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TELKWA

TELKWA SEATON COALFIELD

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cut, which at the time was not considered advisable by the management. In addition to the work of driving this tunnel and sorting over the old dumps, throughout the year work has been steadily prosecuted from the shaft. A good deal of work was done in the lowest or 400-foot level of the shaft-workings in following up and extracting streaks of high-grade ore. Other levels of the shaft-workings were also worked, and in all several car-loads of high-grade ore were taken out and shipped.

The property of the Wright Coal Company, consisting of about twelve Wright Coal Co. claims, is situated near the station of Seaton, on the Grand Trunk Pacific Railway, and about twenty-two miles from Hazelton. Coal-bearing beds of the Skeena series are here found in a rather shallow but fairly regular basin, with a total length of about four miles and a half and a maximum width of about one mile and a half. The property was formerly owned by the Seaton Coal Company, and before that it is believed the name was the Grand Trunk British Columbia Coal Company, Limited.

Coal was discovered here many years ago, the seams being exposed along the banks of the Bulkley river. In all, ten or eleven small seams have been found, occurring in about 500 feet of sandstones and shales. These seams range in thickness from 1 to 3½ feet and are lying quite regularly and with little or no distortion. The average strike is N. 66° to 70° W. (mag.), with a northerly dip of about 30 degrees.

On the main seam a tunnel has been driven from the bank of the river for 230 feet, and at a point 120 feet from the portal a slope is down 30 feet, which had water in it at the time of examination. In the slope this seam has 2½ feet of coal on the roof, then a layer of bone 3 to 10 inches thick, and then 1 foot of coal on the floor. A sample across the 2½ feet of coal on the roof gave the following analysis: Moisture, 1.2 per cent.; V.C.M., 17.2 per cent.; F.C., 34.9 per cent.; ash, 46.7 per cent.

At other places this seam shows more bone or shale, as the following section at the face of the tunnel shows:—

	Inches.
Coal .....	9
Shale .....	5
Coal .....	8
Shale .....	2
Coal .....	5
Shale with a little coal mixed in it .....	18
—	
Total .....	47

A sample was taken cutting across the three bands of clean coal and excluding the shale-bands and the bottom 18 inches, and the analysis of this is as follows: Moisture, 0.9 per cent.; V.C.M., 18.7 per cent.; F.C., 45.6 per cent.; ash, 34.8 per cent.

During last summer the company made preparations to sink a slope on this seam and prospect it thoroughly. The slope breaks through from the surface into the tunnel at a point 100 feet from the tunnel-mouth. A donkey-engine has been installed on the bench above the workings and only a few hundred yards distant from Seaton Station. This will hoist the waste material up the slope to the surface and take the coal on a tramway up the side-hill to the bench, 500 feet in distance and 170 feet higher elevation. At the time of visiting the property (July 12th) the donkey-engine was set up, the tramway being put in, and connection broken through from the surface to the tunnel, but work had not been started in sinking the slope below the tunnel-level. Nothing has since been heard as to how the work progressed.

Short prospect-tunnels have been run on two or three other seams, but it was not anticipated that any further work would be done on them in the immediate future. One of these tunnels is 87 feet long and shows a seam about 3 feet wide. A sample taken across 2 feet 10 inches at the face gave the following analysis: Moisture, 0.9 per cent.; V.C.M., 18.2 per cent.; F.C., 43.9 per cent.; ash, 37 per cent.

The analyses of the samples taken show an unduly high percentage of ash, and unless portions of the seams can be found which have a much lower ash content the value of this coalfield is problematical. Coal with such high ash is not of much commercial value, and at least it would have to be cleaned by washing before marketing. It will be also noted that the seams are barely above the economic limit in width.

The following table of analyses of samples, taken by W. W. Leach, of the Canadian Geological Survey,\* also shows a high ash content for these seams:—

Sample.	Moisture.	Vol. Comb. Matter.	Fixed Carbon.	Ash.
No. 1. 15-inch seam.....	1.02	25.70	62.86	20.32
No. 2. 18-inch seam.....	1.39	26.56	60.06	22.99
No. 3. 20-inch seam.....	1.12	33.70	61.72	23.46
No. 4. 23-inch seam.....	2.15	22.03	43.66	32.16
No. 5. 20-inch seam.....	1.36	25.18	55.41	18.06

#### TELKWA.

The town of Telkwa is situated on the Grand Trunk Pacific Railway at the confluence of the Bulkley and Telkwa rivers. This town has apparently improved a little in the last two years, and the railway-freight business from this point is gradually increasing. The adjoining town of Aldermere, situated on a bench half a mile behind Telkwa, has been entirely abandoned, everybody moving down to Telkwa. This has assisted by centralizing all the business in Telkwa. There are now three general stores there, which keep a very complete stock of goods and apparently do a good business; in addition, there are some smaller stores.

