THE MINING INDUSTRY IN TASMANIA

GENERAL REPORT

(1) History

The mining industry of Tasmania began with the discovery and mining of coal early in the nineteenth century (probably about 1820). Coal was found at many localities and numerous mines were opened in the thirties and forties. Work has ceased in these districts and coal is now being mined in others more favourable for the economic production of coal.

Another product which was also largely mined in the early history of the State was the sandstones for building purposes as witnessed by the large number of old houses and buildings, bridges etc. throughout Tasmania.

The next important event was the discovery of gold near Mangana in 1852, which was followed by the location of the principal alluvial and reef goldfields during the sixties and seventies.

During and following the gold boom, a large area of the State was prospected and attention was also given to other metallic mineral deposits.

An epoch-making event was the discovery of the world famous Mt. Bischoff Tin Mine in 1871. This led to extensive prospecting in north-western and western Tasmania, and the discovery of numerous other mineral fields. The discovery of the Heemskirk tin field was made in 1876 or 1877, followed by that of the Zeehan Silver-lead field in 1882, and the Mt. Lyell deposit in 1883.

In the late eighties, and the nineties the remaining important fields of the West Coast such as Read-Rosebery, Mt. Farrell and Dundas were discovered.

During the same period, the important tin fields of north-eastern Tasmania and further gold fields were found.

Thus by the year 1880 the mining industry was firmly established and became an important factor in the development of the State. The further development of the industry is indicated by the Statistics which will be given below:-

(2) Annual Production

The following table, No.1, shows the total annual production of the mining industry from 1880 till 1927:-

Table No.1.

Year	Value	Year	Value	Year	Value
1880 ...	55,4031	1897 ...	1,006,140	1914 ...	1,007,038
1881 ...	602,723	1898 ...	1,071,084	1915 ...	1,225,575
1882 ...	556,306	1899 ...	1,660,622	1916 ...	1,521,050
1883 ...	560,873	1900 ...	1,888,695	1917 ...	1,584,290
1884 ...	468,302	1901 ...	1,763,896	1918 ...	1,750,574
1885 ...	518,885	1902 ...	1,378,406	1919 ...	1,301,090
1886 ...	489,966	1903 ...	1,354,044	1920 ...	1,421,104
1887 ...	593,256	1904 ...	1,379,204	1921 ...	822,851
1888 ...	616,733	1905 ...	1,729,129	1922 ...	1,013,415
1889 ...	504,718	1906 ...	2,257,147	1923 ...	1,219,456

Year	Value	Year	Value	Year	Value
1890 ...	444,210	1907 ...	2,277,159	1924 ...	1,496,804
1891 ...	528,388	1908 ...	1,650,027	1925 ...	1,700,861
1892 ...	526,909	1909 ...	1,574,995	1926 ...	1,808,844
1893 ...	627,909	1910 ...	1,432,193	1927 ...	1,621,021
1894 ...	732,764	1911 ...	1,349,497	Unenumerated	
1895 ...	575,692	1912 ...	1,493,502	prior to	
1896 ...	662,058	1913 ...	1,415,700	1894	31,988
					£55,771,130

The production reached a maximum of £2,277,159 in 1907, and then decreased almost continuously until 1921. It began to increase during 1922, and the last four years show a still greater revival, that for 1926 being the fourth greatest in in the history of the State, but for 1927 there was a slight decrease due to a fall in the price of metals.

(3) Detailed Production of Minerals and Metals

The following Table No.2. gives the total production of the various minerals, metals, etc., that have been produced between 1880 and 1926:-

Table No.2.

Mineral or Metal	Value (£)	Mineral or Metal	Value (£)
Asbestos	7,105	Iron Pyrites	93,916
Barytes	6,909	Limestone	546,457
Bismuth	23,052	Ochre	375
Cadmium	4,180	Osmiridium	474,375
Carbide	394,336	Scheelite	112,468
Cement	434,447	Shale	9,278
Coal	1,779,071	Silver Lead	8,088,358
Copper (Blister)	17,676,436	Tin	15,375,908
		Wolfram	202,175
Copper ore	579,335	Zinc	552,830
Copper (matte)	133,736	Unenumerated prior to 1894	31,988
Gold	7,597,658		
Iron ore	25,701		
		TOTAL	£54,150,103

It is to be noted that from the point of view of total production to date, the order of importance is copper, tin, silver-lead, gold, coal, zinc, limestone, osmiridium, cement, carbide, tungsten, pyrite, iron ore, bismuth, oil shale, asbestos, barytes, and cadmium.

The annual production of each of minerals or metals for the year 1927 was as follows:-

Mineral		Quantity	Value
			(£)
Cadmium	tons	19.2712	3233
Carbide	"	2072	34,896
Copper	"	5811	362,988
Coal	"	112,056	99,802
Cement	"	38,690	176,779
Gold	ozs.F.	4,860.7	20,646
Lead	tons	5,583.12	135,403
Limestone	"	169,522	167,373
Nickel	"	86.2	14,656
Ochre	"	- -	- -
Osmiridium	ozs.	632.687	7,456
Silver	ozs.F.	741,782	87,024
Shale	tons	3,150	2,050
Tin	"	1,105.74	317,593
Wolfram	"	148.57	9,886
Zinc	"	6,326.2	181,242
Total		------	£1621,027

From the present production the order of importance is therefore copper, tin, zinc, cement, limestone, lead, coal, silver, gold, nickel, tungsten, osmiridium, cadmium, and oil shale.

