

BRIEF HISTORY OF THE COAL MINING INDUSTRY IN QUEENSLAND

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Board]

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Ladies and Gentlemen—

When I undertook to prepare a paper on the history of the Coal Mining Industry in Queensland I did so hoping that I would be able to find many accessible early records that would afford me an opportunity of presenting to you a co-ordinated chronological history of the discovery and development of the various fields throughout the State that have been responsible for the production of the main tonnages which appear in the records. I regret to say, however, that my researches which have been mainly confined to the records of the Mines Department and the Public Library have not yielded very much detailed information regarding the interesting factors which might form an historical narrative for such a paper.

Geology and Geography

Before presenting the story of the development of the coal resources of the various districts in the State it is, I think, essential to refer to the coal deposits in relation to the geology governing them, their location and their extent.

Coal-bearing formations occur in Queensland, belonging to the Tertiary, Cretaceous, Jurassic, Triassic and Permian ages. Of these, the Mesozoic measures of the Southern and Central districts have, because of their geographical advantage, supplied the bulk of the output in the past, but it is in the Permian formations of the Central district that Queensland's potential wealth in coal mainly lies.

The following table sets out the relative ages of the occurrences and indicates their distribution.

Geological Age of Coal Measures in Queensland

| Age | Field |
|------------|--|
| Tertiary | Waterpart Creek (Byfield), Nagoorin—Ubobo. |
| Cretaceous | Winton, Styx, Burrum, Stanwell. |
| Jurassic | Rosewood—Walloon, Darling Downs (including Acland Balgowan, Oakey, Injune, Tannymorel, Beaudesert, Tiaro, Mulgeldie, Laura, Pascoe River. |
| Triassic | Ipswich, Nundah, Callide, Esk, Nanango. |
| Permian | Blair Athol, Bluff, Alpha, Selma, Carnarvon, Consuelo, Tolmies, Blackwater, Dawson, Mackenzie, Isaacs Basin. Baralaba, Nebo, Mackay. Stewart's Creek, Blantyre and Oxley Creek, Collinsville, Mt. Mulligan, Little River (Cooktown). |

The geographical distribution of the coal measures and the various working centres are shown on a map which is attached hereto as Appendix "A." From this map it will be observed that the measures extend from the south-eastern corner of the State westwards and also northwards through practically the whole of the eastern portion of Queensland. The known and calculated coal measures extend over an area of approximately 73,000 square miles of which at least 17,800 square miles represent areas known to contain vast useful and workable seams.

The main basin of Permian rocks, where the most valuable deposits lie, occurs in Central Queensland on the Bowen, Isaacs, Mackenzie and Dawson Rivers in the forms of a southerly pitching geosyncline extending from Collinsville for some 360 miles to the S.S.E. as far as the Dawson River south of Theodore. It extends along the Central Railway between Duaringa and Emerald and to the south of the railway attains a maximum width of 130 miles.

Within this geosyncline two major series of coal measures occur of Middle and Upper Bowen age respectively. The lower, or the Collinsville coal measures, is being exploited at the apex of the basin at Collinsville, where enormous reserves have been proved in six seams with a total average thickness of 48ft. 9in. On stratigraphical grounds a continuation of these

measures on the western side is believed to extend for 140 miles as far south as Grosvenor Downs, when a thick coally section has been met in boring for water.

The Upper Bowen coal measures outcrop over a vast area and within the geosyncline, seams are now being worked at Bluff and Baralaba while potential areas include widespread outcrops in the district west of Nebo. In the past, production has come from Tolmies, Rangal, Blackwater, Jellinbah, and Walleroo adjacent to the railway.

Coal occurs elsewhere in small isolated basins of this age at Blair Athol, Mackay (Calen), Mt. Mulligan and Little River (Cooktown), and also in the basal beds of the artesian basin sequence at Oxley Creek, Selma and Alpha.

Conspicuous amongst the large number of known seams are the 20ft. Mammoth Seam at Jellinbah and the Big Seam at Blair Athol, which reaches a thickness of 105 feet. Further occurrences of thick seams are recorded in bores for water.

In the south-eastern corner of the State, Triassic coal measures have a wide distribution but production has been confined to the Ipswich field, which occupies an area of some sixty square miles. Some twenty-four seams have been exploited over limited areas (maximum eight square miles in the case of the Aberdare), their total mean sections aggregating some 170 feet. In addition, a seam has been worked to a small extent at the Brisbane suburb of Nundah. Measures lower in the system outcrop in parts of the Brisbane Valley and in the Nanango district.

The Callide measures, in which a seam exceeding fifty feet in thickness is now being open-cut, occupy a basin belonging to this age, some forty-five miles southwesterly from Gladstone.

Jurassic coal measures show their greatest development in an outcropping belt some fifty miles in width extending from the Beaudesert district in south-east Queensland westerly and north-westerly for some 500 miles as far as Tambo and including such centres as Rosewood, Walloon, Allora, Clifton, Maryvale, Tannymorel, Millmerran, Kingsthorpe, Dalby, Oakey, Warra, Chinchilla, Wandoan, Orallo, Injune and Taroom. The belt dips generally in a south-westerly direction under the Cretaceous rocks of the Great

Artesian Basin and contains the principal aquifers of this portion of the State.

Isolated basins of equivalent age occur at Tiaro (south of Maryborough), Mulgeldie and Eidsvold (west of Bundaberg), and Laura and Pascoe River in Cape York Peninsula.

The Jurassic measures are throughout little disturbed by faulting and intrusion and almost everywhere are only gently inclined. The seams, however, are, like the measures, characteristically lenticular. They appear to have been laid down in small more or less isolated basins on successive horizons in a number of defined groups of coal-bearing strata. The banded seam sections seldom exceed six feet in thickness, carrying three to four feet of workable coal, the general character of which is markedly uniform throughout the State.

In the coastal areas, coals of Cretaceous age are limited to relatively small fields at Burrum (extending from Maryborough to beyond Bundaberg), Stanwell (near Rockhampton) and Styx River (eighty miles N.N.W. of Rockhampton).