Telkwa is surrounded by some very fair agricultural country, and the production is increasing and will continue to still further increase. An annual fall fair is held at which the farmers can show a large variety of agricultural produce.

There are no mining camps close to Telkwa, but at the same time the town is an outfitting-point for prospectors and several camps, at which work has been carried on intermittently during the last few years, purchase their supplies from the Telkwa merchants.

The town is compact, and now that Aldermere is defunct there is no near-by rival to prevent the centralization of the trade in one place. Hubert, four miles away—a railway town—is about in the same condition as Aldermere.

The railway divisional town of Smithers is apparently a larger place than Telkwa, but the business done is about the same in amount. There is room for both these places to grow and prosper, and a healthy co-operation should take the place of rivalry.

The Grand Trunk Pacific Railway has not yet gone ahead with the plans for building a big station, yards, etc., at Smithers, but it will come in time. The mining camps on Hudson Bay mountain are tributary to Smithers, and possibly also some of those in the Babine range. The ranches all along the Bulkley valley are gradually increasing their production and making more business for the towns, but this growth is slow.

#### HUDSON BAY MOUNTAIN.

Several properties on both sides of Hudson Bay mountain were described by the writer in his 1914 report. None of these was revisited during the summer of 1916, but some other claims were examined and the following descriptions of them written.

The claims examined are located on the north-eastern slope of Hudson Bay mountain, and most of them are as yet undeveloped prospects. The first property visited was that of Jennings Bros., situated near Lake Kathlyn, and the others were the Schufer and Martin claims near the top of the mountain.

A group of six claims situated one mile and a half from Lake Kathlyn in Lone Star Group, a south-westerly direction, and owned by Jennings Bros., is known as the *Lone Star group*. Lake Kathlyn is a small but beautiful lake on the line of the Grand Trunk Pacific Railway about three miles north-west of Smithers, a railway divisional point. It is said to have been the intention of the Grand Trunk Pacific officials to make this into a tourist resort, but as yet nothing has been done and the place is only a flag-station. Nevertheless, the place is very popular with the Smithers people, who go there for summer camping, picnic parties, etc.; it is a particularly pretty place and the lake provides bathing, boating, and fishing.

\* Summary Report of Geological Survey Branch, 1910, page 100.

*Mica Mountain.*

This company employed a force of about ten men at its mica property on Mica mountain from June until September, when operations were suspended for the winter. The manager, Gordon F. Dickson, has kindly supplied the following particulars of operations: "Original intention was to confine operations almost entirely to opening up the vein from the raise at a depth of 80 feet below the surface, but after driving for about 20 feet on the vein we struck such a heavy flow of water that it was impossible to continue. I then formed two new camps, one on Low (east) Mica mountain and one on High (west) Mica mountain, and from workings at these places about 2½ tons of mica was extracted, which was cut before being brought out and reduced to about 700 lb. and shipped to Edmonton."

The manager further states that he is of the opinion, and is so advising his directorate, that the expense of *seasonal* operations only is too great, and that arrangements should be made to carry on work throughout the year continuously. Shipments of mica could be made when supplies were brought in during the open season. A full account of this property will be found in the Annual Report for 1926.

*Ravenal.*—(See also Annual Report for 1926.) The owner, H. Ravenal, reports having worked at his property during the year.

## COAL.

This year shows a satisfactory increase in the output of coal, the market being greatly stimulated by an early and severe winter. The output from the Goat Creek Colliery of Telkwa Collieries, Limited, amounted to 1,671 long tons, as compared with 1,260 long tons in 1926.

This company maintained a small force of men at its Goat Creek Colliery, mining sufficient coal to supply the market and improving haulage-ways in the mine. A full account of this colliery will be found in the Annual Report for 1926. Aid was given by the Department of Mines in improving the motor-road from this colliery to Telkwa, a distance of 5½ miles.

