

OPEN FILE

CB - QUESNEL 29(10)A

QUESNEL SECTION
COAL

MINISTER OF MINES, REPORT OF

1923

1924

GEOLOGICAL BRANCH
ASSESSMENT REPORT

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The following table gives the results of analyses of the different samples taken:—

Description.	Moisture.	V.C.M.	F.C.	Ash.
	Per Cent.	Per Cent.	Per Cent.	Per Cent.
Selected lumps, seam north of Quesnel.....	2.8	36.8	25.4	35.0
Seam near Howard's ranch, selected lumps.....	3.6	40.2	35.6	20.6
Seam, Australian creek, average across 4 feet in incline.....	5.6	36.8	37.0	20.6
Seam, Australian creek, average across 4 feet in another place in incline.....	8.7	35.4	37.1	18.8
Alexandria ferry, average sample across 3 feet 6 inches in middle bench.....	6.0	39.7	39.7	13.7
Alexandria ferry, average sample across 4 feet in middle bench.....	5.1	38.2	38.5	18.2
Alexandria ferry, average sample across 4 feet in bottom bench.....	3.4	38.8	36.8	21.0

The high percentage of moisture and volatile combustible matter shown in the above analyses indicates that this coal is a low-quality lignite. The ash content is high, but might be reduced by sorting out clay-bands.

practically no development-work has been done on the outcrops. From the analyses it is apparent that the coal is low-grade lignite and somewhat high in ash. Some of the seams are thick enough for mining, but the low grade of the coal makes it improbable that it would ever find more than a limited local market. Whether exploration or development of the field, by drilling or otherwise, would show better coal in the known seams or new seams containing higher grade coal is problematical.

Information about these lignite-deposits is given by Reinecke in Memoir 118 of the Geological Survey, Canada, "Mineral Deposits between Lillooet and Prince George, British Columbia." The coal occurs in the Fraser River formation, which is of Tertiary age. It is not probable that the different outcrops of the coal-seams from Quesnel to Alexandria show a continuous coal formation underlying the surface material and forming one large coal-basin, but it seems more probable that there are a number of small coal-basins throughout the area.

The places where the coal was examined were: One mile north of Quesnel and on the east bank of the Quesnel river; on Australian creek, on the Australian ranch, 21 miles south of Quesnel on the Cariboo road and $1\frac{1}{2}$ miles from the Fraser river; on the east bank of the Fraser river $1\frac{1}{2}$ miles from Howard's ranch; and at the Alexandria ferry about 800 feet south of the eastern landing. At all these places the character of the coal is much the same and the seams vary from 2 to 15 feet thick. Much of the coal in the seams is dirty and only portions of the seams could be used.

North of Quesnel.—This seam outcrops almost in the bed of the river and would be covered at high water. It is lying nearly flat and is from 2 to 4 feet thick. A sample across 3 feet showed that it is very dirty coal. This seam as at present showing has no coal of commercial value.

Australian Creek.—The coal-seams exposed on Australian creek are described by Reinecke in his report. An incline has been driven on one seam going down the dip for 60 feet; this work was done by Yorston Bros., of the Australian ranch. Some of the coal taken out was used as domestic fuel by them for a time, but as this has been discontinued it would seem that the coal is not very satisfactory.

This seam strikes N. 35° E. and dips at 20° to the north-west. It varies from 3 to 4 feet in thickness and contains thin seams of clay, which appear for a short distance and then disappear and then others take their place. The coal is typical lignite and contains so many shale-bands that it would require careful mining and sorting to produce fairly clean coal. Other seams crop out above and below the one on which the incline was driven. They are exposed on the banks of the creek, but none of them look any more promising than the one which was worked.

Fraser River, $1\frac{1}{2}$ Miles from Howard's.—This coal is exposed at a point in the bed of the Fraser river where the river is split into two channels by an island. The coal occurs on the east side of the eastern channel; at high water it would be covered. The seam lies nearly flat and is from 4 to 5 feet thick. Clay-bands are of frequent occurrence in the seam and the analysis of selected lumps shows that the coal is high in ash, too high for commercial use. The only work done at this place is a small hole in the coal a few feet deep.