The marine Cretaceous beds of the Great Artesian Basin in the far western areas of Queensland are succeeded conformably by lacustrine sediments—the Winton Series—in which coal seams have been found at numerous localities, mainly in water bores. To date no attempt has been made to assess the possibilities of their exploitation.

Tertiary coals are found at Waterpark Creek to the north of Rockhampton, and at Nagoorin, Ubobo and Lowmead to the south of Gladstone. At the former locality thick seams are known to occur but little is as yet known of their extent within the basin.

Reserves

A stage of prospecting development has not been reached on any of the Queensland coalfields to admit of even approximate estimation of total reserves. Further, there are thousands of square miles in which coal is known to exist only in undeveloped outcrops or where its presence has been revealed fortuitously as a result of the search for underground water.

Of a total area of coal measures estimated to cover 73,000 square miles, less than 20,000 square miles are included in recognised coalfields. Development has been

restricted to a relatively small number of localities advantageously situated with regard to cheap transport and market. Elsewhere, undeveloped measures carry enormous possible reserves, for the estimation of which data, are totally inadequate. For example, coal occurrences are known throughout the Bowen syncline and the Darling Downs generally, but have not been tested.

The provisional estimates given hereafter are accordingly confined in the main to the vicinity of working areas and, although frequently based on somewhat arbitrary assumptions, are considered to be conservative, having due regard to individual local conditions.

For the fields included, it has been necessary to take into consideration various factors, depending on individual character of coal occurrences, and these are cited in each case for future reference.

Provisional Reserves

Ipswich

Apart from pillar coal, proved reserves are very small due to variability in the coal and lack of systematic prospecting ahead of faces.

Positive Reserves—based on coal in workings and in areas proved by development and systematic prospecting of potentially workable seams—

| | |
|--------------------|----------------|
| Bundamba | 3,000,000 tons |
| North Ipswich | 1,000,000 tons |

Probable Reserves—based on extent of seam for a half mile ahead of dip faces or outcrop and for five chains laterally beyond limits of proved outcrop—

| | |
|--------------------|-----------------|
| Bundamba | 30,000,000 tons |
| North Ipswich | 16,000,000 tons |

ROSEWOOD—WALLOON

Positive Reserves—confined to mine workings, based on 50 per cent. of seam left in pillars—2,000,000 tons.

Probable Reserves—assuming seams persist for an equal distance but at reduced thickness around present workings—19,000,000 tons.

Darling Downs

Including Oakey—Balgowan, Tannymorel and Injune.

On the same basis as above—

| | |
|---------------|----------------|
| Positive | 500,000 tons |
| Probable | 8,000,000 tons |

Burrum

Positive Reserves—based on coal in workings and in areas proved by systematic prospecting—1,000,000 tons.

Probable Reserves—in present working areas based on extension of dip equal to that worked but at reduced thickness—2,000,000 tons.

Callide

Positive Reserves—within an area of 400 acres in the Dunn's Creek locality, some 29½ million tons have been proved by boring.

Probable Reserves—in the field as a whole, scout boring beyond the above limits shows continuation of the Callide seam northwards and westwards. The work shows that large reserves are assured, but data are insufficient to translate this into tonnages.

Baralaba

Positive Reserves in the working area in two seams—1,250,000 tons.

Probable Reserves in five seams over an area of 5.6 square miles—200,000,000 tons.

Bluff

Reserves estimated in two seams in 1940 were as follows—

| | |
|---------------|-----------------|
| Positive | 4,000,000 tons |
| Probable | 54,000,000 tons |

Mackenzie River

Unrevised estimates are—

| | |
|---------------|------------------|
| Positive | 112,000,000 tons |
| Probable | 450,000,000 tons |

Blair Athol

| | |
|---------------|------------------|
| Positive | 116,400,000 tons |
| Probable | 96,000,000 tons |

Styx

Positive Reserves—in pillars—1,000,000 tons.

Bowen River

Positive Reserves—in the working area at Collinsville, in the Bowen Seam—8,000,000 tons.

Probable Reserves—within an area of 20 square miles tested by 30 drillholes, probable available tonnage in all seams has been estimated at 110,540,000 tons.

Within an area of 120 square miles reserves may be of the order of 1,000 million tons.

Characteristics of Queensland Coals

Queensland is endowed with coals of many types, varying in rank from semi-anthracite to lignite. Since in the southern part of the State adjacent to the more highly industrialised areas, only bituminous coals are found, an overwhelming proportion of this type of coal has been produced in the past for general use.

The following is a brief classification of the various coals in order of their rank.

1. **Semi-anthracite**—Baralaba, Bluff.
2. **Low Volatile Bituminous**—Bowen River, Mackenzie River.
3. **Medium Volatile Bituminous**—Burrum, Styx, Mt. Mulligan, Blair Athol, Callide, Ipswich.
4. **High Volatile Bituminous**—Rosewood-Walloon, Darling Downs, Mulgeldie.
5. **Sub-Bituminous**—Waterpart Creek, Nagoorin-Ubobo.

Production

The earliest record of production of coal in the State is in 1860 when 12,327 tons were reported as being won from the Ipswich field. This production was valued at some £9,000 whereas the 1949 coal production of the State—1,970,388 tons—is valued at some £2,874,062.

