	"	40.19	"
Fixed Carbon - - - -	46.82	"	45.62	"
Ash - - - -	10.78	"	11.19	"
	<u>100.00</u>		<u>100.00</u>	
Sulphur - - - -		"		"

Heating Power of dry sample, B.T.U., per pound of coal 12117

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Coke poor

Respectfully submitted,

A. A. Mathies
CHEMIST

To:

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 30, 1922.

Laboratory Number 22 - 825

9/58

Sample of coal received August 24, 1922

Marked C 1 Upper bench seam outcropping in Quinsar river, 1 mile below middle
of Quinsar Lake

Proximate Analysis	As Received	%	Dry Basis	%
Moisture - - - -	3.20	"		"
Volatile Matter - - -	39.80	"	41.12	"
Fixed Carbon - - -	43.72	"	45.16	"
Ash - - - -	13.28	"	13.72	"
	<u>100.00</u>		<u>100.00</u>	
Sulphur - - - -		"		"

Heating Power of dry sample, B.T.U., per pound of coal 12110

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Coke poor

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

RECEIVED

CHEMICAL LABORATORY

SEP 2 1920

OF

Answered

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 31st, 1920

Laboratory Number 708

Sample of Coal received August 25th, 1920

Marked Prospect #3 Quinson River

Campbell River District A. McKenzie.

Proximate Analysis	As Received	% Dry Basis	%
Moisture	3.55	"	"
Volatile Matter	"	40.49	"
Fixed Carbon	"	42.69	"
Ash	"	16.82	"
		<u>100.00</u>	
Sulphur	3.66	"	"

9-58

Heating Power of dry sample, B.T.U., per pound of coal 11618

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Coke - Fair; silver gray, fairly firm.

Respectfully submitted,

J. A. Mathieson
CHEMIST

To:-

694

RECEIVED

CHEMICAL LABORATORY

OF

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 31st, 1920.

Laboratory Number 706

Sample of Coal received August 25th

Marked Prospect #1 Quinson, August 16th.

Gambell River District, A. MacKenzie

Proximate Analysis	As Received	% Dry Basis	%
Moisture	4.80	"	"
Volatile Matter	"	34.40	"
Fixed Carbon	"	50.75	"
Ash	"	14.85	"
		<u>100.00</u>	
Sulphur	1.67	"	"

9-58

Heating Power of dry sample, B.T.U., per pound of coal 11815

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks:

Coke - Poor; dark powdery and brittle.

Respectfully submitted,

A. A. Mathison
CHEMIST

To:

694

RECEIVED

CHEMICAL LABORATORY

SEP 2 1920

OF

CANADIAN COLLIERIES (DUNSMUIR), ~~LIMITED~~

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 31st, 1920.

Laboratory Number 709

Sample of Coal received August 25th, 1920

Marked Prospect #4 Quinson

Campbell River District A. MacKenzie

Proximate Analysis	As Received	% Dry Basis	%
Moisture	3.30	"	"
Volatile Matter	"	56.40	"
Fixed Carbon	"	41.84	"
Ash	"	21.76	"
		<u>100.00</u>	
Sulphur	3.28	"	"

7-58

Heating Power of dry sample, B.T.U., per pound of coal 10661

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks: Coke Poor. Dark lustrous and brittle.
Same as Lab. 706.

Respectfully submitted,

A. A. Mathison
CHEMIST

To: Mr. Fleming, Mr. Savage, Mr. T. Graham.

694

CHEMICAL LABORATORY

RECEIVED

OF

SEP 2 1920

CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 31st, 1920.

Laboratory Number 707

Sample of Coal received August 25th

Marked Prospect #2 Balsam Creek

Cambell River District A. MacKenzie

Proximate Analysis	As Received	% Dry Basis	%
Moisture	3.05	"	"
Volatile Matter	"	41.21	"
Fixed Carbon	"	42.42	"
Ash	"	10.37	"
		<u>100.00</u>	
Sulphur	2.78	"	"

4-58

Heating Power of dry sample, B.T.U., per pound of coal 11835

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks: Coke - Fair; silver gray, fairly firm.

Respectfully submitted,

A. Mathison CHEMIST

To: _____

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

FUEL CERTIFICATE OF ANALYSIS

UNION BAY, B.C., August 30th, 1922.

Laboratory Number 22-829

Sample of coal received August 24th, 1922.

Marked 0.5 Lower bench of iron river seam

Proximate Analysis	As Received %	Dry Basis %
Moisture - - - -	<u>4.85</u>	" "
Volatile Matter - - -	<u>32.25</u>	" <u>33.90</u> "
Fixed Carbon - - - -	<u>44.88</u>	" <u>47.16</u> "
Ash - - - -	<u>18.02</u>	" <u>18.94</u> "
	<u>100.00</u>	<u>100.00</u>
Sulphur - - - -	"	"

Heating Power of dry sample, B.T.U., per pound of coal 10560

British thermal units determined in Atwater-Mahler bomb calorimeter calibrated with Benzoic Acid having 11376 B.T.U. supplied by United States Bureau of Standards.

Remarks :

Coke dust

Respectfully submitted,

A. A. Mathies
CHEMIST

To:

694

Canadian Collieries (Dunsmuir), Limited

INTER-DEPARTMENT CORRESPONDENCEDATE October 15th, 1943.

FILE _____

SUBJECT Tsolun River Outcrop.TO _____
H. Baird, Esq.,

Superintendent,

Cumberland, B.C.FROM Mining Engineer,

Cumberland, B.C.COPIES TO _____

I have today examined the coal outcrop near headwaters of Tsolun River which was mentioned to Mr. Plummer by R. Milberg of Comox Logging Company.

This outcrop is located on a creek tributary to Tsolun River, and which traverses Block 29, Township 7, Comox District, in a North Easterly direction. There is a good exposure along creek banks, which are fairly high at this point. Shale predominates in all exposures observed, and contact with the volcanics is approximately $\frac{1}{2}$ mile further up creek. The main coal bench of 1'-8" is good hard coal and has stood the weathering very well, although it, along with the remainder of the measures, is badly oxidized. *

During 1922 H.A. Rose made a geological survey of the Tsolun River Area and at that time located an outcrop, which, I am sure, is part of the same exposure examined today.

The following is a comparison of seen sections:

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Talpa River Outcrop (continued).

Section by Ross.

Roof Shale	
Coal - good	0' - 9"
Shale	- 7"
Coal weathered	1' - 0"
Mining Dirt	- 4"
Coal - clean & hard	1' - 6"
Shale & Dirt	- 9"
Coal Fair	1' - 0"
Coal - Boney	- 6"
Shale - Brown	3' - 0"
Coal - Good	- 9"
Floor - Grey Shale	

Section - Oct. 15/43.

	Shale Roof	
1	Coal - Boney	0' - 7"
2	Shale - Mixed	2' - 4"
3	(Coal - Boney - Hard	- 6"
4	(Shale - Grey	- 4"
5	(Coal - Hard	1' - 9"
6	(Shale - Grey - Weathered	- 7"
7	(Bone -	- 4"
8	(Coal - Hard	- 8"
9	Shale - Black - Soft	- 5"
	Shale Floor	

Outcrop examined cannot be classed as a workable seam and much disturbance of the coal measures is to be expected in this area owing to the proximity of the intrusives which form Constitution Hill, and which are found $\frac{1}{2}$ mile South East of outcrop.

Elevation of outcrop is approximately 420 feet and lies $\frac{1}{2}$ of a mile South Westerly from present loading point on Comox Logging Company's railway. Measures Dip 6 degrees, bearing N 5 degrees W.

Samples were taken from the 14 - 6" bench and the 0' - 8" bench below, and have been forwarded to Union Bay for analysis.

The officials of the Comox Logging Company were very helpful in showing location of outcrop and arranging transportation.



Mining Engineer.

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Canadian Collieries (Dunsmuir), Limited

INTER-DEPARTMENT CORRESPONDENCEDATE October 15th, 1943

FILE _____

SUBJECT Analysis of Tsolum River Outcrop.TO Coal Preparation Engineer,
Union Bay.FROM Mining Engineer,
Cumberland, B.C.COPIES TO _____

I am today forwarding you for analysis two coal samples taken from outcrop exposure on tributary to Tsolum River, in Block 29, Township 7, Comox District.

Partial seam section as follows:

Coal	1' - 8"	Sample No. 1
Grey Shale	- 7"	
Bone	- 4"	
Coal	- 9"	Sample No. 2

Please let me have a copy of analysis at your earliest convenience.