Telkwa  
Collieries.

*Seaton Coalfield.*

This coalfield is described in the Annual Report for 1916 as the Wright Coal Company (Seaton). A careful investigation of this coalfield was carried out by the Bulkley Valley Coal Mines Syndicate under the direction of Francis Glover. This comprised not only prospecting, but actual mining operations to make trial shipments. Seaton is a flag-station on the Canadian National Railway, about midway between Hazelton and Smithers. The railway passing through the coalfield affords ideal transportation facilities.

The area of the basin is in the neighbourhood of 4 miles long by 3 miles wide, and the Bulkley river, cutting down deeply through the coal-measures, affords an excellent exposure of the latter. They belong to the Skeena series of Cretaceous age and consist of grits, conglomerates, sandstones, and shales, striking about N. 67° W. (mag.) and dipping north-easterly at about 30°. A feature of these measures is the very large number of small seams of coal, up to about a foot in width, which occur at intervals of about every 25 feet. So far no very wide seam has been found and unfortunately a very high ash content is a characteristic of the seams so far discovered. However, it is quite possible that a seam offering more hopeful commercial promise will yet be found. Francis Glover was of the opinion that the coal yielded an unusually dense coke and a market for such might warrant washing. One feature this coalfield does possess—namely, a large *undisturbed* area—augurs well for continuity of the seams. The Bulkley Valley Coal Mines Syndicate employed three men in actual mining operations.

The main seam, known as No. 1, which was opened up originally some years ago by a drift from the river-level and a slope from the top of river-bank connecting with this tunnel, is fully described in the Annual Report for 1916. During the year the tunnel was driven ahead 45 feet and the slope cleaned out from the surface downwards. In the face of the tunnel the seam is 4½ feet wide, but is split up by bands of bone. A sample of clean coal only, gave the following analysis: Moisture, 1.8 per cent.; V.C.M., 17.7 per cent.; F.C., 36.7 per cent.; ash, 43.8 per cent.

In another seam, about 400 yards west of the above, known as No. 2 seam, a drift has been run 15 feet. This seam is 17 inches wide. A sample gave the following analysis: Moisture, 8 per cent.; V.C.M., 21.2 per cent.; F.C., 69 per cent.; ash, 16.8 per cent.

In a third seam, known as No. 3 seam, 3 feet in width, of which 28 inches is coal, a drift-tunnel was run a distance of 70 feet. The intention was to make a trial shipment from this seam and a large portion of this had been sacked at the time of inspection. A sample of the sacked coal gave the following analysis: Moisture, 1.4 per cent.; V.C.M., 19.5 per cent.; F.C., 43.4 per cent.; ash, 35.7 per cent. A shipment of 20 tons was actually made.

No test of burning qualities was made by the writer, but coal with such a high ash content as that shown by Nos. 1 and 3 seams could hardly be marketed without prior washing. No. 2 seam is very much lower in ash and affords some basis for hope that commercial seams will yet be found in this coalfield.

#### *Zymoetz (Copper) River Coalfield.*

Some prospecting was done on this property during the year by F. B. Chettleburgh, the agent of the Yorkshire and Pacific Trust Company, which now controls ownership. A description will be found in the Annual Reports for 1914 and 1922.

In view of the interest shown in the coalfields of this Mineral Survey District, it is deemed desirable to repeat the list of various reports given in the 1924 Annual Report:—

Name.	Annual Report.
Groundhog coalfield .....	1911, 1912.
Bowron River coal area .....	1914.
Zymoetz (Copper) River coalfield .....	1914, 1922.
Prince Rupert Coalfields Co. ....	1917.
Lake Kathlyn coal property .....	1917, 1926.
Wright Coal Co. (Seaton coalfield) .....	1916.
Aveling coal property .....	1921.
Fraser Lake coal .....	1921.
Cedar Creek coal property .....	1922.
Telkwa Collieries, Ltd. ....	1920, 1923, 1926.
Peace River coalfield .....	1923, 1926.
Quesnel-Alexandria coalfield .....	1923.

The coalfields of the Skeena, Bulkley, and Telkwa rivers were examined by W. W. Leach, of the Geological Survey of Canada, during years 1904 to 1910. Refer to Geological Survey Report, 1907, "The Telkwa River and Vicinity," by W. W. Leach.