Production in the State in periods of decades since 1860 are as follows—

| | | | |
|-----------|------|------|------------|
| 1861-1870 | .... | .... | 230,953 |
| 1871-1880 | .... | .... | 431,079 |
| 1881-1890 | .... | .... | 1,957,955 |
| 1891-1900 | .... | .... | 3,523,737 |
| 1901-1910 | .... | .... | 6,204,264 |
| 1911-1920 | .... | .... | 9,890,878 |
| 1921-1930 | .... | .... | 11,134,094 |
| 1931-1940 | .... | .... | 10,450,422 |

| | | | | |
|-----------|------|------|------|-------------------|
| 1941 | .... | .... | .... | 1,454,024 |
| 1942 | .... | .... | .... | 1,637,148 |
| 1943 | .... | .... | .... | 1,699,521 |
| 1944 | .... | .... | .... | 1,659,675 |
| 1945 | .... | .... | .... | 1,634,746 |
| 1946 | .... | .... | .... | 1,567,520 |
| 1947 | .... | .... | .... | 1,883,414 |
| 1948 | .... | .... | .... | 1,742,396 |
| 1949 | .... | .... | .... | 1,970,388 |
| 1860-1949 | .... | .... | .... | <u>59,084,541</u> |

The total production of the State compiled from the official records of the Mines Department to 1949 is thus 59,084,541 tons, a very low proportion of the known and proved reserves of the State.

It will be noted that with the gradual development of the State there has been a steady progressive increase in production and it is interesting to note the strong upward trend that has taken place over the past ten years which the above figures disclose. In that period annual production has increased by more than 36 per cent.

The current year's production based on actual figures to 28th October 1950, is estimated at 2,400,000 tons which will be an all time high in production.

The main uses of coal for many years have been for steam generation, more particularly of latter years in powerhouses, where the generation of electricity calls for 33 per cent. of the production, while the Railway Department uses 31 per cent. of production in its locomotives. Another important use for coal is carbonisation for gas-making and the various gas companies throughout the State absorb 10 per cent. of the yearly production in their activities.

Early Coal Discoveries and Development

Having referred to the general disposition and production of coals in the State I will return to the subject of the discovery of coal and the history of the mining of the deposits and will endeavour to deal with various phases of its progress.

The first reported discovery of coal in what is now the State of Queensland was made by Captain Logan of the Moreton Bay Settlement at Limestone near Ipswich on 8th June 1827.

Beyond the mere reference to the date of discovery no particulars are extant of the circumstances of this discovery or what action was taken regarding its development by the authorities of that time.

From that date nothing further is to be found in contemporary records until 1843 when it is recorded that John Williams opened the first mine in Queensland in that year on the south bank of the Brisbane River above Goodna. The reports regarding this mine indicate that Williams experienced considerable difficulties in the mining of the seams which, it is said, dipped sharply, presenting mining and haulage problems.

Mining was carried on for four years when it is reported that the workings became flooded and were abandoned.

Williams, however, still retained his faith that ultimate success could be achieved in the mining of these seams and, not disheartened by his previous failure, he, in the year 1848, opened a new mine on the opposite side of the river at Moggill, where he worked a 3ft. 6in. seam.

The "Brisbane Courier" of the 11th November 1848, referred to this venture in the following interesting paragraph—

"The coal now being taken from Mr. Williams' new mine on the Brisbane River is of a most valuable description although merely a surface measure. We took a sample at random from the mine and have shown it to many persons who agree in pronouncing its bituminous properties to be unusually rich."

About this period the Hunter River Steam Navigation Company commenced running their steamers from Newcastle to Brisbane and were faced with the problem arising from the fact that it had to provide sufficient Newcastle coal for its vessels for the round trip. The company therefore threatened to terminate its service to Brisbane if coal could not be provided in Brisbane for the return trip. Learning of this John Williams undertook to provide the necessary coal to meet the company's requirements and a contract for the supply of bunker coal was accordingly made by the company with Williams. This is the earliest record of any coal trading activities in Queensland and to Mr. Williams must be given the credit of having estab-

lished the first mine on a commercial basis in the State. Williams continued his mining operations at Moggill and by 1851 was undertaking to deliver coal to Brisbane consumers at 16/- per ton.

For the next record of the discovery of coal in the State we are indebted to no less a person than the celebrated explorer, Ludwig Leichhardt. In October 1844, Leichhardt led a party from the Darling Downs on his first great expedition through North Queensland to the Northern Territory. In 1845 during the course of this journey he observed coal outcrops on the Mackenzie River. Although the exact point at which Leichhardt observed this outcrop is not known, it is assumed that it was part of the measures now known to exist in the Bowen-Isaacs-Mackenzie River Basin. To Leichhardt, therefore, must be attributed the honour of the discovery of these very important deposits of coal which form probably the most valuable section of high grade coal of the State comprising as they do the Collinsville, Blair Athol and Baralaba fields.

BLAIR ATHOL

The first reported discovery of coal at Blair Athol was in the year 1864 and by reason of the importance of this huge deposit of high grade coal it is entitled to more than passing notice. Situated 130 miles from the coast at St. Lawrence and about 195 miles in a direct line from Rockhampton, the actual distance by rail through Emerald and Clermont to Rockhampton is 239 miles. In 1863 James McLaren named the head station of his Bathampton holding "Blair Athol" and it would appear that his purpose in doing so was to establish a link with his native Perthshire in which the original Blair Athol is situated.

The Blair Athol deposit is most unique, in that there is no record of any outcrop of coal having been found on the surface, and thus its discovery was largely accidental. The coal was first discovered in 1864 when a seam was penetrated at a depth of sixty feet in sinking a well for water on Blair Athol pastoral station, then owned by Mr. Robert McMaster.

As a result of this discovery, bores were put down by the Peak Downs Copper Mining Company, which acquired the ground to obtain coal for copper smelting at Copperfield. In 1879, the assets of this company were handed over to a local syndicate known as the

New Peak Downs Copper Mining Company, and in 1892 the Peak Downs Copper Mining Company took possession. From 1890 to 1896 a production of only about 33,000 tons of coal is recorded from the workings, which were then known as the Blair Athol Colliery. The railway as far as Clermont, eleven miles from Blair Athol was opened in 1884, and the opening of the Blair Athol Colliery was followed by other pits in 1892, 1894, and 1896, all of which worked the top seam, which averaged about five feet in thickness.

Early drilling proved the existence of a second seam, a few feet below the top seam, but it is not until about the year 1908 that deeper exploration showed that this second seam was of much greater thickness. By the end of 1910, a thickness of sixty-five feet of coal has been proved but it was six years later before the maximum thickness of ninety-three feet of clean coal was established for the big seam.