Mining Engineer.

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CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

*Tsolum River
Outcrop*

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., December 7th, 1943.

Laboratory Number 43-3456 & 3457.

Sample of Tsolum River Outcrop received October 15th, 1943.

Marked Tsolum River Outcrop Block 29. Township 7. Comox District.

Analysis:	Partial seam section :-	
	Sample #1.	Sample #2.
	Coal 1' - 8"	Coal - 8"
	Grey Shale - 7"	
	Bone - 4"	
	Coal - 8"	Coal - 8"
	Sample #1.	Sample #2.
Moisture	1.48 %	1.30 %
Volatiles	12.03	10.71
Fixed Carbon	73.49	62.96
Ash	15.00 ^{10.00}	25.03 ^{10.00}
Sulphur	2.14	2.36
Calorific Value	12,947 B.T.U.s.	10,503 B.T.U.s.

Both coals are non-caking.

87.48 *88.6*
12.72 *10.71*
Linearly cut *Linearly cut*

Remarks: *... But it had ...*

Respectfully Submitted,
J. J. Conroy
CHEMIST

To: R. Strachan Esq., 4 copies.

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., December 7th, 1943.

Laboratory Number ~~45-3456~~ & 3457.

Sample of Tsolam River Outcrop received October 15th, 1943.

Marked Tsolam River Outcrop Block 29, Township 7, Seneca District.

Analysis:

Partial seam section :-

Coal	1' - 8"	Sample #1.
Grey Shale	- 7"	
Runs	- 4"	
Coal	- 8"	Sample #2.

	Sample #1.	Sample #2.
Moisture	1.48 %	1.30 %
Volatiles	12.03	10.71
Fixed Carbon	73.49	62.96
Ash	13.00	25.03
Sulphur	2.14	2.36
Calorific Value	12,947 B. T. Us.	10,503 B. T. Us.

Both coals are non-caking.

Remarks:

Respectfully Submitted,

J. J. Connolly
CHEMIST

To: R. Strachan Esq., 4 copies.

694

CHEMICAL LABORATORY
OF
CANADIAN COLLIERIES (DUNSMUIR), LIMITED

CERTIFICATE OF ANALYSIS

UNION BAY, B.C., December 7th, 1943.

Laboratory Number 43-3456 & 3457.

Sample of Tsolun River Outcrop received October 15th, 1943.

Marked Tsolun River Outcrop Block 29, Township 7, Comox District.

Analysis: Partial seam section :-

	Coal	1' - 8"	Sample #1.
	Grey Shale	- 7"	
	Bone	- 4"	
	Coal	- 8"	Sample #2.

	Sample #1.	Sample #2.
Moisture	1.48 %	1.50 %
Volatile	12.03	10.71
Fixed Carbon	75.49	62.96
Ash	15.00	25.03
Sulphur	2.14	2.36
Calorific Value	12,947 B.T.Us.	10,503 B.T.Us.

Both coals are non-coking.

Remarks:

Respectfully Submitted,

J. Kennedy
CHEMIST

To: R. Strachan Esq., 4 copies.

694

COAL RESOURCE STUDY
OF
COMOX BASIN - NANAIMO SERIES
VANCOUVER ISLAND -
BRITISH COLUMBIA

PREPARED FOR
WELDWOOD OF CANADA
LIMITED

PREPARED BY
MICHELE P. CURCIO, Coal Consultant
West Vancouver, British Columbia

00694

OCTOBER, 1975

00694 (15) VOLUME 1

S U M M A R Y

1.

Coal mining on Vancouver Island contributed substantially to the economy of British Columbia and Canada until 1950.

The closure of the mines on Vancouver Island, and the loss of most records led to the belief that most of the coal on Vancouver Island had been mined out. This was supported by the mining methods that were carried on in the Island, whereby the coal operator was moving from area to area, which tended to imply the coal was running out. Thus with limited knowledge, and no real data Vancouver Island was removed from the list of potential coal reserves for British Columbia and Canada.

The subsequent location of records and the exploration, conducted has proven that coal reserves in the magnitude of one billion tons of coal exist on Vancouver Island, in the Comox-Nanaimo Series, about mid-island on the Strait of Georgia Coastline.

The movement of mining operators can be attributed to the unconformity of the Vancouver Group, basement, coupled with the structural faulting, either not known or not understood in the past. / 2

The percentage of recoverable coal from the lower seam in all areas will be contingent on the methods of mining employed, taking into consideration that the faults may pose some structural constraints, or problems.

The majority of the coal considered to be economically extractable will require underground mining operations. However there is potentially some 96 million tons of coal available for strip mine operations.

The structural faulting while placing some constraints on mining, primarily in the down faulting displacements, (which may restrict mineable areas, and necessitate more entries), may in the final utilisation of the resource be a "double edge sword". Those same faults would form natural barriers should gasification of the upper non-mineable seams, prove feasible.

S U M M A R Y

The sulphur content of the coal, while higher than Alberta's prairie and foothill coal deposits, can be removed to a great extent through coal beneficiation. The major portions of the sulphur occur in a pyritic form and will readily wash out in the coal cleaning process.

Very definite economic advantages are available to these coal deposits, based on their tidewater situation, geographic location, and moderate climate.

Prompted by gloomy supply, and price projections for petroleum and natural gas, the world once again looks to coal as a primary source of energy and industrial chemicals. The synthesis-gas process to produce industrial chemicals is a process that gasifies coal to a hydrogen; carbon-monoxide synthesis gas, and go from that to such products as ammonia or methanol, from which a multitude of chemicals can be derived.

The location of the coal, the magnitude of the deposit, and the extraction or other utilisation of the resource, warrants serious consideration for exploitation of the coals on Vancouver Island, and may once more contribute substantially to the economy of British Columbia and Canada.

PURPOSE OF STUDY

3.

During the period of 1895 to the late 1940's the earlier coal rights owners Dunsmuir, and later Canadian Collieries carried out extensive mining in the Nanaimo and Comox areas. In the Comox Area, operations were primarily in the Cumberland area and later in the T'Sable River area. Production from these areas amounted to 32,729,000 tons.

In addition to the mining, the companies drilled about 225 test holes in three zones, Campbell River, Cumberland and T'Sable River areas.

The discovery of oil, in Alberta, in the late 1940's brought about the dieselization of the railways who were the major users of coal. Shortly thereafter industrial and residential users of coal converted to gas. Both occurrences caused the coal mines to cease operation and abandon the mining areas.

In 1962 Weldwood of Canada Limited acquired all of the assets of Canadian Collieries including the coal rights held fee simple by way of the Esquimalt and Nanaimo Railway Land Grant established in 1905.

In the early 1970's, Governmental changes with respect to mineral rights, increased prices of oil and gas, and depletion of existing energy throughout the world resulted in a resurgence in the use of coal. Weldwood of Canada Limited in 1973, as successors decided to examine the coal rights on Vancouver Island. (Preliminary Evaluation of Coal Resources on Vancouver Island, July 1974), to determine if any potentially mineable coal reserves were available, and to surrender any lands of no value.

The preliminary examination involved the compilation of all existing data which indicated a substantial reserve of coal still existed in the Comox Structure of the Nanaimo Series on Vancouver Island.

It was determined from the Preliminary Study, that several non-tested acreage was evident within the coal environment lands and in addition confirmation appeared necessary to evaluate the past data and establish the character of the coal both from a quality and quantity aspect.

The work covering these aspects was carried out during the summer and fall of 1975, and this forms the basis of this report.

SCOPE OF STUDY

4.

The scope of work covered every aspect of a geological exploration program for new coal lands, as well as an examination of the accumulated coal waste piles. In addition an environmental assessment was carried out simultaneously to establish an inventory, should any mining occur in the area.

A brief description of the categories covered included the following outline.

1. Examination of all previous work in detail.
2. Detailed structural mapping of the total area.
3. Delineation of the areas of interest for both stripping and underground mining reserves.
4. Test drilling and coring of coal in all areas.
5. Geophysical logging of all test holes.
6. Analysis of all coal to established quality of the product.
7. Calculation of reserves.
8. Preliminary Environmental Assessment of the total area.
9. Mapping and Interpretation of results.
10. Reporting.

A total of 62 exploratory borings was completed out of which 53 were used for this report. The balance involved holes lost through circulatory or mechanical problems in the drilling process, and holes drilled out of the area to confirm structure.

