PRELIMINARY REPORT

- on -

THE DOUGLAS RIVER COAL AREA

- - - - - - - - -

LOCATION AND EXTENT

The Douglas River Area comprises the land on either Bank of the Douglas River and extends, from the River mouth, a distance of from seven to eight miles along the River towards its source. It comprises in all some ten to twelve square miles of country of which a comparatively small area is actually coal bearing.

PRESENT ACCESSIBILITY

At the present time the Douglas River area is perhaps the most inaccessible coal-field of the East Coast of Tasmania. No means of transport to and from the field are available, except the utilisation of pack horses. Seymour, the nearest port, is distant about 7½ miles along the most practicable route for a tramway; whilst Bicheno, a slightly better port than Seymour, is even more distant. Should the proposed East Coast railway be constructed a branch line of at least four miles would be necessary to connect the present workings with that railway.

TOPOGRAPHY

With its source in Thompson's Marshes, the Douglas River flows for a considerable distance over massive diabase before the Trias-Jura sedimentary rocks are met. These strata are first met at a distance of about four miles above the present workings, and the stream has worn a deep channel with more or less precipitous banks through these softer rocks. From an altitude of 1750 feet above the sea the River, in a distance of four to four and a half miles, reaches an altitude of less than 400 feet above the sea. Numerous small waterfalls are met, and in places cliff faces of from 60 feet to 80 feet rise from the water's edge to form the River banks.

RELATION OF TOPOGRAPHY TO MINING

The youthful topography, coupled with the low angle of dip of the various seams, has made it possible to locate the many outcrops of the area either in the steep banks of the river or in the bed of the river itself or of its many tributaries. From the greater number of the outcrops at present exposed coal could be more advantageously won by the adit system except where the outcrop is occurring in the river bed. The river is subject to floods and during the wet season only those workings well removed from the river bed would be able to operate. The seam on which the present tunnel has been driven is outcropping in the river bed at an altitude of 310 feet. Faulting has occurred which has placed the continuation of this seam, towards the coast, at a lower level than the general level of the country. Over the more accessible portion of the area, therefore, shaft sinking would have to be carried out to win the coal. Up stream from the present workings a distance of approximately 1½ miles the seam is found to again outcrop under conditions favorable to the adit system, but the continuation of the present workings towards this site

would be prevented by the presence of diabase dykes. The upper site is, however, at an altitude of 580 feet, and the intervening country is characterised by precipitous banks and small cliffs over which it would be extremely difficult to construct means of transport.

TIMBER

Ample timber is obtainable throughout the district to fulfil the requirements of mining and constructional works. The chief timbers of the district are the commoner varieties of Gum.

WATER

The Douglas River flowing through the area is a permanent stream from which an ensured supply of water for all general purposes will be obtained.

GEOLOGY

The Permo-Carboniferous strata are not in evidence at any place in the Douglas River Area. From the comparatively level country at the mouth of the River the felspathic sandstones of the Trias Jura system rise to heights varying up to 2000 feet above the sea. The excessive thickness of these sandstones is due to faulting which has taken place in the area.

FAULTING

A considerable amount of faulting has taken place in this area. Numerous minor faults ranging from one to ten feet have been noted, whilst the northern turn of the Douglas River is almost coincident with the direction of a major fault whose throw is at least 250 feet. The minor faulting has not occurred in any fixed direction and may be found to pass between almost any two points of the compass.

DIP OF SEAMS

The dip of the seams in this area varies from place to place, due chiefly to the presence of some or all of the above disturbing factors. The greatest angle of dip, however, that was recorded was 10^{0}.

DIABASE

The limits of the Douglas River coal-field are denoted by the occurrence of the diabase. The summits of all the mountain peaks and ranges in this district are composed of massive diabase, the nature of which is not that of a capping to the sedimentary rocks but is definitely penetrating the strata as a transgressive mass. At least three diabase dykes are known to occur in the area, and it is to be expected that these will have a detrimental effect on the coal in close proximity to them.