Below the big seam there is a third seam which has not been worked. This has been proved—from 4 feet to 7 feet thick, and from 35 feet to 106 feet below the big seam.

Originally the coal was carted by road to the rail-head at Clermont, but the railway extension from Clermont to Blair Athol was completed in April 1910, and, since then, production has been continuous.

During recent years the companies engaged in coal mining at Blair Athol have been the Blair Athol Coal and Timber Co. Ltd. and Blair Athol Open-cut Collieries Ltd. These companies are operating to-day.

In an endeavour to produce cheaper coal from the big seam and to eliminate waste in mining, the Blair Athol Coal and Timber Co. Ltd. decided, over twenty-five years ago, upon the open-cut system of production. A contract was let for removal of overburden at their No. 1 Colliery and in 1922 the cut had reached the top of the coal. However, with the opening up of other coal mines in the Bowen, Styx and Baralaba areas, the demand for Blair Athol coal temporarily declined, and the open-cut project was abandoned towards the end of 1923.

In 1936, open-cut operations were introduced by Blair Athol Open-cut Collieries Ltd., where the depth of overburden varied from twenty-five feet to eighty feet. By September, 1939, the company was operating on a section showing a face of clear coal sixty-three

feet thick, widening out to eighty-five feet, with forty feet of overburden.

During 1946, the Blair Athol Coal and Timber Co. Ltd. also commenced open-cutting operations, and at present all coal produced from the field is won by that method of production.

Persons familiar with seams of coal of three feet, four feet, or five feet or even up to fifteen feet in thickness, will find it difficult to visualise an immense body of clean coal approximately ninety feet thick without even the smallest band, and having a shale and sandstone overburden ranging up to only about one hundred feet in thickness, with known reserves calculated at 210,000,000 tons.

Blair Athol coal is in the bituminous to sub-bituminous class, and is a good steaming but non-coking coal.

On the present basis of operations it is estimated that the production of the Blair Athol field during the present year will be 300,000 tons.

Reference should be made also to proposals in recent years for the large scale development of the Blair Athol Field—merging the workings of the two present open cuts into one operation. In 1947 Mr. J. R. Kemp, Co-ordinator General, assisted by a technical committee, at the request of the Government prepared a very comprehensive report which was published in June of that year and which envisaged the production of 1,300,000 tons of coal per year from the field. No action was taken to implement this report.

About the time of the finalisation of this report, Mr. Hirst, a representative of English interests, visited Queensland and was very impressed by the future possibilities of the development of Blair Athol on a much larger scale than that contemplated by Mr. Kemp.

The proposal was to aim at a production of approximately 3,500,000 tons per year, to build a separate railway to a port to be established on the coast—probably near Proserpine—and to build a satellite township.

Of the production contemplated it was hoped to market 2,000,000 tons in the east and to sell the balance to meet deficiencies in Queensland and in the southern States.

The Government passed a Special Act “The Electric Supply Corporation (Overseas) Limited Agree-

ment Act of 1947" which granted this company a franchise over an area of five miles within a radius from the Blair Athol Railway Station within which area are operating the Blair Athol Open Cut Collieries Ltd. and Blair Athol Coal and Timber Co. Ltd. After a considerable period of prospecting and general reconnaissance work in search of a route for a railway and a port, the company with approval assigned its interests to a further company but, though the rights still ensure until December next under this Act, it would appear that they will not be taken up.

Callide

Turning to the Callide Field which is receiving much attention in the Press during recent times it is interesting to note that this large deposit situate near Callide Creek approximately eighty-two miles by road from Gladstone was discovered in 1890 by three gold prospectors, Petersen, Otty and Dunn, and subsequently six shafts were sunk to depths of from seventeen to sixty feet disclosing a seam of at least thirty feet in thickness.

In 1900 a trial railway survey from Gladstone was made by the Callide Creek Coal Syndicate, which syndicate was later granted a lease of 2,560 acres. By February 1903, some of the earlier shafts had been deepened and another (No. 7) had been sunk. Deepening of No. 3 shaft on Petersen's Gully disclosed a coal thickness of fifty-three feet and in November a parcel of fifty-five tons was mined for an Admiralty test in H.M.S. "Torch." Failure to commence railway construction resulted in forfeiture of the lease in January 1906.

The Callide Coal and Timber Company was formed in 1912 to test the coalfield and small parcels were mined for testing at the Gladstone meatworks and by the Harbours and Rivers Department, Brisbane, on the barge "Brem." For the latter, the coal was obtained from a 54ft. section exposed in a 200ft. tunnel situated near No. 3 shaft. Three tests were also conducted by the Railway Department, which reported unfavourably.

In 1944 interest in the field was revived by the prospecting operations conducted by L. G. Neill, who, after testing the area with a number of shafts and three percussion bore-holes, commenced open-cutting

near No. 1 shaft. On 1st April 1945, four leases totalling some 832 acres (Nos. 83 and 85 in the name of L. G. Neill and Nos. 87 and 88 in the names of Julin, Wood and Parnwell) were approved. These were transferred subsequently to Biloela-Callide Open Cut Collieries N.L. and Callide Open Cut Collieries Pty. Ltd. respectively.

In October 1947, a departmental diamond drilling campaign was commenced with the initial objective of delimiting within the Dunn's Creek section of the field an area in which open-cut methods of mining might profitably be employed and of estimating within reasonable limits the tonnage of coal available for that purpose. Drilling to that end was completed in January 1949, when 20 holes ranging in depth from 114ft. to 402½ft. and aggregating some 3,920ft. had been drilled. In addition, a bore (N.S. 3) was put down near No. 3 shaft on Petersen's Gully, west of the area under review.

The interests of L. G. Neill and Biloela-Callide Open Cut Ltd. have been sub-let to Thiess Bros. (Qld.) Pty. Ltd. and this company has been operating the leases on the open-cut system since April 1949.

The production of this field since its opening in 1945 to the 31st December 1949, was 140,906 tons while it is estimated that during the current year production will reach 162,000 tons.