All waste-slack piles were grid drilled and bulk sampled for analysis to evaluate the coal content.

ACKNOWLEDGEMENTS

The successful completion of any exploration program, is dependent on the abilities and co-operation of many individuals, each contributing their specialty, in order to obtain a better understanding of the area and to provide the best interpretation for the client.

The Vancouver Island Resource Study, conducted for the client, Weldwood of Canada Limited, had a very competent team, for which acknowledgement is due, and they are herewith listed with their contribution.

John E. Hughes P. Geologist	- Consulting Structural Geology
George Green P. Geologist	- Geological Supervisor
McAuley Drilling Co. Ltd.	- Drilling, Coring and Sampling
Great Guns Services Ltd.	- Geophysical Logging
Roke Enterprises Ltd.	- Geophysical Logging
Epec Consulting Western Ltd.	- Environmental Assessment
Bayrock-Reimchem Surfical Geology Ltd.	- Consulting Surfical Geology
Birtley Engineering Ltd.	- Coal Analysis
General Testing Ltd.	- Coal Analysis
Chem-Tech Industrial Designs Ltd.	- Drafting

Weldwood of Canada Ltd., provided the Administrative assistance for all financial, legal, and corresponding aspects, necessary for the completion of the program.

VANCOUVER ISLANDCOAL REPORTGEOGRAPHY AND PHYSIOGRAPHY

The Vancouver Island coal properties are contained within 118,000 acres of land, along the west-central part of Vancouver Island. (Map 1).

The area is approximately 12 miles wide and 60 miles long, extending from Campbell River (50th Parallel) in the north to Horne Lake in the south. The east half of the property lies entirely within the Lowlands of the Coastal Trough Physiographic Division, which generally lies below the 2000 foot contour line. The west half is situated within Vancouver Island Ranges of the Insular Mountain Physiographic Division, and lies within the 3000 foot contour.

The topography consists mainly of low forested ridges, separated by narrow valleys, aligned in a northwest to southwest direction. Where the Lowlands meets with the old upland of the Insular Mountains of Pre-Cretaceous time there is an abrupt change to steep, rugged slopes, rising rapidly to 3000 feet.

The mountainous and undulating terrain of the area creates a high degree in fluctuation of the water levels in the streams, from the drainage areas within the area. (Figure 5, Page 27, Environmental Assessment of the Vancouver Island Properties).

There are six main rivers throughout the area: Quinsam, Oyster, Tsolum, Browns, Puntledge, and T'Sable, five having discharge in the mean flow rate of 300 cubic feet per second, and the Puntledge with a rate of 1200 cubic feet per second.

Access to the area is by way of Highway 19, the main highway from Nanaimo to Kelsey Bay. Off Highway there are numerous logging roads, trails, and old railway beds which provide ready access to almost all segments of the coal bearing lands. (Map 15).

VANCOUVER ISLAND

7.

COAL REPORT

GEOGRAPHY AND PHYSIOGRAPHY CONT'D

The areas along the main highway for less than one mile contain almost all of the population living in the area studied. As well, almost all tourism and recreation is confined to the same area. According to the Canadian Land Inventory only those portions of the study area, along with the coastal road described, are classified as having any capabilities for recreation, and in general the recreation is denoted as water-oriented recreation related to the rivers and Georgia Straits.

The largest community in the area is Campbell River with 10,000 occupants, and the other major towns would include: Courtenay, Comox, and Cumberland. In addition, there are several small villages. The total population within the area is about 35,000 people, with 23,000 within the larger centres and the balance scattered throughout the areas between those main towns noted.

GENERAL GEOLOGY

8.

The economic coal deposits in the Comox Field, occur in the Late Cretaceous Nanaimo Series.

The Comox Basin is generally considered to be from the first depositional cycle (Muller-Jeletzky 1971) and was heavily eroded in parts, prior to the second depositional cycle, from which most of the Nanaimo coal was removed; in the Wellington, Newcastle and Douglas seams.

In the Comox Basin, some of the coal seams are missing, due to the uneven unconformity surface, just below the deposit. This is evident in the irregularities of the coal beds within the Cretaceous, throughout the entire Comox Basin.

These irregularity and erosional factors are a result of the depositional characteristics.

The Comox Basin, comprising sediments of the Nanaimo Group, extends from Mud Bay to Campbell River, a distance of sixty miles, with a maximum inland extension of twelve miles.

In the Comox Basin the Nanaimo Series comprises of a four-fold division of the Nanaimo sequence into Comox formation; the Comox formation, consisting largely of sandstones, (varies from 80 to 1,000 feet thick), and the other three divisions, Haslam, Extension-Protection, and Cedar District formations, comprising mainly shales, interbedded sandstones and conglomerate. The coal seams are all confined to the Comox formation which rests unconformably on a Pre-Cretaceous surface of quite variable relief.

GENERAL GEOLOGY

9.

Table of Formations

<u>PERIOD</u>	<u>FORMATION</u>	<u>LITHOLOGY</u>
Recent and Pleistocene	Alluvium Glacial Deposits	Swamp and river alluvium Stratified sands and gravels. Till
	Unconformity	
Tertiary	Constitution Hill Sills & Laccoliths	Quartz Diorite-Porphry
	Intrusive Contact	
Upper Cretaceous	Nanaimo Series Formation Haslam Extension-Protection Cedar District	Shales with interbedded Sandstones and conglomerate
	Comox Formation	Sandstone with shales, conglomerate, and coal seams
	Unconformity	
Jurassic and Triassic	Vancouver Group	Meta Volcanics argillites

GENERAL GEOLOGY

DESCRIPTION

10.

VANCOUVER GROUP

The underlying basement rocks are hard, greenish fine, to visible crystalline rocks. They include amygdaloids, porphyries, tuffs and agglomerates which have been highly metamorphosed and in part recrystallized. They have in them bands of much altered and metamorphosed bands of argillites which are highly contorted and whose relations with the volcanics is not known. These volcanic rocks have been correlated with the Vancouver Volcanics of the Vancouver Group and are found practically all over the island.

NANAIMO SERIES

Resting unconformably on the Vancouver Group are the rocks of the Nanaimo Series. They have been subdivided into two formations. The Nanaimo Series Formation and the Comox Formation.

The Comox Formation is essentially a sandstone formation, the beds of which are thick bedded quartz sandstone with calcareous cement. In the northern portion of the area it has a decided greenish tint but still homogeneous and massive. The coal seams of economic importance all occur in the Comox Formation, in the lower one-third of the measure.

Overlying the Comox Formation and conformable with it are a three fold division of the Nanaimo Series, Haslam, Extension-Protection and Cedar District Formations. These are dominantly a shale formation. A fine grey clay shale with interbeds of sandstones and conglomerates. The shale is very homogeneous in colour and texture.

GENERAL GEOLOGYTERTIARY INTRUSIVE ROCKS

After these Cretaceous Strata were laid down and probably during Tertiary times the measures had intruded into them a laccolith of the cedar tree type, the trunk of which is Constitution Hill to the west of Headquarters. With this intrusion and originating from it, sills forced their way along between the strata for considerable distance. Anderson's Hill is the result of such a sill. There are also several such sills in the measure to west of Wolfe Lake. On both sides of the laccolith the measures have a severe tilt away from it indicating a doming of the overlying strata.

RECENT AND PLEISTOCENE

The whole Lowland is drift covered with very few rocks exposures except in the stream beds. The stratified sands and gravels predominate below 700 feet elevation contour. Above this Till forms the surficial soil. Most of the stratified material is a coarse to medium sand with some gravel beds. (Sand and Gravel Study - Bayrock and Reimchem - For Weldwood of Canada Limited - 1975).

STRUCTURE

The Nanaimo strata of the Comox Basin are contained by downfaulting, depression and tilting to the northeast. They dip northeastwards at average of 5 to 7 degrees; younger formations outcrop progressively eastwards.

Three systems of faults are indicated: Linear faults of northwest trend; cross faults of northeast trend; oblique faults of several intermediate trends. The Linear faults tend to be dominant.

GENERAL GEOLOGYSTRUCTURE CONT'D

They have the greater displacements overall, and they exerted major control on the distribution of outcrops. The Linear system has two components of faulting, separated by about 20 to 30 degrees of azimuth. In places the indicated cross faults and oblique faults transect or offset the Linear faults; those of minor displacements terminate against the Linear faults. The tectonic pattern is one of block faulting in response to the prevailing northeast tilt.