(4) Geographical Distribution of the Mineral Fields

The principal metallic mineral fields are situated in the western, north-western, and north-eastern parts of the State. The western and north-western districts include the copper, silver-lead, zinc-lead-silver, iron, tin (partly), nickel, osmiridium, barite, and asbestos deposits.

The north-eastern district contains the gold, tin (lode and alluvial), and tungsten deposits.

The coal deposits occur throughout the south-eastern, eastern, and northern districts, while the sandstone for building purposes are res ricted to the two former.

The oil shales are restricted to the northern and north-western portions.

Limestone deposits of excellent quality are distributed throughout the island.

(5) Relation Between Geological Structure and Mining Fields

The above geographical distribution is a direct result of the geological structure and history of Tasmania. The whole of the primary deposits of the metallic minerals and certain non-metallic minerals (barite etc) are generally connected with the granite of Devonian age. The granite intrudes Proterozoic and Lower Paleozoic sedimentary rocks and the above deposits occur therefore in these rocks and the granite itself. As these rock systems are practically restricted to the western,

north-western, north-eastern districts, the geographical distribution is readily understandable.

The coal seams occur in the Permo-carboniferous and Triassic Systems, while the oil shales are restricted to the former and the building stones to the latter.

These two systems are restricted with a few minor exceptions to the eastern parts of the State, so that the coal, shale and sandstone deposits are similarly restricted.

(6) The Future of the Industry

The future of the mining industry depends upon the following factors:-

(a) Continued Working of the Present Mines etc. - This factor is dependent upon many others such as price of the products, extent and value of the deposits, cost of working etc. Though mines are not inexhaustible, it may be stated generally that there is no reason to expect the present mines, industries etc. to do other than continue operations in the near future on the same scale as at present.

(b) Exploitation of Known Deposits at Present Unexploited - There are in Tasmania mineral deposits of considerable magnitude and value which are at present either not being worked, or are being worked on a scale incompatible with their importance. This applies especially to the deposits of limestone, oil shale, iron ore, building stones, and partly to those of tin in the north-eastern district. As an illustration, the zinc-lead deposits of the Read-Rosebery district may be cited. Until a few years ago, these deposits would have been included in this group, but owing to the commencement of operations by the Electrolytic Zinc Co. (which even yet are more or less in an experimental stage prior to a larger exploitation) they now form one of the most valuable of our deposits being exploited, and during 1927 yielded zinc to the value of £181,242.

The limestone deposits are large, of good grade, and generally convenient for quarrying, so that there is scope for the development of numerous industries such as cement manufacture etc.

The oil shale deposits are extensive (at least) 40,000,000 tons reserve) and of good grade (assumed to average 40 gallons of crude oil per ton.) The particular problem associated with them is the best type of resort for treating them and the general factors associated with the commercial exploitations of them.

(c) Discovery of New Mineral Deposits and Fields - The discovery of new deposits is of course the factor upon which the ultimate future of the industry depends. In those parts such as the western, north-western, and north-eastern districts, where the geological conditions are extremely favourable for the occurrence of primary mineral deposits, it is highly improbable that no further discoveries

will be made.

Surface prospecting may not reveal as many as it has done in the past because naturally the most easily found have already been discovered. Nevertheless it is very probable that search in the least prospected areas and heavily timbered ones will reveal new orebodies. The ordinary underground exploratory work of mining companies should also reveal new bodies of ores. The greatest results are likely to be obtained, however, from scientific prospecting by geophysical methods in the known mineralised zones and their extensions.

(7) General Conditions Affecting the Mining and Metallurgical Industries -

(a) Water Supply - The mining districts are situated in regions having annual rainfalls ranging from 40 to 160 inches. The resulting water-supply in the lakes and streams is therefore an abundant one for mining purposes, especially aided by conservation schemes. In some cases the mines have individual hydro-electric power schemes proving that there is sufficient water for this as well as the ordinary mining and metallurgical purposes.

(b) Power - As already mentioned, some of the mines have individual hydro-electric power schemes. In addition the State Hydro-electric Department has already installed schemes totalling 63,000 H.P. which represents a mere fraction of the State's hydro electric power resources.

The power is available at low rates especially if taken in large blocks. The conditions are extremely favourable for large mining and metallurgical companies requiring large blocks of power.

(c) Timber - The mining fields embrace large areas of timbered country containing forests of eucalypts, beeches, etc. which are suitable for general mining and constructional work both as regards quantity and quality.

(d) Transportation - The coast contains many harbours suitable for large ships. The interior is traversed by convenient railways and roads connecting it with one or more of the ports. Any lines needed to open up any field would be extremely short in length.

(8) Importance of the Mining Industry

The importance of the industry may be judged from the figures quoted above. The total production during the past 47 years has amounted to £55,771,130, or an average production of £1,186,619. The production for 1927 was £1,621,027 which is well above the average.

The State owes much to the mining industry which has enabled the development of large parts of its territory and it may be said that a large amount of its prosperity is due to this industry.

From an investor's point of view it is interesting to note that approximately £10,000,000 has been paid in dividends by mining companies operating in Tasmania. In addition to actual dividends many mines have been partly equipped out of profits, while the profits made by small syndicates, individuals, etc., cannot be included, due to

lack of information.

The importance of the industry is also emphasised by the numerous minerals, metals, and other products which have been produced in the past, while it is possible that even a greater number may be produced in the future.

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