Alexandria Ferry.—This seam is the most promising of any that was examined. It is about 15 feet thick, but only part of it can be considered as being coal. It is well exposed near the foot of a high bank on the Fraser river about 800 feet south of the Alexandria ferry, on the east side of the river. The top 6 feet of the seam is dirty coal and clay-bands, then there is 2 feet of clay or shale, and next a middle bench of $4\frac{1}{2}$ feet of coal; the bottom bench is 4 feet thick, separated from the middle one by $1\frac{1}{2}$ feet of shale.

The analyses of samples from this seam show that it contains some coal not excessively high in ash and by selective mining or sorting a product should be obtainable low enough in ash for commercial use. A small hole has been made in the seam, but practically no development has been done. Slight improvement in the quality of the coal might be found on further development by getting away from surface conditions. As this seam is on the same side of the Fraser river as the Pacific Great Eastern Railway and not far away from it, small-scale mining of it might be successful in supplying the local market in the Cariboo.

coarse but not nuggety; occasionally pieces up to \$2 in value are found. The pay-dirt consists of about 6 feet of gravel from bed-rock up, with probably some concentration of values on the bed-rock. There are many quartz pebbles in the gravel and some large boulders. A further operation of the property is expected either by the company or the lessees.

FORT GEORGE SECTION.

By the Fort George section is meant the northern and eastern parts of the Cariboo Division that are naturally tributary to the town of Prince George. Not much mining activity was apparent in this section during 1923. Some placer-mining was done on 6-Mile creek, a small creek flowing into the Fraser river south of Prince George. Development of the *Snowshoe* group was started in the fall and carried on during the winter. Assessment-work was done in a number of places.

This group of claims, which is situated about 15 miles north-easterly from *Snowshoe Group*, Prince George, was described in the 1918 and 1922 Annual Reports. The property is being developed by a syndicate consisting of A. Hutchinson, William Bonner, Wallace Cheer, George Williams, S. J. Watson, M. Framstad, and W. L. Armstrong. The property was not visited in 1923, but the following information has been obtained from a letter from one of the members of the syndicate: "The *Snowshoe* group consists of eight claims about 5 miles south and east of Shelly Station, the claims being held under a partnership agreement. At the time the partnership agreement was formed last fall a 20-foot shaft had been put down on the property. We deepened this another 20 feet and uncovered ore all the way, running about 3 per cent. in copper. As this was not satisfactory we stopped work in that particular shaft and commenced on an abandoned one about half a mile away. We went down on this 17 feet to a depth of 27 feet and ore taken at this depth assayed \$23 in gold, silver, and copper (at present values), and had widened out from a stringer to 3 feet wide, with evidence of still further widening when our men had to stop on account of water. We then decided to get a pumping plant and go farther on that shaft. It was just before Christmas when this was up and ready for operations. The men then came into town and we sent them out about ten days ago to work on the shaft until the end of March."

QUESNEL MINING DIVISION.

The only important mining in the Quesnel Division is placer-mining, although prospecting for lode minerals is intermittently carried on. Coal-deposits are known, but as yet very little development has been done on them. Owing to the production of the Cedar Creek camp the placer-gold output of this Division for the last two years has shown a large increase over previous years, and the interest aroused by the rich ground at Cedar creek has had a very beneficial result on prospecting. During the year some attention was paid to the deposits of diatomaceous earth (sometimes called infusorial earth) near the town of Quesnel. These deposits have long been known to be of good quality and considerable size, but nothing has been done with them owing to lack of market. It is now claimed that a possible market exists at Vancouver, and so leases covering some of the deposits were taken up by Messrs. Vaughan and Hagen. A good description of these occurrences of infusorial earth can be found in Memoir 118 of the Geological Survey, Canada, by Leopold Reinecke.

During the year grants were made from the Mines Development Fund for the purpose of improving the transportation in the Quesnel Lake section (which includes Cedar Creek camp) and the Keithley section. Substantial grants were also made by the Public Works Department for repairing the main trunk road serving these sections and a bridge was built across the old dam-site at the foot of Quesnel lake. This part of the Division is now therefore well served by fairly good motor-roads throughout.

QUESNEL SECTION.

Coal.

Outcrops of lignite at different points in the Quesnel section of the Cariboo Division have been known of for many years. A number of these were examined by the Resident Engineer in 1923. Very little attempt has been made to mine these coal-seams and in most places