Within the fault sectors, the Nanaimo beds tend to uniform dip, modified in places by slight warping. Narrow sectors of steep dipping beds probably strain related to faulting in underlying Vancouver rocks.

GEOLOGYPREVIOUS WORK

The coal deposits of Vancouver Island have been the subject of intermittent geological investigations since their discovery in the middle of the nineteenth century.

In 1857, J.S. Newberry established the Cretaceous age of the coal bearing strata on the basis of its plant-fossils. James Hector (1811) on Palliser's exploratory expedition to Western Canada, produced a "Geological Sketch Map of Nanaimo" showing the then known outcrops of Douglas and Newcastle seams in Nanaimo and on Newcastle Island and some marine fossil localities; the fossils again established the Cretaceous age of the beds.

From 1871 to 1876 James Richardson investigated the Vancouver Island coalfields. He divided them into three main areas of deposition: the Comox, Nanaimo and Cowichan Basins (Richardson, 1872, 1873, 1878). He recorded the exploration and mining activities of that time, concerning himself mainly with the Comox Basin where development was in the initial stage. Many detailed sections of the exposed coal-bearing strata were measured and the general stratigraphic relationships were established of these and all overlying formational units of shale and of sandstone and conglomerate, as exposed in the Cumberland area and on Nearby Hornby Island. G.M. Dawson (1890) introduced the name "Nanaimo Group" to these beds and he considered the lower units to be correlative with the Chico of the Chico-Tejon Series in California.

By the start of the twentieth century coal mining was well established in the Nanaimo area and technical articles concerning the mines began appearing in the literature (Brewer, 1902; Sutton, 1904).

GEOLOGY

PREVIOUS WORK

14.

C.H. Clapp spent the field seasons 1908 and 1913 mapping the geology of southeast Vancouver Island. Of the many detailed reports produced by him that on the Nanaimo Coalfield (1914a) is of most importance. He mapped the geology and established the stratigraphy of the Nanaimo Group in Nanaimo and Cowchan Basins and introduced a sequence of formational names. He also gave a synopsis of the economic geology and of coal mining of that time in the Nanaimo area.

In the fall of 1910, Clapp made a private report to the Tye Copper Company regarding coal possibilities on Galiano, Mayne and Saturna Islands. This report was subsequently made public (Clapp, 1914b) when the company ceased prospecting.

During the summers of 1921 and 1922, J.D. MacKenzie studied the stratigraphy of the Comox Basin and continued Clapp's mapping of the southern and eastern parts of Vancouver Island (MacKenzie, 1922, 1923).

Following MacKenzie's death in 1923, T.B. Williams continued work in the Comox area which ultimately was incorporated into an unpublished doctoral dissertation (Williams, 1924). Formational names for the Comox area were introduced in this work and later expanded by Usher (1952).

The extensive work of A.F. Buckham (1947a,b) on the Nanaimo coalfield and other coal-bearing strata has only partially been published. However, some of his accumulated information is contained in J.L. Usher's publication (Usher, 1952).

With the declining production and eventual cessation of coal mining activity, geological publications have become increasingly concerned with regional stratigraphy and biochronology of the Nanaimo Group and correspondingly less attention has been paid to the coalfields.

GEOLOGY

15.

PREVIOUS WORK

Thus, publications by Usher (1952), Bell (1957, McGugan (1962,1964) and Crickmay and Pocock (1963) have dealt with paleontology, paleobotany, micropaleontology, palynology and associated biostratigraphic problems of the Nanaimo Group.

Hacquebard et al. (1967) in a petrographic study of selected Canadian coals analysed material from the Nanaimo field, elucidating its probable environment of deposition.

Recent regional mapping by J.E. Muller (1963, 1965) together with paleontological studies by J.A. Jeletzky have resulted in joint publications (Muller and Jeletzky, 1967-1970) detailing the geology of the Nanaimo Group of Vancouver Island and the adjacent Gulf Islands.

J.E. Muller and M.E. Atchison in 1971, outlined the geology and history of the Vancouver Island Coal deposits. Using the Weldwood of Canada Limited records, acquired from their predecessor, Canadian Collieries, Muller and Atchison outlined the coal potential.

DEPOSITIONAL CHARACTERISTICS

Depositional environment of peat-bogs, later transformed into coal had a bearing on the physical characteristics of the coal seams and the enclosing strata. The Nanaimo Group seams were probably deposited in a paralic coal-basin (i.e. a coal-basin formed in a coastal Lowland area), and the environment was probably a lagoon, separated from the sea by sandbars. (Muller-1971).

In the Cumberland coalfield, the coal-bearing Comox Formation was deposited directly upon the Pre-Cretaceous unconformity. Relief on this old erosional surface is significant, in the order of 1,600 feet across a span of five miles and locally as steep as 500 feet per mile (MacKenzie, 1922; Atchison, 1968). This paleotopography exerted a profound influence on the nature and distribution of the immediately overlying sediments.

One such effect was confinement of the Benson (fluvial) conglomeratic facies to paleotopographically low areas, i.e. stream and river channels.

Another effect was localization of coal swamps between emergent land areas and offshore sandbars. Thus in places in the Cumberland field, the lower coal seams are interrupted by paleotopographic 'highs' whereas the upper seams are continuous across these buried hills.

As paleotopographic influence were eliminated with burial of the Pre-Cretaceous unconformity, the subsequent distribution of sediments must have been the result of other factors.

Atchison (1968) demonstrated that coal seams in the Cumberland field, although usually of limited lateral extent, tended to be thicker and more abundant in the same regions. The recurrence of localized swamp conditions thus implied was attributed to repeated build-up and destruction of marginal sandbars together with the effects of differential compaction. Atchison proposed that periodic spreading of these marginal sand accumulations over the swamps followed by greater compaction of the swamp sediments would lead to re-establishment of sandbars on the margins of subsidence. Thus, new swamps would tend to redevelop above older swamp deposits.

GEOLOGY

17.

DEPOSITIONAL CHARACTERISTICS

MacKenzie (1922) believed that the thicker seams were formed near the base of the measures and that higher seams are generally unworkable. He further described the coal as follows:

"Characteristically, the coal is associated with layers of grey or brownish-grey shale. Rarely, a band of clean coal is enclosed between a sandstone roof and floor, and frequently the coal is wholly enclosed in shale. Like the seams in other parts of Vancouver Island, these have no trace of anything resembling underclays, nor have rootless, tree stems, branches, or leaves been observed in association with the coal Apart from the clay shale associated with the seams, more or less fissile carbonaceous shale, and the brown compact shale known as 'bone' occur interbedded with the coal itself. These impurities vary from a lamina, of paper thickness, to bands occupying most of the thickness of the seam; and instances occur where the seam consists of shale, or of coal so high in sediment as to be unworkable. This is particularly the case where the seam closely approaches the Pre-Cretaceous rocks. Neither in the outcrops nor in the bore holes had a clean seam of coal been observed resting directly on the old volcanics, though dirty coal, or shale with coaly streaks, frequently does so

"The thickness of coal in any given seam may vary from a fraction of an inch to many feet, 25 feet of coal being the thickest obtained in any single seam. This, however, included a band of shale four inches thick, and the coal was soft and shaly. A solid bench of bright hard clean coal exceeding 30 inches in thickness is an unusual occurrence."

Three seams were found to be mineable in the Cumberland area: No. 1; (2 feet 6 inches to 7 feet thick), No. 2; (3 feet 6 inches to 3 feet 9 inches thick), and No. 4; (3 feet to 7 feet thick). The three seams are quite variable in thickness in different parts of the field and tend in places to be split up by rock bands and sections of inferior coal. No. 4 seam is the lowest seam and each seam is separated by over 100 feet of sandstone and shales. Because No. 4 seam is near the base of the Comox formation, and the Pre-Cretaceous basement is irregular there are areas where this and sometimes the other seams are displaced by the older rocks.

See H+A, 1931
H.S. 12

DEPOSITIONAL CHARACTERISTICS

The three seams generally dip northeasterly at about six degrees.

No. 4 seam is the most extensive worked of the three seams. The seam outcrops for about four miles between Coal Creek on the east and of Comox Lake, and the Puntledge River. It was mined to a very limited extent a Nos. 1 and 2 slopes, both near Coal Creek and in the vicinity of the old Chinatown. It was also mined from No. 6 shaft, about a mile down dip, under the west end of Cumberland, where the lower seam was cut at a depth of 814 feet. The No. 4 seam was mined on a large scale from No. 4 mine. The workings extended for nearly one and a half miles to the dip and for over two miles along the strike. The No. 4 seam was also mined at No. 7 Mine, in the vicinity of Puntledge River. Attempts to mine No. 4 seam further to the dip were less successful. At No. 8 Mine, where the seam was 1,000 feet from the surface, bands of rock and inferior coal resulted in it being unworkable except in an extremely limited area.