COAL SEAMS REPRESENTED

It is difficult to say with certainty how many coal seams will be shown to exist in this area, although from the thickness of felspathic sandstones present it is reasonable to expect the full series of eight seams to be proved to exist. At the present time only two seams have been sufficiently well opened up to be able to give details of their sections. These seams are the two chief seams of the area, and one or other has been recognised to exist over practically the whole of the coal-bearing area.

These two seams show cross-sections as follows:-

(1) Main Tunnel Seam

Sandstone Roof

10½" Coal
½" White Band
7" Dull Coal
10" Bright Coal
8" Medium Coal
2" White Band
3½" Coal
12" Shale
4" Bright flaky coal
14" Dull Coal
½" Hard Blackstone Band
10½" Bright Coal
13¾" Dull Coal
½" Blackstone Band
6" Coal
Sandstone Floor

It is in this seam that by far the greater amount of work has been done. A tunnel has been driven in a southerly direction a distance of 163 feet, whilst from the 95 foot mark a cross cut has been driven in an easterly direction a distance of 156 feet. At the present time in both the main heading and the cross cut work has been abandoned at points where an old creek bed has been met. This difficulty should, however, be only of a temporary nature and the seam should be found to regain its normal character with a little additional work. At the present time only that coal lower than the 12"Shale Band has been worked.

(II) The 5' Seam.

This seam occurs at an altitude of 510 feet above the sea on the left bank of the Douglas River as the source is approached. At this point a small tunnel has been driven a distance of about 15 feet and has been sufficient to show the full section of the seam which is as follows:-

Sandstone Roof

4" Bright Coal
2" White Band
9" Dull Coal
3½" Poor Coal
3" White Band
½" Coal
½" White Band
11" Coal
2" Hard Blackstone Band

6" Coal
9" Hard Blackstone Band
12" Medium Quality Coal
Shale Bottom.

Outcrops of this seam have been found in several positions in the area at altitudes varying up to 650 feet above the sea. The variation in altitude is accounted for by the presence of minor faulting together with the angle at which the seam is found to dip.

The occurrence of the two Hard Blackstone Bands near the bottom of the seam detracts from its value considerably. It is doubtful if the coal, between the two bands, could be won successfully, and the softer bands in the upper portion of the seam are also a difficulty to be overcome. In any case it is doubtful if more than 2 feet of coal would ever be won from this seam.

In the case of the Main Tunnel seam of which the thickness over all is 8 feet 6 inches, it may be possible to mine 5 feet or even more. At the present time about 4 feet of coal is being won, and this has been the thickness used in calculating quantities. With improved methods a greater thickness could be won.

Of the remaining coal seams of the area little can be said. Their outcrops have been noted, but as no work has been done to open them up their sections cannot be given.

Other seams have been opened in the previous areas which have not so far been opened in the Douglas River area. It is to be expected, therefore, that with further development work additional workable seams will be exposed and a greater reserve than is now known proved to exist.

QUALITY OF THE COAL

The coal of the Douglas River area compares favorably in quality with the average East Coast Coal. Like most Tasmanian coals the percentage of ash is high, but by careful mining a fair proportion of the ash could be excluded as bands.

AREA COAL BEARING

Coal seams have been found as far up the Douglas River as the Mayson River. Above the junction of these two streams nothing of importance in the way of coal seams has been found although the Trias-Jura sedimentaries extend a good deal further up. The diabase contact with the Trias-Jura is at least half a mile to three quarters of a mile from the junction of the two streams, so that in calculation the area over which coal is likely to be found the northern point has been taken as a quarter of a mile above the junction of the two streams. Towards the mouth of the Douglas River coal has been found in Coal Creek, and this creek has been regarded as the other extremity of the field. The main field will be situated on the western bank of the stream and will have in all an average width of between one quarter and half a mile over a total distance of approximately four miles. A smaller field exists on the eastern bank of the river. Taking into consideration the probability of faulting together with the presence of diabase dykes crossing the area, the maximum area from which coal will be won in the Douglas River area will be from 450 to 500 acres.

Taking the thickness of coal to be won from each of the two worked seams as 4 feet and 2 feet respectively, the maximum quantity of coal to be won from the field will be 3,250,000 tons.

(Sgd.) H.G.W. Keid

ASSISTANT GOVERNMENT GEOLOGIST

LAUNCESTON.

20th September, 1921