Other Fields

Discoveries of coal which were destined to open up other producing fields of importance were the Burrum in 1864, Styx in 1887, Baralaba in 1898 and Bluff and Mt. Mulligan in 1904.

West Moreton District

The economic importance of the West Moreton coalfield on which the metropolitan area and most of the south-eastern corner of the State depend for their regular coal deliveries is well appreciated. Ipswich, within this district, has been entitled "the cradle of coal mining in Queensland" and it is felt that no historical record would be complete without something more than a passing reference to a name which is almost venerated in coal mining circles—the late Hon. Lewis Thomas, M.L.C., with whom the late Mr. J. M. Thompson was once in partnership, and who is

generally recognised as the real pioneer of coal mining development in Queensland.

Although previously Messrs. Hooper and Robinson, Mr. James Gulland, and others had done something in this direction, it was the persistence and shrewdness of Mr. Thomas that led to the splendid development seen at the present time.

Mr. Thomas first became connected with the mining in 1861 when he came to Queensland from the Victorian gold diggings and obtained a position in the coal mines then being opened up at Redbank, owned by Messrs. John Campbell and Sons and Captain Robt. Towns. After working at these mines for three and a half years, Mr. Thomas spent some time putting a railway tunnel through the Little Liverpool Range. He later returned to Ipswich, and began operations in the vicinity of Waterstown. This proved unremunerative.

In those early days the coal deposits were being tapped at comparatively few places. Miners set to work on some of the outcrops appearing on the sides of the steepest hill. Tunnels were soon made, and the mineral wheeled out by means of barrows. As the tunnels ran almost horizontally, no mechanical aid was required in bringing the small waggons from the underways.

In 1866 Mr. Lewis Thomas and Mr. J. M. Thompson were working the Bundamba coal mine, equally important as the Tivoli mine on the north side, then owned by the late Mr. Harry Hooper and Mr. John Robinson.

From 1866 till far into the 'eighties, Mr. Thomas worked hard at his pit at Blackstone, subsequently known as the famous Aberdare Coal Mine, and eventually built up a splendid market for his coal. His partner, Mr. Thompson, retired about this time.

In view of the possibility of the extension of the railway from Brisbane to Ipswich, Mr. Thomas opened up a new mine at Dinmore, in the vicinity of the New Chum Colliery.

This was in 1870, and Mr. Thomas erected chutes on the Brisbane River, below its junction with the Bremer, for the purpose of loading steamers, plying between Brisbane and Ipswich. Previously Mr. Thomas had erected coal chutes on the Bremer River, while he was working the tunnel colliery on the side of Blackstone. These chutes were at the termination of

Thorn Street, there being no railway line in existence then.

With the extension of the railway system in this State coal mines were developed and Mr. Thomas, who had returned to his Aberdare mine at Blackstone, began to reap the benefit of his strenuous work in opening the coal measures in the Bundamba area. In 1877 Mr. Thomas's coal business began to expand, and in 1881 he constructed a private branch railway line, which connected his coal mine at Blackstone.

In 1894 Mr. Thomas, who had amassed wealth and entered politics, turned his mines over to his employees to be worked on a co-operative basis, and the Aberdare Co-operative Colliery Co. came into existence, and lasted for ten years.

One feature about the history of the Ipswich coal-field is the manner in which it has been developed almost entirely by men who had little capital. Certainly Mr. Lewis Thomas later became one of the largest colliery proprietors and was able to put money into developmental work; but he was the exception. Usually three or four of the most enterprising and ambitious working miners joined together, found an outcrop and having secured the right to work the coal on royalty, began to mine.

Following the discovery of the Ipswich coal deposits there has been a continued development of the many seams in the West Moreton District which embraces Ipswich-Rosewood and beyond, and for the most part, development has been on the basis of small mines with outputs from 40 tons to 300 tons per day.

These mines have produced within the last year almost the whole of the coal requirements of the metropolitan area and their production has been approximately 50 per cent. of the total production of the State. The figures for 1949 disclose that there were operating at the end of that year 67 mines within these districts with a total output of 921,199 tons equal to 46.6 per cent of the total output of the State for the year.

The mines are in many cases worked in groups by companies whilst there are many small syndicates and working proprietors also operating small mines throughout the district which extends as far as Marburg.

In addition to the 67 operating collieries in the

West Moreton District at 31st December 1949, there were 6 in the Darling Downs District, 8 in the Maryborough District, 5 in the Rockhampton District and 4 open cuts at Blair Athol and Callide—making a total of 90 underground mines and 4 open cuts. The Department of Mines owns and operates 3 of these underground mines at Ogmore, Collinsville and Mt. Mulligan and a list of the principal companies operating the privately owned collieries is attached hereto as Appendix "B." This list embraces the names of fifty-four companies and the remaining mines are owned and operated by small syndicates and working proprietors.

Methods of Mining

For the most part the exploitation of the coal deposits of the State is by bord and pillar methods, longwall operations being carried out to a limited extent in only three collieries—one at Mount Mulligan and the others in the West Moreton District.

Generally, the workings are reached by way of inclined tunnels driven from the outcrop, the only instances of shaft developments being in the cases of New Whitwood, Rhondda and New Chum Collieries in the West Moreton District, Portland and Jubilee Collieries in the Maryborough District, the Styx State Mine at Ogmore and the privately owned Consolidated Mine at Scottville near Bowen. For the most part these shafts are at shallow depths—the deepest being 780 feet in the case of the Styx Mine—and in all cases the shafts have been sunk so as to exploit the coal at lower depths.

The outcrops in the Ipswich District are mostly highly inclined necessitating steep seam methods embodying bord and pillar operations, the adopted method being to follow the level course of the seams by means of bords along which the coal is wheeled, the bords being on the average six yards wide and the cut-throughs up to six yards. The sizes of the pillars vary according to the strata. In some cases they are ten yards wide by one chain in length, sometimes one chain square and others down to ten yards square—the latter being under light cover.

