A REVIEW OF THE MINERAL INDUSTRY

by

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The position of mining in the economy of the State cannot be found by comparing the statistics of production with other industries. Many other considerations have to be taken into account, such as, its relation to the metallurgical industry, the utilisation of electric power, its influence in the settlement of remote regions, the provision of essential metals in the engineering trade, fuel for all purposes and of materials for present day road making and other construction works. Mining and metallurgical undertakings absorb 64 per cent of the electric energy produced in the State, and all the recent demands for large blocks of power are for those industries. It may be accepted as a fact that the provision of cheap power is only of secondary importance to manufacturers, it is equally true to state that electric power in large blocks at low rates is the basic cause of the establishment of such great metallurgical undertakings as that of the Electrolytic Zinc Company. The Carbide Industry also is directly dependent upon cheap electric energy. An English Company is enquiring for 13,000 horse power in connection with the establishment of aluminium smelting in Tasmania, the chief material (bauxite) for which will be drawn from a country 10,000 miles distant. The peculiar and only attraction this State offers to them is cheap electric energy in large blocks. If this Company establish themselves here they will engage also in the manufacture of aluminous cement, which has completely displaced Portland cement in road making, piles for wharves, and other structural materials requiring a binding medium for extreme hardness and rapid setting qualities. Bauxite and high grade limestone are the essential components of aluminous cement. The first essential is not found here but the other is. In this, again electric energy will be employed in large quantity. Tasmania is the natural field for electro-chemical industries dependent upon metals and minerals. The electrification of the Mt. Lyell works enables the Company to continue despite the fall in price of copper. Almost every other copper mine in Australia is closed because this agent of cheap power is lacking. No other factor has been so important in the development of modern mining and reduction plants as electric power. Electricity lights the mines, operates the pumps, locomotives, winding plants, compressors, and milling, concentrating, and smelting machinery, and is applied wherever power is required. Since the boom period of the West the mining industry has been subjected to many economic changes, business depressions and prosperity, high and low prices, and the extraordinary effects of the war. Yet, today mining is on a sounder basis than at any period in its history and not only retains its position as a foremost basis industry, but is on the upgrade and rapidly approaching the peak production.

Without mining and the attendant industries dependant upon it for their raw materials it is obvious that the State could not progress and could not have reached its present economic position. Nowhere in Australia, and in a few countries, are there found such a variety of minerals and metals of commercial value. The market for some of these is small at present, but the day is not

far distant when they will come into more general use in their particular applications.

Turning to the principal general statistics we find that copper still retains its position at the head of the metal production despite the low market rates. Silver and lead are next in importance, and these metals together with zinc should show a further increase next year owing mainly to developments in the Read-Rosebery deposits and the opening of the Great South Comet Mine at Dundas. The extraordinary increase in the market rates for tin has led to great activity in exploration, especially in the Gladstone, St. Helens, Coles Bay and Cox Bight alluvial fields and at Renison Bell. Osmiridium production records a most spectacular growth owing to the discovery and development of Adamsfield. Coal mining is rapidly increasing in importance and position, and when the Catamaran Company is fairly started on its career we shall cease to be dependent upon Newcastle for our requirements of high grade coal. Oil shale mining and distillation are about to be undertaken at Latrobe, a consummation long awaited. Limestone for fluxing purposes at the Newcastle Steel Works, for the manufacture of Portland cement, at Maria Island and Railton, and the manufacture of carbide at Electrona is produced in enormous quantities. Tasmania has unlimited reserves of the highest quality ordovician limestone within easy reach of seaports. The increase in the output of cement is a reflection of the growth of large construction works and house building. Our resources of magnetite iron ore at Mt. Agnes, Hampshire and Rio Tinto have not been tapped owing to the delay in the construction of the Hoskins iron works at Port Kembla. The extraordinary increase in the export of tungsten ore from China and the subsequent fall in price of that metal led to the closing of the important scheelite mine at King Island. A little wolfram is produced but this as a by-product of tin mining. Gold has been declining of late years, but recent developments at Mathinna are likely to give an impetus to the search for this metal. Bismuth, nickel, and cadmium are not likely to assume large proportions for some years. Manganese and chromium deposits in the south-west are to be explored to test their value. The barium deposits are of great extent but the cost of transport precludes the possibility of successful operation at present rates. Asbestos and ochre are mined on a small scale only. The sandstones of Ross for building and sharpening are to exploited on modern lines. From these beds are produced the best grindstones in Australasia. The mineral output for the year is valued at £1,700,000.

The foregoing brief comments will convey an idea of the extraordinary variety of our mineral wealth and of the activity displayed in this branch of industry. As our progress depends not upon the maintainence of present production but upon a substantial increment, the greater problem before us is the discovery of more mineral deposits. It takes an appreciable time to bring a mining property into production, therefore, no time should be lost in exploring our resources. This may be accomplished by :-

1. Surface prospecting followed by drilling in unexplored areas.

2. Development at depth old fields, again by drilling.

3. Employing new methods in the operation of old mines and in the treatment of the ores, and

4. By promoting the more extended use of the less common metals in industry.

1. The unexplored areas are confined to the western and northwestern divisions where the old time prospector still has scope for his activities. But the prospector has almost insuperable difficulties to overcome: a trackless, mountainous country remote from settlement and inaccessible to horse, a rigorous climate, and thick bush to deter all but the hardiest and the most adventurous. In this virgin country the prospector may apply his methods, searching for outcrops, washing the creek beds, or loaming the hillside. However, the extreme isolation of this region, the difficulties of providing adequate transportation facilities, and the lack of population will relegate any considerable development to the distant future unless mineral discoveries of extraordinary value are soon made. To this end the Mines Department has subsidised prospecting parties, made reconnaissance surveys of the geology of certain sections, and is about to undertake a continuous system of exploration. The recent discoveries of the Adamsfield Osmiridum deposits and of the tin ore at Bathurst Range have resulted in the settlement of outposts from which further advances may be made into this unknown country.