No. 2 seam was worked quite extensively from No. 5 Mine and also from No. 8 Mine which was the last producing mine in the Cumberland area.

No. 1 seam was worked to a small extent at No. 2 slope, and quite extensively at No. 5 and 6 Mines under several hundred feet of cover. (Buckham 1947).

WORKED OUT MINING AREAS

MINE NO.	ACRES	COAL THICKNESS (AVG)	S.G.	TONS/ACRE	MINED SHORT TONS
<u>CUMBERLAND AREA - LOWER SEAM NO. 4</u>					
No. 1	60	4'	1.75	9,504	570,240
No. 2	40	4'	1.75	9,504	380,160
No. 4	1400	4'	1.75	9,504	13,305,600
No. 5	130	4'	1.75	9,504	1,235,520
No. 6	50	4'	1.75	9,504	475,200
No. 7	280	4'	1.75	9,504	2,661,120
					18,627,840
<u>CUMBERLAND AREA - UPPER SEAM - NO. 2</u>					
No. 5	450	3.5'	1.75	8,316	3,742,200
No. 6	480	3.5'	1.75	8,316	3,991,680
No. 8	410	3.5'	1.75	8,316	3,991,680
					11,725,560
<u>T'SABLE RIVER AREA - LOWER SEAM - NO. 4</u>					
<u>T'Sable River Mine</u>					
	200	5'	1.75	11,880	2,376,000
TOTAL SHORT TONS EXTRACTED -					32,729,400

The Quinsam area is located to the south of the 50th parallel near Campbell and Beaver Tail Lakes, to Iron River. It is bounded on the east by the Vancouver Group, and to the west by the Weldwood property line. (Map 2)

The area has a few outcrops in the stream beds of the Quinsam River, Iron River, and Chute Creek. The surface of the Quinsam area is covered by extensive sand and gravel and tills at elevations of 700 to 1200 feet.

Before 1975, only three holes were drilled in the area (25-27-29) which provided the basis for the stratigraphy of the area. Map No. 2 combined maps of the Campbell River and Quinsam area summarize total drilling and geology of the Quinsam area.

STRATIGRAPHY

The Comox beds amount to about 650 feet in the area, and the basic contact appears to be an unconformity on the Island Intrusives. The lower members of the Comox includes the coal of economic interest. (Figure 1).

STRUCTURE

The west part of the Quinsam area consists of a wedge of Comox beds of prevailing east, and northeast dips; 12 degrees or less. The wedge thickness eastward from its eroded edge along the line of Beaver Tail, Snakehead, Gooseneck and Middle Quinsam Lakes. In this part, air photography indicates faulting of slight to moderate displacements along several trends, in a radical pattern.

The Comox and Nanaimo outcrop in the west part of the area ends against northwesterly and northeasterly faults bounding the Quinsam area.

The Comox beds, and coal showings in the Iron and Quinsam Rivers, may be referred to a downfaulted sector, in part, of a complex of faults sectors which extend south of Quinsam Lake.

QUINSAM AREA

21.

STRUCTURE CONT'D

Igneous rocks of the southeast and of Middle Quinsam Lakes, and southwest of the confluence of the Iron and Quinsam Rivers are left unclassified, and their origin as segregation, or salients of the Island Intrusives or post-Cretaceous Intrusives are to be determined.

The Campbell River area is located to the south of the 50th parallel, east of the Vancouver Group that separates the Campbell River area and the Quinsam area, and south to the Oyster River. (Maps 2 and 3)

It is part of the Lowland on the east coast of Vancouver Island. The surface of the area forms a terrain of slight relief at elevations of 500 to 100 feet, declining eastward. Extensive deposits of till, sand and gravel and clays of lacustrine or marine origin cover the bedrock.

The Comox and coal measures are similar to the Quinsam area, and represent sedimentations in a formerly continuous area - later divided and separated by uplift of the Quinsam block.

One significant difference in these two areas is that in the Quinsam area the Comox beds overlie the Island Intrusives, but in the Campbell River area the Comox beds overlie the Vancouver Group.

STRATIGRAPHY

The beds in the drilled sections are assigned to the Comox Formation; there is no evidence for overlying units of Nanaimo strata. Figure 2 illustrates a representative section and correlations.

The Comox Formation amounts to 1,000 feet, and contains three members in descending order:

- (3) Sandstones in thick sequences to 100 feet, with minor and lesser shales, and few thin conglomerates: few thin coal seams, less than 1.0 feet thick: thickness to 900 feet.
- (2) Coal Measures: shales with lesser sandstones: numerous coal seams, many thin: coal accumulations in one to three zones, and including seams of economic interest: thickness 40 to 140 feet.
- (1) Conglomerates and sandstones, with shales, and shales with conglomerates layers: thickness variable, 0 to 450 feet.

CAMPBELL RIVER AREA

24.

STRATIGRAPHY CONT'D

The foregoing divisions seem consistent, and there are few variations. The boundaries of Member (2) are at different stratigraphic levels, indicating lateral changes in sedimentation. In drill holes 3 and 5, a conglomerate sequence of 80 to 85 feet thick, apparently of local distribution, occurs at comparable stratigraphic level at the base of Member (3) and 100 to 65 feet above the base of the Comox Formation. On the east, i.e. drill holes 5 and 9, Member (2) rests directly on volcanics of the Vancouver Group. On the south boundary of the coalfields along Oyster River, about 1340 feet of Comox beds were intersected in drill hole 13.

Member (1) is referred to the generalised term Benson Member, according to its stratigraphic position, overlying the Vancouver Group.

The records of drilling allow local correlations for seams in the Campbell coalfield. External correlations and identification with seams, of the Cumberland area are far less certain or nor feasible at present view (cf. Muller and Atchison, 1971).

STRUCTURE

The Campbell coalfield contains the north, terminal outcrop of Nanaimo beds in the Comox Basin. Its north boundary is poorly defined, as it is concealed by extensive sands, and gravels in terrace forms, south of John Hart and Campbell Lakes. In subsurface, the base of the Comox Formation dips southeast and eastwards from the north edge of the coalfield, and is again depressed by cross-faulting, Fault 1, for which a downthrow of 300 to 500 feet to the southeast can be inferred (Figure 3).

In the main part of the coalfield south of Latitude 50°00', the base of the Comox dips northeastward, at 1,000 feet per mile near its west border, to 100 feet per mile on the northeast. The west border is cross faulted, with offsets evident from outcrops of the Vancouver Group. A corresponding pattern of structure can be indicated in the nearby subcrop. Figure 3 indicates the cross faults 3 and 4, with downthrow to the order of 300 feet on the southeast.

STRUCTURE CONT'D

The indicated Fault 2, of linear trend, 147° (southeast), separates the Vancouver and Comox outcrops, about Latitude $50^{\circ}00'$. To the south, Fault 2 displaces the Comox beds by downthrow on the northeast: seemingly the displacement is modified, and altered by cross faulting. Fault 2 in subsurface, is of interest (Figures 4 and 5). The record of drill hole 14 indicates early movement on the fault precedings, and part contemporary with the accumulation of the Benson Member (3). Again, later movement occurred in post-Comox time as shown by northward trace of the fault. Fault 2 may terminate oblique and cross faulting on the west side; possibly the Cross Fault 4 may extend across on the northeast, but there is lack of evidence.

Along the west edge of the coalfield, adjacent to the Quinsam block, the boundary of the Vancouver and Comox beds is concealed by drift, and its nature is problematic. Projections from subsurface mapping indicate faulting with downthrow to northeast, for the contact of Cross Fault 3, and sedimentary contact, to the south, but such projections do not accommodate flexures which may be present, and which may accompany faults.

On the southern extension of the coalfield the Comox beds are contained in fault sectors of southeast trend. The linear Fault 5, east of Quinsam Lake continues southeastwards to Constitution Hill. The fault exerts a major control of the Comox outcrop, downthrowing these beds to the east, and separating them from the Vancouver lavas, which form the high ground on the border of the coastal plain.

ANDERSON LAKE AREA

30.