Varying methods of haulage are used for the underground transport of coal embracing hand and horse wheeling, subsidiary mechanical haulages, jigs (in very steeply inclined seams) with direct haulage

from the main dips to the surface or pit bottoms as the case may be.

In the Mount Mulligan State Mine where longwall mining is practised the coal is undercut by machines whilst in the other cases of longwall operations and in the case of the bord and pillar mines coal is won for the most part by conventional hand mining methods.

This conventional method of hand mining is characteristic of the Queensland industry and there are only a few isolated instances where, apart from power borers, any mechanical aids have been installed. During the past few years, however, a gradual awakening has been noticeable amongst Queensland colliery proprietors to the advantages of mechanisation and there is a growing tendency on the part of many to introduce coal cutting machines, scraper loaders, conveyer belts, and other mechanical units which throughout the world have solved the problem of increasing the output per man shift to cope with increasing demands for coal. However, the banded nature of many of the West Moreton seams particularly and the tendency of machine mining to fail to eliminate the dirt and stone in the seams is deterring many proprietors from abandoning hand methods. Mechanical mining must be accompanied by adequate grading, sizing and cleaning plants before the maximum advantage is to be obtained from machinery. Although much Queensland coal is sold as "run-of-mine," at those mines where any effort is being made to prepare the product for market by screening or sizing the surface equipment for the handling of the coal is a device for tipping the full skips over a fixed inclined bar screen which takes out coals of -2," the remaining large coal falling into a separate bin. There are a few collieries which have installed picking belts and washing plants, but with comparatively few exceptions no serious efforts have been made to date to cope seriously with the important matter of cleaning and preparing coal for market. This is one of the problems with which the Coal Board is at present grappling.

Ownership of Coal

The position in Queensland with regard to the right to open a coal mine was up till the passing of "The Coal Production Regulation Act of 1933" determined by the ownership of the coal in the land. "The Mining on Private Land Acts of 1909 to 1950" declared

the doubtful position regarding the ownership of coal in freehold and stated that—with certain limited exceptions—all coal in freehold land alienated prior to the 1st March 1910, was the absolute property of the freeholder. Subsequent to that date any grant of Crown land contained a clause reserving the coal to the Crown.

In the Ipswich, Rosewood and Darling Downs districts most of the land is freehold, consequently the coal was worked by the freeholder or by a company or syndicate, after acquiring the rights from the freeholder. Leases were for varying terms and were generally conditioned as to rights at a certain depth below the surface, and as to the rate of royalty per ton and/or annual rental payable.

Rights were also acquired by a straight out purchase of the freehold below a certain depth which contained the coal measures or by paying a lump sum for a lengthy lease—say, up to ninety-nine years. In all cases the purchaser of either the leasehold or the freehold underground rights acquired a small area of surface of the land to enable him to set up pit top facilities for working the coal, when he did not hold surface rights on an adjoining property from which the coal would be exploited.

Outside the Ipswich, Rosewood and Darling Downs areas the only instance where coal occurs on a freehold being worked at present is on the Blair Athol field.

Where coal occurs in Crown land it is necessary to obtain a lease from the Crown to work the coal and in these cases applications for areas limited to 640 acres have to be made to the Warden of the field or nearest to the area and the grant of the lease is in the discretion of the Minister for Mines.

Legislation

Up to 1925 the grant of titles and the regulating of the coal mining industry had been governed by various mining acts which in 1898 had been consolidated by The Mining Act of that year. In all these acts coal mining provisions were incorporated with provisions relating to metalliferous mining.

With the growing importance of the coal mining industry the Government in 1925 enacted a special act called "The Coal Mining Act of 1925" which with sub-

sequent amendments still regulates the whole of the granting of titles, and the regulating of mining methods mainly ensuring safety and good mining practice.

Various amendments have since been made to this Act the most important amendment being the 1947 amendment which dealt mainly with health and safety provisions.

In the present Session of Parliament an important amendment has been made to The Coal Mining Acts and to the Mining on Private Land Acts having the cumulative effect of permitting an application to be made for a Coal Mining Lease over freehold land in which the coal rights are held by the freeholder. This measure was considered essential to the proper development of the coal resources of the State and has the effect of giving to any person the right of applying for a Coal Mining Lease over these lands whether the coal rights are held by the freeholder or by some person who has acquired them by lease, or other title, from the freeholder. The existing owner of the coal, be he the freeholder or the leaseholder, has, however, had his rights preserved until the 31st December 1950, but he is required to apply for a Coal Mining Lease over the area before that date to secure them. Should he fail to do so it is competent for any person after the 1st January 1951, to apply for a Crown Lease to secure the coal rights.

The rights of the freeholder to the surface of his freehold are governed by the provisions of "The Mining on Private Land Acts, 1909 to 1950" which exempt improved land and areas less than half an acre within a township from the grant, though the underground rights may be acquired under lease. Where a surface area is taken under the Crown Lease, compensation in terms of the provisions of this Act is payable.

The position created by this Act is that all existing collieries in the Ipswich-Rosewood and Darling Downs areas which have been operating under rights conferred by the freehold grant or by lease from the freeholder will have to apply for Crown Leases and as a Crown Lease will be subject to all the covenants prescribed by the Coal Mining Acts—these being payment of an annual rental, payment of royalty (which in these cases will be paid over by the Crown to the person entitled to it under the Deed or Lease) and the per-

formance of labour conditions. Failure to observe any of the covenants would be a cause for forfeiture of the lease.

By 1933 the industry had got into a parlous state largely through unfair price competition—made possible by bad mining practice and the indiscriminate opening up of small mines on freehold land—and it was found necessary to remedy the unsatisfactory position which had occurred during the depression years. “The Coal Production Regulation Act of 1933” was accordingly passed and under this enactment were created a Central Coal Board and District Coal Boards.

