



Queensland Coal Board

42nd Annual Review 1992-93



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Foreword

Coal makes a significant contribution to the economic and social well-being of Queensland. It does this as a direct result of continuing co-operation between government, mining companies, unions and employees.

This Queensland Coal Board Annual Review reflects the quality of the coal sector workforce and the quality and range of the State's coal resources. Once again, particular attention has been paid to an expanded section on coal-related research being carried out to improve productivity and expand resource utilisation. This research is increasingly significant since our continuing performance in this highly competitive industry depends largely on Queensland's ability, in an Australian industry context, to improve its understanding and use of coal.

This review also provides considerable detailed information on the State's coal infrastructure and output at all Queensland coal mines.

Over the years, the Queensland Coal Board's Annual Review has been well received by consumers and potential buyers and investors around the world. The publication is both a source of up-to-date information and a valuable reference document. This year, in the light of Queensland's strong performance in the coal marketplace, the Review is more relevant than ever.

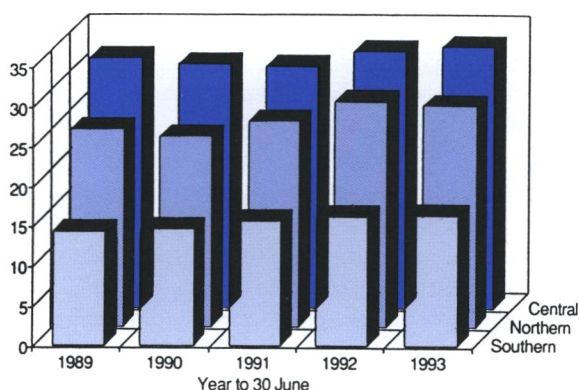
The 42nd Annual Review also represents a continuing commitment to bring to the attention of the widest possible audience the quality of the Queensland coal industry, its people, and our resource.

Tony McGrady

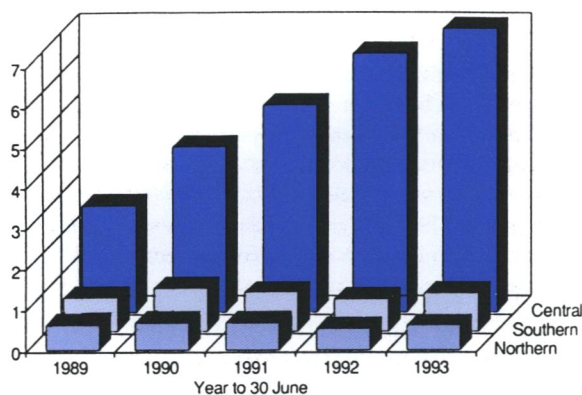
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Industry Overview

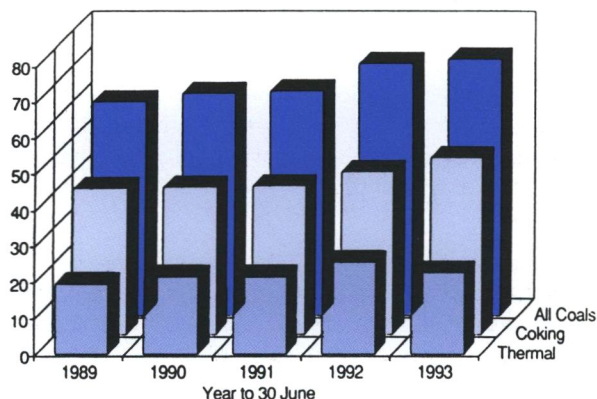
SALEABLE PRODUCTION - OPENCUT
(Million Tonnes)



SALEABLE PRODUCTION - UNDERGROUND
(Million Tonnes)



COAL EXPORTS
(Million Tonnes)



Increased production and lower prices characterised the Queensland coal sector during 1992-93. The lower prices were not unexpected and reflect the industry's efforts to remain competitive throughout the continuing international recession. During the period under review the State's 40 coal mines and two fines recovery operations produced 85 301 066 tonnes of saleable coal. This compares favourably with 84 085 042 tonnes of saleable coal produced in the previous reporting period and represents an increase of 1.45%.

