

the Geological Survey of New Zealand, who personally made a geological survey of the locality. The limited area occupied by the thick lower seam in comparison with the extensive area of the thin and valueless upper seam appears to indicate that the former is a basin-shaped deposit of drift coal. The coal proved by the boreholes is generally harder than that worked at the Seddonville and Mokihinui Mines.

In the event of this deposit eventually being worked, a shaft sunk to a depth of 95 ft. near borehole No. 5, being the lowest part of the deposit, would be the most convenient point from which to open a small mine. Owing to the frequency of faults and soft coal areas in this portion of the Buller Coalfield, an estimate of the quantity of coal available must be approximate only, consequently I have not furnished any. From the fact that artesian water was tapped in borehole No. 2, it will be necessary to install pumps before this area may be worked.

The briquette manufactory at Westport, which for about three years was worked in conjunction with the Seddonville Colliery, was closed during the early part of the year, owing to the high cost of manufacture.

One of the subjects inquired into and reported upon by the Royal Commission on Mines of 1911 was the profitable utilization of the soft bituminous and lignite coals of the Westport district, and in connection with this briquette manufactory the Commission reported as follows: "The cost of manufacturing briquettes with a pitch bond precludes the briquettes from competing in the market with coal as a fuel. . . . The proportion of pitch used in the production of briquettes or eggettes at Westport was approximately 8 per cent. The average cost of pitch imported was £4 12s. per ton. This, on an 8-per-cent. basis of pitch, gives the cost of pitch per ton of briquettes or eggettes at 7s. 7·98d. The total cost of manufacture is 16s. 6·69d. To this must be added the cost of freight, handling, general trading-expenses, interest, and depreciation, amounting to 11s. 3·5d., making a total cost of £1 7s. 9·16d., leaving a loss of 6s. 1·3d. per ton. It does not appear to us that any material saving can be effected in the manufacture. . . . It has not been shown to us that any other bond is available which will allow briquettes to compete successfully against coal."

The above remarks appear to be conclusive, briquetting having been proved to be a failure in New Zealand as in Australia and other countries where the pitch necessary for a bond must be imported from foreign parts. The character of New Zealand coal is not suitable for briquetting without a bond or agglomerant, as are some of the lignites of Germany and America; therefore, there appears to be no other use to which the soft bituminous coal and slack may be put than its utilization for coke-manufacture, as bunker coal, or for firing in a new type of boiler which at present has not been introduced into the Dominion.

On the Grey Coalfield operations at the Point Elizabeth State Colliery No. 1, under the superintendence of Mr. James Bishop, M.I.M.E., have mostly consisted of pillar-extraction. This has been somewhat restricted by an influx of water which has been difficult to deal with, as the two dip sections are approached only by means of lengthy haulage-roads, and therefore pumps operated by compressed air conveyed for considerable distances have not proved efficient. It is proposed to install an electrically driven pump of Rees Return type to deal with the increased influx of water.

At the Point Elizabeth No. 2 State Colliery, situated towards the head of the Seven-mile Creek, the construction of the branch railway and haulage inclines is approaching completion, and by the end of the current year this mine should have reached the output stage. The property has been developed by a main haulage-road driven for a considerable distance into a coal-seam of about 11½ ft. in thickness, and although a fault or "roll" was encountered, the strata was not displaced, and this obstacle was passed through. The face of the heading on the occasion of my inspection exposed a hard seam of bright bituminous coal of high quality. Extensive storage-bins, hydraulic brakes, bath and change houses, and other necessary equipment and buildings are at present being erected or installed.

The Paparoa Colliery, during intermittent work, produced only a small output until the 21st October, when operations were discontinued. An endeavour has since been made to obtain more capital. The coal from this mine has hitherto been of a very soft and friable nature, although of high quality, owing to the proximity of faults, and for such coal there has been a limited market.

At the old Brunner Mine pillars have been extracted from the St. Kilda section. A considerable quantity of the small coal has been utilized for the production of coke from ovens erected upon the property.

At the Blackball Colliery there has been a slight decline in the annual output. This mine is worked in panels, owing to liability to spontaneous combustion. Development and exploration have proved this to be both a permanent and valuable property, and since the abolition of the aerial tramway and the extension of the Government railways past the mine, a considerable reduction in working-costs has been effected.

It has been proposed that the Government reopen the old Wallsend Mine at Brunnerton which was closed in 1890 owing to the unprofitable character of the coal then being produced. The workings are entirely enclosed by serious faults—namely, the Kimberley fault (downthrow to the south 180 ft.), the Taylorville fault (downthrow to the westward 250 ft.), and the Dobson fault (upthrow to the south-east of 400 ft.). The coal mined was of inferior quality, and mining operations were hazardous owing to the presence of firedamp. The whole of the plant, machinery, and head gear was dismantled and removed. It therefore appears inadvisable at the present time to hazard both capital and human life in the endeavour to work this limited and faulted area, especially at a time when the profits on coal-mining have been reduced to a negligible quantity. I personally surveyed this mine in 1888 prior to the suspension of operations. I can therefore report from actual observation regarding the underground conditions.