The powers given to these Boards were, in the main, the right to issue licences to permit the opening of a new mine either on Crown or private land; the granting of quotas and destinations in respect of coal production at the respective mines in each district and the right to fix the minimum price per ton at which coal should be sold. This measure had the effect of stabilising the industry through some difficult years and remained on the Statute Book until it was repealed in 1948. The repeal was effected through the passing of the present “Coal Industry (Control) Act of 1948” which abolished the Central and District Coal Boards and created the present Coal Board of three members.

The powers vested in this Board are extensive and cover all phases of the industry, being summarised as follows—

- (a) To ensure that coal is produced in the State in such quantities and with such regularity as will meet requirements throughout Queensland and in trade with other States and Territories of the Commonwealth and other countries;
- (b) To ensure that the coal resources of the State are conserved, developed, worked, and used to the best advantage in the public interest;
- (c) To ensure that coal produced in the State is distributed and used in such manner, quantities, classes, and grades and at such prices as are calculated best to serve the public interest and secure the economical use of coal and the maintenance of essential services and industrial activities;
- (d) To promote the welfare of workers engaged in the coal industry in the State; and

- (e) To encourage the highest degree of co-operation between management and workers in order to ensure maximum efficiency and production.

The Queensland Coal Board came into existence on 1st January 1949, and in order to provide that Board with what has been styled a "blue-print" to enable it to discharge efficiently its charter created by the Coal Industry Control Act, the Queensland Government in 1947 commissioned the English firm of Coal Mining Consultants—Powell Duffryn Technical Services Limited—to undertake a comprehensive survey of the coal resources of the State, of the existing condition of the Queensland Coal Mining Industry and to prepare a report and recommendations for the rehabilitation of the industry and the most efficient methods in which the vast coal potential of the State could be developed and exploited to the best advantage in the interests of the State's economy.

The investigation of this firm of specialists extended over a considerable period and their comprehensive report, furnished in July 1949, dealt with the widest variety of subjects touching the past, present and future of the industry and is a valuable contribution to the literature available on coal mining in the State.

Statistical

Although I realise that a long recital of statistics is liable to add a degree of boredom to an address, I feel that in order to portray a complete picture of the Coal Mining Industry of this State there are certain figures to which reference should be made. In order to reduce the degree of boredom to a minimum, however, I propose to quote these figures in summarised form and I will attach them in detail to my notes as an appendix for anyone who might prefer to study them.

A. Based upon the average daily output for the first six months of 1950 the following are the number of mines in operation at 30th June 1950, in each producing district arranged according to various production groups—

Collieries producing a daily tonnage between 1 and 50 tons: Number 27 in West Moreton and 1 in Chillagoe; Total 28.

51 and 100 tons: 25 in West Moreton, 3 in Darling

Downs, 4 in Maryborough, 2 in Rockhampton and 1 in Chillagoe; Total 35.

101 and 150 tons: 10 in West Moreton, 2 in Darling Downs, 3 in Maryborough, 2 in Rockhampton; Total 17.

151 and 200 tons: 2 in West Moreton, 1 in Darling Downs, 1 in Rockhampton; Total 4.

201 and 250 tons: 1 in West Moreton, 1 in Maryborough; Total 2.

251 and 300 tons: 1 in West Moreton, 1 at Callide; Total 2.

301 and 400 tons: 1 in West Moreton, 1 at Bowen; Total 2.

401 and 500 tons: Nil.

501 and 600 tons: 1 in Bowen, 1 at Callide, 1 at Clermont; Total 3.

601 and 700 tons: Nil.

701 and 800 tons: 1 at Clermont; Total 1.

Grand Total: 94.

B. Using again the figures for the first six months of 1950 the following are the average daily tonnages of coal produced in each of the districts of Queensland—

| District | Number of Mines | Average Daily Production |
|----------------------|-----------------|--------------------------|
| West Moreton | 67 | 4969 |
| Darling Downs | 6 | 659 |
| Maryborough | 8 | 866 |
| Rockhampton | 5 | 551 |
| Bowen | 2 | 941 |
| Chillagoe | 2 | 114 |
| | <hr/> | <hr/> |
| Total Underground | 90 | 8100 |
| | <hr/> | <hr/> |
| Callide | 2 | 858 |
| Clermont | 2 | 1272 |
| | <hr/> | <hr/> |
| Total Open Cut | 4 | 2130 |
| | <hr/> | <hr/> |
| Total for State | 94 | 10,230 |
| | <hr/> | <hr/> |

C. Since 30th June last operations have commenced at two additional collieries in the West Moreton District and the following are the latest available figures relating to employment at the various mines in each district—

| District | Number of Employees at | | Total |
|-------------------|---------------------------|-----------|-----------|
| | Coal Face | Elsewhere | Employees |
| West Moreton | 908 | 1054 | 1962 |
| Darling Downs .. | 146 | 103 | 249 |
| Maryborough .. | 192 | 201 | 393 |
| Rockhampton .. | 98 | 128 | 226 |
| Bowen | 143 | 309 | 452 |
| Chillagoe | 21 | 80 | 101 |
| | <hr/> | <hr/> | <hr/> |
| Total | | | |
| Underground | 1508 | 1875 | 3383 |
| | <hr/> | <hr/> | <hr/> |
| Callide | — | 39 | 39 |
| Clermont | — | 149 | 149 |
| | <hr/> | <hr/> | <hr/> |
| Total Open Cut | — | 188 | 188 |
| | <hr/> | <hr/> | <hr/> |
| Total for State | 1508 | 2063 | 3571 |

Although comparable figures are not readily ascertainable for all earlier years it is worthy of record that in 1941 the average yearly production of coal per man employed was 504 tons whereas during 1949 it had risen to 606 tons.

D. There are four different classes of coal produced in the State viz. Steam and Coking, Steam and Non-coking, Gas making and Coking and Gas Making and Non-coking and the following figures indicate the distribution of these coals amongst the producing districts—

Class of Coal: Steam and Coking; Producing Mines and Districts with Daily Production: 12 in West Moreton (1134 tons) and 2 at Bowen (869 tons). Total 14 mines (2003 tons).