The Anderson Lake Area is that area adjacent to and south of the Campbell River area on Oyster River to Browns River. (Map 3 and 4)

In the middle of the property lies Constitution Hill an ~~old Pre-Cretaceous~~ promontory. *mapped on Map 4 + Miller (1969 - pages 68-70) as Tertiary intrusion!*

The Tsolum River and Black Creek are the only streams of importance in the area. There is one good outcrop of coal on the Tsolum River in Section 6.

STRATIGRAPHY

The Comox beds, north of Constitution Hill are quite different in appearance and composition. The sandstones are very coarse and quartzitic in nature, with no apparent coal measures in the Comox until you cross the Oyster River to the north.

It is possible that this may have been a subsurface high, non-receptive to the Comox deposition, as it occurred in the Cumberland area or T'Sable River area.

The area, south of Constitution Hill, lies between two Tertiary Intrusives, and although, some coal was encountered in the Comox, the area is highly disturbed.

The number and size of faults, located in the area, makes any stratigraphic projection, impossible to define with any certainty.

The Comox Formation is in the range of about 600 feet, of thickness, where encountered.

STRUCTURE

The structure control north of Constitution Hill to the boundary, varies dramatically from the structure of Constitution Hill to the Browns River.

STRUCTURE CONT'D

The Comox in the north contains two linear block faults, that dip to the northeast at about 9° . The displacement between the two faults is calculated to be in excess of 400 feet. The only significant block lies east of the Tsolum River with an elevation of 500 feet.

South of Constitution Hill, the Comox occurs between Dove Creek and Browns Creek.

The west half of the Comox, bounded on the east by an uplifted Vancouver has a series of cross faults, in a radial pattern.

The Comox dips to the northeast, at 10 degrees in the north half of this block and 5 degrees in the south half.

From two outcrops and Anderson Lake #2 borehole there appears to be a downfault from the Vancouver Group and an uplifting caused by the Tertiary Intrusive to the east, caused the blocks to tilt, or lift, to the extent that the lower members in some blocks are near to surface and in others sheared away.

From the Intrusive east, there is a downfault from the Intrusive with a displacement of about 100'. This appears to be a more stable block and contacts the other Nanaimo Series at the linear Fault that extends northeast through the middle of Wolfe Lake. Here normal sequence is observed in the Comox and Nanaimo Series, of Comox and Haslam.

The Cumberland area is bounded on the north by the Browns River and the Trent River delineates the southern limits. Its eastern margin is the Straits of Georgia and the western boundary is the erosional edge of the Cretaceous coal bearing strata beyond which are exposed the older volcanic rocks of the Vancouver Group. (Map 5)

STRATIGRAPHY

The Upper Cretaceous strata of the Comox Group described under the term Nanaimo Series, overlies older rocks of the Vancouver Group with unconformity.

The Nanaimo strata has been subject to several classifications and these have been revised by Muller and Jeletzky (1970), following biostratigraphic zonation by McGugan (1964) and Zeletzky (ibid).

A four fold division of the Nanaimo sequence into; Comox, Haslam, Extension-Protection and Cedar District Formations, occur in ascending order, (with allowances for unconformity, or channelled, or other relationship) in both the Cumberland and T'Sable River areas.

Field work indicates that the term Extension-Protection applies to stratigraphic identities:

- (1) In the Cumberland area, north of the Trent River - conglomerates with sandstone, and shales, and shales with pebble beds of limited extent and consistent stratigraphic levels, 200 to 600 feet above the Comox Formation.
- (2) South of the Trent River in the T'Sable River area, a sequence of sandstone and conglomerates overly the Comox Formation and extend to a thickness of 800 feet or more.

The absence of Extension-Protection beds in parts of the Cumberland and T'Sable River areas, makes a division of the shale sequence above the Comox uncertain - though perhaps differences in lithology and zonation may allow for some distinction.

CUMBERLAND AREA

33.

COMOX FORMATION

The formation consists of marine and non-marine types, with shales and coal measures. Sandstones form about 80% of the unit, and occur in thick intervals to 60 feet. In the Cumberland area, the coal measures are present in seven cyclothems which tend to be widespread. Coal seams of economic interest are in the lower part of the formation, in Cumberland and T'Sable areas. The base of the formation is marked by varied relief of 100 to 200 feet, and extremes of 300 feet. Conglomerate interbeds are recorded in lower intervals in several drill holes, but the formation lacks a continuous basal unit of the Benson type. In the Cumberland coalfield, the Comox formation is 600 to 800 feet thick, for the most part, and the range thickness 460 to 880 feet largely depends on the relief of the Karmutsen surface and degree of transitivity to Haslam. In the T'Sable area, Comox beds underlying Nanaimo Series amount to 60 to 200 feet; and to the southeast, south of Langley Lake the formation attains thickness of 250 to 700 feet.

HASLAM

This unit, consists of shales and mudstone, and in places contains few, thin beds of sandstones. Its contact with the Comox formation is marked by abrupt change of sedimentation, and in places a transition of interbedded shales and sandstones. Haslam where distinguished by overlying Extension-Protection is 200 to 300 feet thick. Elsewhere, and where mapping depends on records of drilling, the shales, Haslam and Cedar District are not separated. Therefore, Haslam is mapped only in parts of the Cumberland area, but it is considered in the T'Sable area south of Langely Lake, and south of T'Sable River.

EXTENSION-PROTECTION

The unit is mapped from exposures and records of drilling, and recognized in the Cumberland area. The beds comprise a sequence of conglomerates and sandstones, and in the upper part shales, and shales with conglomerate layers. In its fullest development Extension-Protection attains a thickness of 300 to 400 feet, present in subcrop.

NANAIMO SERIES

The term describes an assemblage of sandstones and conglomerates, - applying to outcrop and subcrop south of the Trent to the T'Sable River. Conglomerates form two or three intervals; a few shales intervals are present in the upper part. Nanaimo Series as defined here may include correlatives of the Extension-Protection, and not presently distinguished. Thickness of 600 to 800 feet can be ascribed to the Nanaimo Series. It includes about 800 feet of beds, in partial exposures at Bloedel Creek, but the upper boundary is concealed against an indicated fault.

CEDAR DISTRICT

In the Cumberland area it is continuous with outcrops which are assigned to the vancouverense zone, by Jeletzky (Muller and Jeletzky 1970). This ground is separated by faulting from outcrop and subcrop, mapped as the composite unit Haslam-Cedar District. The Cedar District consists of a sequence of shales, and shales with interlaminated siltstones; few thin beds, and passages of sandstones are recorded from drilling. It represents the youngest Cretaceous beds of the area. The combined shale sequence of Haslam-Cedar District amounts to 900 feet along the east coast.

STRUCTURAL GEOLOGY

Subsurface mapping, Figure 6, illustrates its general structure, and indicates the relief of the floor on which Comox sediments accumulated. Structures on the top and base of the Comox Formations share the same outlines. The main features: the prevailing northeast dip of about 500 feet per mile: and uplift in a salient of easterly trend passing through Cumberland.

The structure of the coalfield also includes faulting. Muller and Atchison (1971) record linear faults from plans of underground workings. Other faulting can be indicated, and much of its pattern explained by accommodation to movement on the north flank of the Cumberland uplift: the fault displacements are downthrown to the north and east. Seemingly a cross fault and branching faults close part of the Cumberland uplift on the south.

STRUCTURAL GEOLOGY CONT'D

On the west border of the area, Comox beds are downthrown against Karmutsen lavas, along a line of faulting trending northwest near Perseverance Creek. Comox outliers and fault sector are present west of this fault line on higher ground near Hamilton Lake and the Trent River. A stock quartz diorite (?) of Tertiary age intrudes Comox beds between Puntledge and Browns River, near the west border of the Cumberland area. Records of drilling nearby refer to conglomerates in the upper member of the Comox section.

The T'Sable River area extends from Trent River in the north to Rosewell Creek in the south. Its eastern margin is the Strait of Georgia, and the western boundary is the erosional edge of the Cretaceous coal bearing strata, beyond which are exposed the older volcanic rocks of the Vancouver Group. (Map 6)

STRATIGRAPHY

The stratigraphy of the T'Sable River area is described in the Cumberland area outline, as the two are related.

STRUCTURE

The area here defined extends from the Trent River to Rosewall Creek, and includes the coalfield of its main and south parts.

The T'Sable River cuts obliquely across the structural trend. Drilling and exposures along the valley show two subdivisions of the area: (1) north of the former T'Sable mine, ground with major outcrop of Nanaimo Series (2) on the south, and south of Langely Lake, outcrops of the Comox Formation in its full development, together with overlying shales of the Haslam and Cedar District Formations.

