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PRELIMINARY REPORT

ON

THE MERRITT COAL FIELD

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PRELIMINARY REPORT ON THE MERRITT COAL FIELD

Location:

The Merritt coal field is located in the general area of the town of Merritt in British Columbia. It is served by the Canadian Pacific Railway system and is easily accessible by highway. In general it is situated in the Nicola River Valley from Chilchena Creek on the East to Ten Mile Creek on the West. See Department of Mines & Technical Surveys map 887 A "Mineral Localities" attached.

History:

The Geological Survey of Canada reported coal in the Merritt area in 1877-78 and the outcrops along the Coldwater River were mined by the ranchers for their own use. Regular production from Middlesboro Collieries Limited on Coal Gully Hill began in 1906.

The total production of the Merritt coal field to the end of 1945 was 2,699,682 tons. Middlesboro Collieries Limited produced 80% of this total from their mines on Coal Gully Hill one mile south west of Merritt, and from their No. 2 mine on the north west side of Coldwater Hill. This company ceased operations in 1944.

Diamond Vale Collieries Limited produced 41,536 tons principally from their No. 3 and No. 4 mines 1 1/2 miles east of Merritt before they closed. In 1943 No. 4 mine was re-opened as Merritt Coal Mines Limited and produced 4,862 tons of coal before closing in 1945.

Other mines have been active in the area from time to time but most of the coal has been produced from the area adjacent to Coldwater Creek.

Since 1945 the Coldwater Coal Mines operated by S. Gerrard and Partners have been working the outcrop coal of the Middlesboro Collieries Limited mines in the Coldwater River area and producing a very small coal tonnage for local consumption.

In 1947 they opened up Coldwater No. 3 mine in No. 3 seam near the Old Middlesboro No. 3 mine, to mine the outcrop coal. The No. 3 coal seam is 28" - 30" thick and has a sandstone roof dipping 22° in a south easterly direction. This mine was operated on a tonnage of from 1,000 - 2,000 tons per year until it was shut down in 1951.

In 1951 Coldwater No. 5 mine was opened up between the Middlesboro No. 1 and No. 4 mines, 3,100 feet west of No. 3 mine. The new opening was in the No. 5 coal seam near the entrance to the Old Middlesboro No. 5 mine. Its operation consisted of splitting pillars and salvaging outcrop coal left in the abandoned Middlesboro No. 5 mine. The coal seam in this area is 5 feet thick and dips to the east at 12°. The annual coal production averaged less than 1,500 tons per year and it was sold for local use. In 1954 a sample of coal was analyzed from this mine with the following results on an "As Received Basis".

Analysis Dated November 19, 1954

Moisture	5.6%
Ash	11.4%
Vol. Material	34.4%
Fixed Carbon	47.6%
Sulphur	0.7%
Calorific Value	12,060 B.T.U. per pound.

The coal is a High Volatile "B" Bituminous Coking Coal

The No. 5 seam here is 4'6" thick having a three inch parting of bone and a one inch parting of shale that was not analyzed in the above sample.

The No. 5 Coldwater mine operated in a small way producing a small coal tonnage per year for the local market. According to the last Minister of Mines Report in 1958 it is still producing coal and being operated by S. Gerrard and Partners.

Coal Seams:

The coal seams outcrop in many places in this coal area. The areal limits of the coal bearing rocks in this basin is unknown due to the extensive drift cover that attains a depth of from 40 to 175 feet. The number of coal seams present has been estimated as high as ten. The following section supplied by the British Columbia Department of Mines shows 7 seams in the area worked by the Middlesboro Collieries Limited with intervening thickness of strata from the base of one coal seam to the top of another.

770
120
650

Details	Parting Thickness Feet	Coal Thickness Feet
No. 2 seam		6.0
Interval	70	
No. 3 seam		2.5
Interval	50	
No. 6 seam	<u>2</u>	7.0
Interval	210	
No. 8 seam		8.0
Interval	160	
No. 4 seam		28.0
Interval	120	
No. 5 seam		5.0
Interval	160	
No. 1 seam	<u>770</u>	30.0

Near the western margin of the basin where work was carried on by Middlesboro Collieries Limited the beds lie in tight folds with the axes trending northwest and plunging south east. The dip of the measures varies up to 70° in places.

The central part of the basin dips more moderately, the strata strikes north west dipping south west at angles up to 30°. Drill holes have established the coal measures at some points but drilling is not sufficient to make a complete section of the basin.

Quality of the Coal:

The coal recovered from Middlesboro Collieries Limited mines situated about one mile south of Merritt analyzed as follows on an "As Received Basis"

	No. 2 Seam Upper	No. 2 Seam Lower	No. 2 North Mine No. 2 Seam 8-foot Seam	No. 3 Mine No. 3 Seam 6-foot Seam
Moisture %	4.4	4.5	7.4	5.3
Ash %	9.0	7.9	13.7	22.0
Volatile Matter %	32.5	32.7	34.2	32.3
Fixed Carbon %	54.1	54.9	44.7	40.4
Sulphur %	0.4	0.5	0.5	0.6
B. T. U. per pound gross	12930	13040	11090	10240
Ash softening temp. °F			2800	2850
Rank classification			high vol. C bit.	high vol. B bit
Hardgrove Index			55.5	59.0

The above analytical data indicates that the ash content and quality

of the coal varies from seam to seam. However it does have a high heat value and would make an excellent power plant fuel. It has a very high fusion temperature and is also high in volatile matter.

Summary and Conclusions:

1. There are a number of coal seams that vary in thickness up to 30 feet, outcropping in the Merritt area. These coal seams are folded and faulted dipping from 12° up to 70°.
2. The Merritt coal measures outcrop on both sides of the Nicola River below and above Merritt.
3. The coal has been mined underground but there is no record of any strip mining activity in this area.
4. The coal is a high volatile "B" bituminous coking coal, suitable for power plant fuel.
5. There may be strip mine possibilities in the-
 - (a) Quilchena Creek area
 - (b) Coldwater River area
 - (c) Cold Gully areaWhere the coal seams outcrop and pitch steeply into the valleys.

Recommendations:

1. An on the site inspection of the Merritt coal area should be made to thoroughly study the strip mine possibilities of this area.
2. A detailed study of the economics of producing coal from the Merritt area for power plant fuel should be made as soon as possible.