Steam and Non-coking: 29 in West Moreton (2489 tons), 1 in Darling Downs (84 tons), 1 at Maryborough (246 tons), 4 at Rockhampton (421 tons), 2 at Chillagoe (92 tons), 2 at Callide (609 tons), 2 at Blair Athol (1092 tons). Total 41 mines (5033 tons).

Gas and Coking: 5 in Darling Downs (626 tons), 7 at Maryborough (628 tons), 1 at Rockhampton (96 tons). Total 13 mines (1350 tons).

Gas and Non-coking: 28 in West Moreton (1473 tons). Total 28 mines (1473 tons).

Detailed figures relative to the above tables are attached hereto as Schedule "C."

Industrial Organisation and Legislation

The principal industrial union controlling employees in the Coal Mining Industry in this State is the Queensland Colliery Employees' Union which is affiliated with and, in fact, actually a branch of the Miners' Federation, a union with Federal registration governing employees in the Coal Mining Industry in all States of Australia.

The formation of the Queensland union arose out of a notice posted up at Stafford's No. 2 Colliery at Ipswich in 1906 indicating that the proprietors of the mine proposed reducing the hewing rate for taking out pillars by 6d. per ton. At a meeting of protest called amongst employees at the time, delegates were appointed to discuss the matter with the proprietors and it was also decided at this early meeting to form a permanent union. The organisation was in the beginning entitled "The West Moreton District Coal Miners' Union" and it was not until a few years later that the larger title was adopted. Membership then totalled 331 persons.

The first conference between employees and employers regarding wages and conditions took place in the same year and amongst those present were many persons still well known in coal mining circles. The full personnel of the conference was—

Chairman and Owners' Representative: Mr. J. W. Hetherington.

Owners' Representatives: Messrs. H. Walker, J. Auld, W. Stafford, W. Hardie, R. A. Cleghorn, R. Dobbie, W. Morris, W. Binnie and H. G. Noble.

Employees' Representatives: Messrs. G. Williams, J. Pryce, J. Bennett, Jas. Williams, A. Z. Waters, D. A. Gledston and I. Featherstone.

How the conference succeeded is not recorded but with nine owners representatives, seven employees representatives and an owner chairman it does not appear that much fruit was borne.

The first official award for the Industry was registered on 2nd September 1910, under the old Wages Boards Act of 1908 and the award which was given under the hand of the Chairman, Mr. H. M. Russell, and applied to the South-Eastern Division of the State is quite an interesting document. The ordinary working hours prescribed thereby were from 7 o'clock a.m. to 3.30 o'clock p.m. on Mondays to Fridays and from

7 o'clock a.m. to 1 p.m. on Saturdays, with a break of half an hour for meals on each working day of the week. The minimum rate for unskilled surface labourers was 7/6 per shift while the top rate prescribed for shiftmen miners when working in wet places was 11/9 per shift. The basic contract hewing rate was 2/11 per ton in the North Ipswich District and the highest rate was for unscreened coal from the Riverbank Colliery viz. 4/8 per ton. Boys were paid as low as 3/6 per shift. There are only a few clauses in the award but there is one interesting one which reads "A general stone allowance of 16lb. in every ton shall be allowed for foreign matter."

An interesting comparison with this early award is provided by the present conditions which provide for an eight hour day, bank to bank, from Monday to Friday inclusive; a minimum guaranteed weekly rate for surface labourers of £8/15/1 and for shiftmen miners £9/8/- per week. The minimum contract rate for hewing coal is 6/- per ton plus 15/5 cost of living allowance and earnings of contract miners range from £2 to £5 per day.

Rates of payment and working conditions are now regulated by a Federal Award made on the application of the Miners' Federation and to which the Queensland Colliery Employees' Union whose membership now numbers more than 3,000 is a party. Other callings in the industry, i.e. engine drivers, colliery mechanics, colliery electricians and other tradesmen are also covered by awards for their respective callings while staff employees also have their own award. In the cases of engine drivers and staff employees, these are covered by Federal Awards whilst provision is made in appropriate State Awards for electrical and mechanical employees at coal mines.

Hazards

In this resume of the history of the industry necessarily very meagre references have been made to only some of its phases but it would not be complete without reference to the hazards to the workers in the industry. Whilst there has always been a vigilance by the Inspector of Mines to ensure compliance with the health and safety provisions of the Acts, each year's report by the Under Secretary for Mines records many accidents—unfortunately some of them fatal. The worst disaster in the history of Queensland coal min-

ing occurred at Mount Mulligan in 1921 when a violent coal dust explosion was the cause of the deaths of seventy-six persons. To try to arrive at the causes of this disaster and to make recommendations for the greater safety of mine workers the Government appointed a Royal Commission. This Commission made extensive recommendations, the adoption of which resulted in the passing of the Coal Mining Act of 1925. This Act repealed the provisions of the Mining and other Acts regarding the regulation of coal mines and set up a complete charter for the Coal Mining Industry.

Conclusion

I realise, ladies and gentlemen, that my remarks to-night by reason of the limited time available have been somewhat sketchy, possibly disjointed and at best do little more than ripple lightly the surface of what is one of the important subjects touching the everyday economic life of the community.

Queensland has been particularly favoured in her vast natural resources and amongst these coal probably takes pride of place. After their extensive survey of Queensland's coal deposits, Powell Duffryn Technical Services Limited summarised their findings as follows—

“The study which we have been able to make of the coal situation the State, and our growing knowledge of the characteristics of the coals as disclosed by the work in our laboratories, have convinced us that in her coal deposits Queensland possesses natural assets of unusual value and importance.”

With this conclusion I am sure everyone must agree.

The following schedules, attached to the paper, may be inspected at Newstead House—

Schedule A. Map of Queensland, showing distribution of coal measures, working centres, outcropping coal measures, producing centres, and geological coal measures.

Schedule B. List of companies owning and operating coal mines in Queensland.

Schedule C. Detailed tabulated information on coal districts, collieries, location, type of coal and daily products of each, and number of employees as at 23rd September 1950.