Comox outcrops are bounded on the west by a line of deformation and displacement with faulting of linear trend and downthrow to the east, - (Beaufort Fault Line). This line is marked by a fault extending from Bradley Lake to the Cumberland area. Its trace along the upper reaches of Bloedel Creek is obscured by drift.

Linear faulting, (the Langely Fault Line), is inferred to extend from Langely Lake to Bloedel Creek. It is shown by a distinct lineament, and is probably a compound fault. This fault line may continue south of the T'Sable River.

T'SABLE RIVER AREA

37.

STRUCTURE CONT'D

The sector enclosed by the Beaufort and Langely Fault lines contains the Nanaimo succession to shales of Haslam, and Cedar District Formation. The prevailing dip is to the northeast. Outcrops are distributed by faulting on several trends. Fault displacements are moderate, and for the most part, range about 250 feet and less. Downthrow to the northeast and east is inferred for linear and oblique faults. Views on fault displacements are subject to uncertainty for reasons of unconformity, or change in stratigraphy, and reference to boundaries of the Nanaimo Series.

The valley of Bloedel Creek and the interfleuve to the Trent River, is seemingly contained by faulting. Evidence for faults is open to question, as it referred to the mapping of Nanaimo Series, for which transgressive boundaries can be indicated. Along Bloedel Creek, beds of Nanaimo Series dip northeastwards in a step pattern, with two raises marked by dips of 20 to 25 degrees.

ECONOMIC SIGNIFICANCE

Through the area, seven cyclothems of coal measure, are consistent in the Comox Formation. Within the cyclothems the seams vary from one foot, to several feet in thickness.

The seams of economic mining importance are considered to be in the range of three feet to fifteen feet. These occur in the lower members of the Comox. Other seams are in a matrix of shale with coal, and they are in thickness of one foot to two feet, and occur in the upper members of the Comox.

The bottom seams occur in the lowest member of the Comox Formation and are the thickest, consistent seams. The lowest seam lies very close to the unformed basalt and varies in thickness from five feet to eleven feet, depending on the highs or lows of the basalt.

The second seam, occurs about 100 to 170 feet above the lowest seam and has an average thickness of five feet.

The higher seams are distributed at fairly consistent stratigraphic intervals, within the highest member of the Comox.

The strip coal zone, in the Quinsam area consist of one major seam with a thickness of thirteen to fifteen feet; which implies the coal may have been laid down during a different period of the Comox Series deposits, of other areas.

The strip coal zone in the Anderson Lake area, consists of the two coal seams in the lower Comox and are separated by less than twenty feet of Comox.

The strip coal zone at Hamilton Lake, in the Cumberland area, consists of the three coal seams of the lower Comox and are separated by less than four feet of shale parting, between the highest three foot seam and the lower two five foot seams, which are separated by six inches of shale parting.

ECONOMIC SIGNIFICANCE CONT'D

Mining the underground coals would appear to favour a long wall mining system since both the hanging wall and footwall comprise of sandstone and the dips are gentle (5° to 12°). No shales are evident in the Comox, except where the coal seams occur.

In view of the location of these coals on tidewater, the stripping of the coal seams, where applicable, could go to greater ratio's; equivalent to the offset of transportation costs of other coal mines, to bring their product to tidewater.

Although the coal characteristics in some samplings, indicate some coking qualities, on the whole, the coal is a High Volatile "A" Bituminous coal, suitable for thermal electric generation. Blend or form coke processes, may be a second use for the coal.

The faults that occur in most of the area, form natural boundaries if coal gasification were considered, and in this respect they could have very significant economic advantages to obtain the maximum use of the coal resource, even after mining became uneconomical by whatever process was employed.

The total area has numerous railbeds, and secondary roads throughout, making almost any method of transport to the ocean feasibly economical.

The deep sea port facilities used for earlier mining was located in Union Bay, on the Straits of Georgia and these could be re-employed without too much effort or cost.

Finally, the Vancouver Island would attract a solid labour force for mining, in view of the location and moderate climate.

During the period of January to September, 1975, a comprehensive exploration program was carried out on the Vancouver Island, Comox - Nanaimo Series.

The program consisted of structural mapping in detail, test drilling, geophysical logging and coring of coal seams for analysis.

Due to the size of the area studied, it was decided to delineate the total land into five zones. These were labelled:

Quinsam Area
Campbell River Area
Anderson Lake Area
Cumberland Area
T'Sable River Area

Each zone was defined by certain distinct geographic and geologic factors. (i.e. major rivers or lakes, and major structure contacts).

The procedures employed chronologically were; structure mapping, location of bore holes, test drilling and coring, electro-logging, mapping, and interpretation.

All test drilling was carried out using two contracted rotary drills, truck mounted. One employed a down hole hammer, and the other employed reverse circulation. Both employed air for cutting returns wherever possible. For coring the coal measures, water was employed in the circulation system.

All coring carried out obtained a core of 2 7/8" diameter. ^{2.9" = (7.36cm)} All cores obtained were correlated to both the drillers log, and the geophysical log which was obtained upon completion of the drilled, borehole.

Coal obtained from either core, or wash sampling was sent to a commercial laboratory for analysis, and washability tests, to establish the coal characteristics of the Comox Basin coals.

EXPLORATION PROCEDURES AND METHODS

The geophysical equipment employed in the first phase of the program was a Comprobe tool with three selected channels, caliper, gamma, and density.

During the second phase, the geophysical tool employed consisted of four channels, caliper, gamma, density, and resistivity. In a few cases a fifth channel was tried which consisted of a neutron graph.

Profile - sections were drafted using the old boreholes of earlier years, along with the boreholes and geophysical logs of the 1975 program and mapped to compute reserves.

All mapping was carried out on a scale of 1" = 1320 feet.

Throughout the exploration program, supervision of the drilling and geophysical aspects were overseen by a resident field geologist.

In some area where earlier mining occurred, (Cumberland and T'Sable River), the old mine plans were obtained from government records. Personal communication from miners employed in these areas were also useful in the evaluation of the property. A brief description of seams worked in these zones were supplied by McKenzie (1922), and Buckham (1947) and appear in this report within the section - Geology - Previous Work - Depositional Characteristics.

COAL RESOURCE STUDY
VANCOUVER ISLAND

PARAMETERS USED IN COMPUTING RESERVES

The coal reserves calculated occur in three categories:-

- (Proven Reserves
- Probable Reserves
- Possible Reserves)

Proven Reserves; are coal seams which have been proven by borehole data and structure correlation, over a sufficient size area, to be considered proven in three dimension.

Probable Reserves; are coal seams which are shown in representative outcrops, or with limited borehole data, correlated with structure to be considered reliable in two dimension.

Possible Reserves; are coal seams which occur in at least one borehole, or outcrops, which can be correlated to the structure. Where structures, dip and strike are consistent with surrounding areas, this was considered to be reliable in one dimension.

Coal seam occurring only in the lower member of the Comox and Nanaimo Series, were used in computing reserves. The lower figures that appear under the heading, Average Thickness of Seam, always occur in the lowest cyclothem, above the Vancouver Group, and the second figure above, denotes those seams which occur in the second cyclothem, in the Comox-Nanaimo Series, above the lowest seam.

Although seams from one foot to two feet occur in the other five cyclothems these were considered to be questionable under current economic mining conditions, and therefore not included in the calculation of reserves.

Since the total area was subject to faulting which resulted in tilting, and displacement, each area was broken down into zone areas, and each area computed separately. A distance of 200 feet along faults, intrusives, boundaries and rivers was left out of reserve calculations.

The computation of all coal reserves is based on an average specific gravity of 1.75, and a tonnage factor of 198 short tons per inch, per acre.