The Groundhog coalfield is described at length by G. S. Malloch in the 1912 Summary Report of the Geological Survey of Canada.

The Peace River coalfield is fully described by F. H. McLearn in Geological Survey of Canada Summary Report, Part B, 1922.

#### PEACE RIVER MINING DIVISION.

It was not possible to visit this Mining Division during the year, but it is believed that no important activities took place. A very full account of it will be found in the Annual Report for 1923 and further information in the Annual Report for 1926.

#### CARIBOO MINING DIVISION.

The placer production of the Cariboo Mining Division for the year was \$53,125, as compared with \$170,993 for 1926.

This falling-off is due mainly to the fact that the Kafue Copper Development Company's dredge made practically no production, as it was engaged in digging its way back from Antler creek to the company's new area on Cunningham Pass creek. Prospects are better for 1928, inasmuch as the dredge will resume production this year, and the principal hydraulic mine, John Hopp Mines on Lowhee creek, after several lean years, appears to have every prospect of better times ahead. Moreover, the smaller hydraulic operators continue ever on the alert; each year witnesses some new activity and the sum total of their individual contributions is very appreciable.

Systematic drilling in Barkerville section was carried out by General F. A. Sutton and by G. A. Dunlop.

Three coal seams are exposed on the east bank of Skeena River 2 to 3 miles above the mouth of Shegunia River. The writer did not examine these seams, but according to Leach<sup>1</sup> they are, respectively, 2, 2-1, and 5-1 feet thick. Analyses of the two largest seams gave the following results:

	Moisture	Volatile matter	Fixed carbon	Ash
	Per cent	Per cent	Per cent	Per cent
2-1-foot seam.....	1.42	18.76	58.20	21.62
5-1-foot seam.....	1.18	20.63	57.27	20.92

**Seaton Coal Area<sup>2</sup> (40)**

*References:* Ann. Repts., Minister of Mines, B.C.: 1916, pp. 121-122; 1921, pp. 161-162. Geol. Surv., Canada: Sum. Rept. 1910, pp. 99-100; Mem. 69, pp. 179-181.

Outcropping along Bulkley River near Seaton (a flag station on the Canadian National Railway 20 miles southeast of Hazelton) is a series of gently dipping sediments containing Upper Cretaceous or Tertiary plant remains. These sediments consist of greywacke, shale, and conglomerate, and contain seams of bituminous coal. They strike northwest and dip 30 degrees to the northeast.

This coalfield was developed by the Wright Coal Company in 1916 and the Bulkley Valley Coal Mines Syndicate in 1927. Since 1927 there has been no development work.

The seams that have been developed all occur on the west bank of Bulkley River. The main seam, known as No. 1, occurs about 400 yards south of Seaton. It was opened up by a 275-foot drift from the river level and a 30-foot inclined shaft sunk from a point above the drift. The shaft breaks through into the drift 100 feet from the portal. As the workings are now caved the writer was unable to examine this seam. It is reported to be 4½ feet wide, split by bands of shale. Lay<sup>3</sup> gives the following analysis on a sample from this seam:

	As received Per cent
Moisture.....	1.8
Volatile matter.....	17.7
Fixed carbon.....	36.7
Ash.....	43.8

Four hundred yards downstream another seam (No. 2) is exposed. It is 17 inches wide, and a drift follows it for 15 feet. According to Lay<sup>4</sup>, a sample of clean coal gave the following analysis:

	As received Per cent
Moisture.....	3
Volatile matter.....	21.2
Fixed carbon.....	59.0
Ash.....	18.0

<sup>1</sup> Geol. Surv., Canada, Sum. Rept. 1908, p. 67.  
<sup>2</sup> Examined by J. E. Armstrong.  
<sup>3</sup> Ann. Rept., Minister of Mines, B.C., 1927, p. 161.  
<sup>4</sup> Op. cit., p. 161.

Along a third seam (No. 3), 3 feet in width, a drift was run 70 feet. Lay<sup>1</sup> gives the following analysis of a sample from this seam:

	As received Per cent
Moisture.....	1.4
Volatile matter.....	19.5
Fixed carbon.....	43.4
Ash.....	35.7

Several other seams have been found in the area, but have not been developed.

As the seams are small, and as they contain such a high percentage of ash as to necessitate washing before marketing, the commercial value of this area is problematical.