2. The suggestion that old mining areas should be explored at depth by the aid of the diamond drill is one that warrants careful attention. Such almost deserted fields as Beaconsfield, Lefroy, Zeehan, Mathinna, and Mangana may be mentioned in that connection. Electric prospecting has recently come into prominence following a number of successful demonstrations in Europe and America. Of the several processes the "Elborf" and Dawson methods in particular have engaged the attention of the Mines Department, and negotiations are now in hand, through the Institute of Science and Industry, for a demonstration of these processes in Tasmania. In these ways many new "Blind" lodes may be found.

3. The wonderful advances in metallurgical science during recent years has resulted in the reopening of many old mines, closed years ago because the ores were regarded as complex and the component minerals inseparable. Such advances have lead to the reopening of the Read-Rosebery groups, and the Comet mines of Dundas, showing that up-to-date methods are now essential to success.

4. The rise of the aluminium industry, the extended utilisation of magnesium, chromium, tungsten, molybdenum and vanadium, and the application of metals of the cerium group, are instances of the wonderful virility of industrialists in adapting new metals to present day needs and in devising substitutes for the metals that can no longer be produced in commercial quantities and economic rates to meet the demands. Many other instances could be given of the growing use of rare metals and minerals in the arts and sciences.

As regards future progress the objects to be aimed at are : greatest production, increased recoveries, the utilisation of waste products, business methods, and adaption of science of every operation. But the two determining factors are cheap electric power and low rates of transport, and the more important of these is the latter.

MINING PROSPECTS IN THE SOUTH-WESTERN DIVISION

The interior of the South-west country is an area of high mountains with forest-clad flanks and of profound valleys through which meander streams copiously and regularly supplied from an even and heavy rainfall. A coastal strip about 10 miles wide is largely an undulating plain clothed with native grasses of various kinds and button-rush. This region is accessible from Huonville, Tyenna, and Strahan by way of ill-formed tracks impassable to horse, and difficulty passable to man. Along these and devious ways the prospector continues his quest for osmiridium and gold and other minerals of commercial value. The one other safe means of access is through Port Davey, a wonderful harbour second only in natural advantages to the Derwent. The opening of this large area to permanent settlers depends largely upon the development of its mineral resources. Already are known deposits of tin, antimony, manganese, gold, osmiridium, lead, zinc, copper and titanium. The commercial value of these deposits has not been determined, but the more accessible are to receive attention this summer. Particular attention is to be paid to the extensive tin-ore deposits by a group of Melbourne investors, those deposits being close to Port Davey. Four parties of State-assisted prospectors are now engaged in the vicinity searching for the more commercially valuable minerals and their number will soon be augmented by two well-equiped exploration parties privately financed by companies interested in the development of the district. In these investigations the Geological Survey will take part and detail an officer to accompany each party. As the greater part of that tract of country is a possible source of minerals it is intended to carry on continuous explorations. These investigators will report as to the resources of timber, agricultural and grazing land as well.

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Hobart,
1st September, 1926.

THE OPENING OF THE WESTERN COUNTRY TO SETTLERS.

In the minds of Tasmanians, except the few who have trodden the unbeaten paths, there dwells the notion that the Western division is almost useless for any purpose oth r than mining. The few who have knowledge of that country and who recognise its true value both for grazing and timber as well do not give expression to their opinions. What is to be gained by speaking to deaf ears?

The unbelievers ask why the greater part of the area is uninhabited if it is such a land of promise. The answer is; lack of means of transport and communication.

In opening the country the State has spent £6,000,000 on road communication and £6,000,000 on railways, yet the Western and South-western divisions, comprising one quarter of the whole Island, are not connected by road with other areas nor with seaports. The total distance of all internal roads in those divisions is only 36 miles. Except tracks the uninhabited South-Western division, a potential source of minerals and containing extensive grass lands is not provided with any means of transport or communication. The Western division is served by 34 miles of railway and 27 miles of steel-r il tramway owned by the State and by a 75 miles of private-owned railway. It is a significant fact that not one settlement has been formed since the construction of the railways. The reason is quite obvious; railway communication is not conducive to settlement, , road communication is. And a small section of the area has produced £36,000,000 in minerals.

The reason for this apparent neglect is not difficult of discovery. The Western mountains have numerous ramifications and are deeply cut into by ravines and winding valleys. Though picturesque, economically they are unfavourable to man lacking the broad valley floors so necessary to the support of relatively dense populations dependent upon production from the land. So broken are the mountains into steep chains and ridges that they are but poorly adapted to farming but they are suitable for grazing. The frequency of the gullies and ravines make communication difficult and costly in some parts and restrict the service of any line of railway.

Under these disadvantageous conditions the growth of large centres of economic of economic activity are impossible, except mining. However, the provision of roads would encourage graziers to settle on those sections of land cleared of forest.

The shortest route is that between Lake St. Clair and Gormanston. That is the first choice.

The coastal platform, a strip about 10 miles wide, provides another open way for road communication and is capable of supporting a considerable population not directly dependent upon mining. From a coastal trunk road lateral valley roads would serve to open the mountain recesses for grazing, and timber getting also, and at the same time provide ways for the tourist to some of the most magnificent mountain and woodland country in Australia. Road communication is the main essential to permanent settlement. These remarks may be concluded by the prediction that the rate of settlement in those

divisions will be in direct proportion to the rate of road construction.