COAL RESERVES

AREA	TYPE OF MINING	STRIP RATIO	AVG COAL THICKNESS	ACRES	S.G.	SHORT TONS ACRE	PROVEN	PROBABLE	POSSIBLE
<u>QUINSAM AREA</u>									
S	Strip	10:1	12'	273	1.75	28,512	---	---	7,783,776
		14:1	12'	300	1.75	28,512	8,553,600	---	---
		14:1	12'	325	1.75	28,512	---	9,266,400	---
		15:1	12'	230	1.75	28,512	---	---	6,557,760
		20:1	12'	312	1.75	28,512	---	---	8,895,744
		25:1	12'	343	1.75	28,512	---	---	9,779,616
		30:1	12'	50	1.75	28,512	---	---	1,425,600
A	Strip	30:1	12'	629	1.75	28,512	---	---	17,934,048
B	Underground		12'	640	1.75	28,512	---	18,247,680	---
C	Underground		12'	520	1.75	28,512	---	---	14,826,240
D	Underground		12'	3543	1.75	28,512	---	---	101,018,016
<u>CAMPBELL RIVER AREA</u>									
A	Underground		12'	2600	1.75	28,512	---	---	74,131,200
B	Underground		12'	1188	1.75	28,512	---	---	33,872,256
<u>ANDERSON LAKE AREA</u>									
S	Strip	5:1	8'	143	1.75	19,008	2,718,144	---	---
SP	Strip	12:1	8'	328	1.75	19,008	---	6,234,624	---
A	Underground		5'	878	1.75	11,880	---	---	10,430,640
B	Underground		6'	593	1.75	14,256	---	---	8,453,808
C	Underground		6'	932	1.75	14,256	---	---	13,286,592

COAL RESERVES

AREA	TYPE OF MINING	STRIP RATIO	AVG COAL THICKNESS	ACRES	S.G.	SHORT TONS			
						ACRE	PROVEN	PROBABLE	POSSIBLE
<u>CUMBERLAND AREA</u>									
<u>Worked Out Area</u>									
Mine 1	- No. 2 Seam		3.5'	60	1.75	8,316	498,960	---	---
Mine 2	- No. 2 Seam		3.5'	40	1.75	8,316	332,640	---	---
Mine 4	- No. 2 Seam		3.5'	1400	1.75	8,316	11,642,400	---	---
Mine 7	- No. 2 Seam		3.5'	280	1.75	8,316	2,328,480	---	---
Mine 8	- No. 4 Seam		4'	410	1.75	9,504	3,896,640	---	---
A	Underground		5'	3662	1.75	11,880	---	43,504,560	---
	Underground		8'	3662	1.75	19,008	---	69,607,296	---
B	Underground		3.5'	2825	1.75	8,316	---	23,492,700	---
	Underground		6'	2825	1.75	14,256	40,273,200	---	---
C	Underground		4'	3493	1.75	9,504	---	33,197,472	---
	Underground		4'	3493	1.75	9,504	33,197,472	---	---
	Underground		3'	3493	1.75	7,128	24,898,104	---	---
D	Underground		3.5'	427	1.75	8,316	3,550,932	---	---
	Underground		3.5'	427	1.75	8,316	3,550,932	---	---
E	Underground		3.5'	2235	1.75	8,316	---	18,586,260	---
			5.0'	2235	1.75	11,880	---	26,551,800	---
F	Strip	3:1	7'	808	1.75	16,632	---	---	14,438,656
G	Strip	3:1	7'	188	1.75	16,632	---	---	3,126,816

COAL RESERVES

AREA	TYPE OF MINING	STRIP RATIO	AVG COAL THICKNESS	ACRES	S.G.	SHORT TONS ACRE	PROVEN	PROBABLE	POSSIBLE
<u>T'SABLE RIVER AREA</u>									
A	Underground		6.0'	392.5	1.75	14,256	---	5,595,480	---
			3.5'	392.5	1.75	8,316	---	3,264,030	---
B-Propline	Underground		6.0'	1175	1.75	14,256	---	16,750,800	---
			3.5'	1175	1.75	8,316	---	9,771,300	---
B-Underwater	Underground		6.0'	3515	1.75	14,256	---	---	50,109,840
			3.5'	3515	1.75	8,316	---	---	29,230,740
C	Underground		6.0'	1197	1.75	14,256	17,064,432	---	---
			8.0'	1197	1.75	19,008	22,752,576	---	---
D	Underground		8.0'	545	1.75	19,008	10,359,360	---	---
			3.5'	275	1.75	8,316	2,286,900	---	---
E	Underground		9.0'	68	1.75	21,384	---	1,454,112	---
F	Underground		9.0'	502	1.75	21,384	---	---	10,734,768
			6.0'	502	1.75	14,256	---	---	7,156,512
G-Prop	Underground		5.0'	7105	1.75	11,880	---	---	84,407,400
H	Underground		4.0'	210	1.75	9,504	---	1,995,840	---
			5.0'	210	1.75	11,880	---	2,494,800	---
I	Underground		9.0'	355	1.75	21,384	7,591,320	---	---
			3.5'	355	1.75	8,316	2,952,180	---	---
J	Underground		3.5'	4780	1.75	8,316	---	---	39,750,480
			4.0'	4780	1.75	9,504	---	---	45,429,120
K	Underground		3.5'	2210	1.75	8,316	---	---	18,378,360

TOTAL COAL RESERVES
BY TYPE IN SHORT TONS

QUINSAM AREA

Strip Reserves	70,196,544	
Underground Reserves	<u>134,091,396</u>	
Total Reserves		204,288,480

CAMPBELL RIVER AREA

Underground Reserves	<u>108,003,456</u>	
Total Reserves		108,003,456

ANDERSON LAKE AREA

Strip Reserves	8,952,768	
Underground Reserves	<u>32,171,040</u>	
Total Reserves		41,122,808

CUMBERLAND AREA

Strip Reserves	17,565,472	
Underground Reserves	<u>335,213,208</u>	
Total Reserves		352,778,680

T'SABLE RIVER AREA

Underground Reserves	<u>389,530,350</u>	
Total Reserves		<u>389,530,350</u>
TOTAL RESERVES ALL AREAS		<u><u>1,095,723,774</u></u>

SUMMARY OF RESERVES
IN SHORT TONS

136.

<u>AREA</u>	<u>TYPE</u>	<u>PROVEN</u>	<u>PROBABLE</u>	<u>POSSIBLE</u>
<u>QUINSAM AREA</u>				
	Strip	8,553,600	9,266,400	52,376,544
	Underground	---	18,247,680	115,844,256
<u>CAMPBELL RIVER AREA</u>				
	Underground	---	---	108,003,456
<u>ANDERSON LAKE AREA</u>				
	Strip	2,718,144	6,234,624	---
	Underground	---	---	32,170,040
<u>CUMBERLAND AREA</u>				
	Strip	---	---	17,565,472
	Underground	120,273,120	214,940,088	---
<u>T'SABLE RIVER AREA</u>				
	Underground	63,006,768	41,326,362	285,197,220
TOTAL		<u>194,551,632</u>	<u>290,015,154</u>	<u>611,156,988</u>

TOTAL STRIP COAL - 96,714,784
TOTAL UNDERGROUND COAL - 999,008,990
TOTAL RESERVES - 1,095,723,774

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R E C O M M E N D A T I O N S

The past data, along with the 1975 exploration program has resulted in the determination of large coal and aggregate deposits.

In order to determine the mining feasibilities of both these products, additional exploration is required.

(Each block, in every area, should be drilled on a grid pattern to confirm the structure and determine the mineable reserves in detail.)

A comprehensive chemistry study of the coal is necessary to establish the best uses of the coal and to establish reliable quality control, through beneficiation.

Studies on transportation, water loading facilities, should be considered, for both the coal and aggregate, simultaneously.

Marketing studies of all products including coal, aggregate, and ash derivatives should be commenced.

Finally, since the eventual removal of these resources will have some environmental effects on the Island, a continuous environmental study should be carried out in conjunction with any future work on the Weldwood of Canada Limited, rights and property.

C O N C L U S I O N S

The coal deposits on Vancouver Island are not only substantial in quantity, but offer great possibilities for strip mining, underground mining, and gasification.

The coal is a High Volatile A Bituminous classification, affording a variety of uses such as thermal, form-coke, and the manufacture of industrial chemicals.

A composite analysis of the ash composition provides some interesting possibilities in the manufacture of both aluminum and cement.

With the unique location of these deposits on tidewater, marketing to any area of need in the world can be met competitively.

Vancouver Island is a sensitive area in terms of the environment. However our preliminary environment impact assessment would indicate that mining of coal would be allowed in the area.

In addition to the large coal deposits, our studies have indicated a sand and gravel reserve of 250 million cubic yards of gravel.

The two resources, coal and aggregate, form separate operations for extraction and marketing, but enhance each other in other important factors. The main factors relate to island transportation, water loading facilities, and reclamation.

Finally it has been determined that a sufficient quantity of marketable coal can be recovered from existing waste piles, suitable for thermal or industrial use. A waste reclamation operation, could be implemented independently or integrated with other mining operations; profitably.
