COAL AND SHALE IN TASMANIA

The localities of all the known occurrences of brown coal and lignite are mapped in the Geological Survey Office and I have the honour to send you herewith a Geological map of Tasmania, showing:-

(1) Localities of brown coal and lignite, marked ●

(2) " of seams of coal of Trias-Jura age in what are known as our Upper Coal Measures, marked ●

(3) Localities of Tasmanite shale shown by hatched areas, thus:

(4) Localities of seams of coal belonging to the Mersey series; this includes the cannel coal and kerosene shale of Preolenna and Barn Bluff; shown this ●

Probable reserves of coal and shale included under headings (2), (3), & (4) have been approximately estimated at 77,000,000 tons exclusive of unknown reserves fringing the Central Tiers.

The brown coal areas have not been examined or surveyed as the coal has not been marketable and all demands for fuel purposes have been met by the collieries which have adjusted their output according to market demand.

In Victoria the brown coal beds are several hundred feet thick but so far nothing approaching this size has been met with in Tasmania. The quality of Tasmanian brown coal deposits is very irregular and varies from mere carbonaceous clay to that of typical brown coal: the latter however, in very small and unworkable quantities. It would be difficult to get any appreciable tonnage of standard quality.

The more practical possibilities appear to me to lie in the direction of utilising any poor coal seams at existing collieries for the production of fuel and power gas, etc.

According to published accounts the average analysis of the coal burnt in the producers of the South Staffordshire Mond Gas Company for a considerable period has been as follows:-

Ash	12%
Volatile matter	36%
Nitrogen	1.2%
Moisture	12%

and its calorific value was 11,600 British thermal units per pound. This, although described as a low grade slack coal, costing at the producers between 7/- and 8/- per ton, appears to be superior to a good deal of our East Coast coal.

No investigation has been made of the nitrogen content of Tasmanian coals, but of course this point is very important as affecting any by-product values. If the nitrogen % is sufficient it can be profitably recovered in the ammonia gas formed by the by-product producer. This gas is then fixed with sulphuric acid and the ammonia sulphate sold as a fertiliser, for which there is a considerable demand in agricultural countries. A certain amount of tar would be produced in various parts of the plant, which would be dehydrated and reduced to a proper condition for selling.

Producer gas made on the Mond principle is now largely used for gas engines, radiators, japanning, annealing, and in various processes in the iron trade.

An important matter for the technologist is the cost of the sulphuric acid required in the manufacture of the ammonium sulphate, as if the price is too high for profitable use, the acid would have to be made at or near the gasification plant.

For profitable distribution of the gas, the plant would have to be near some important centre of population. In order to be in a position to give preliminary information to persons thinking of embarking on the producer gas industry, ultimate analyses of our coals might be made and published, and to this end, the Inspection of Mines Department could be instructed to take the necessary samples.

The fact that bituminous coal can be utilised in the generation of gas for fuel or power in the by-product recovery producer does not mean that our colliery owners will be prepared to install plants at their mines and relinquish their present trade: but there might possibly be on their leases seams which cannot be worked advantageously for present purposes, and which they could work to fulfil orders from owners of producer gas plants. The Victorian experiments may be watched and after the situation has developed more fully, it may be possible to see what can be done here.

DEPARTMENT OF MINES
HOBART

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