Opencut operations produced 76 817 193 tonnes, or 90%, of all saleable production. The remaining 10% came from underground mines with longwall mines yielding 6 373 929 tonnes and other underground mines, 2 109 944 tonnes.

Queensland produces an extensive range of coals which are broadly categorised as coking coal and thermal coal for reporting purposes. In the 1992-93 financial year, the State's coal sector sold 86 452 981 tonnes. This includes 1 151 915 tonnes of stockpiled coal in addition to the year's saleable coal production of 85 301 066 tonnes. Of this figure, coking coal comprised 57% or 49 304 197 tonnes. Thermal sales accounted for 43% or 37 148 784 tonnes. At June 30, 1993, stockpiles had been reduced by 14% to 5 745 271 tonnes, and represents a 24 day reserve supply. This comprised a coking coal stockpile of 3 094 823 tonnes and a thermal coal stockpile of 2 650 448 tonnes.

At June 30, 1993, the Queensland coal industry directly employed 10 469 people. This was a decrease of 481 people, or 4.4% of the workforce, as at June 30, 1992. The majority of the lost positions resulted from the temporary closure and restructure of Cook Colliery as well as the scaling-down of operations at Aberdare in preparation for its planned closure during the fourth quarter of 1993. Trial mining resumed at Cook during June, 1993, using a substantially reduced workforce.

Notwithstanding job losses, industry productivity increased. Output per employee year rose to 7 981 tonnes, an increase of 244 tonnes, or 3.15%, over the previous financial year. Output per employee shift rose from 28.99 tonnes in the year to June 30, 1992 to 30.18 tonnes in the June 30, 1993, an increase of 4.1%.

It should be noted that Queensland coal industry employees work shifts which vary from eight to twelve hours duration on five to seven day weekly rosters. For statistical purposes the Queensland Coal Board adjusts these figures to a seven hour shift basis to be consistent with national standards.

Queensland coals are currently exported to 31 countries on four continents. Total exports for the

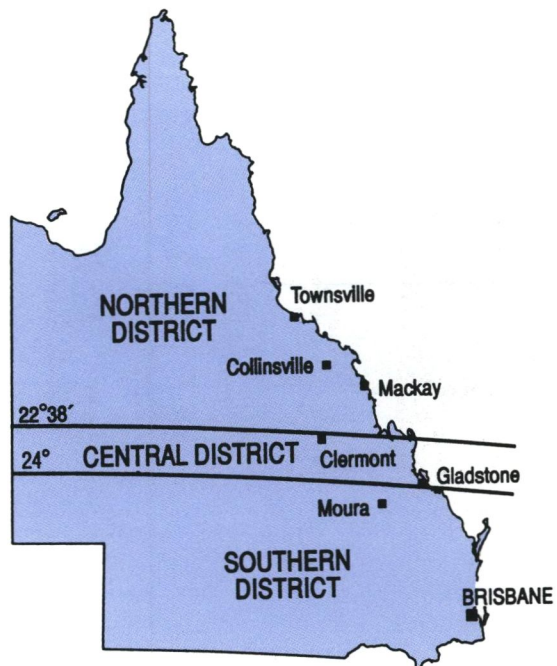
year were 71 043 813 tonnes, an increase of 2% on the previous year's figure of 69 655 810 tonnes. During the period under review the total export tonnage comprised 42 706 065 tonnes of hard coking coal, 6 132 731 tonnes of soft coking coal and 22 205 017 tonnes of thermal coal. While exports of Queensland thermal coals decreased by 2 591 843 tonnes, or 10.5%, sales of all Queensland coking coals increased by 3 979 846 tonnes, or 8.9%. This strong performance in the coking coal market highlights the international acceptance of the State's competitively-priced premium coals. Japanese industry remained the major buyer of Queensland coking coal with purchases of 19 193 965 tonnes, an increase of 13.5% over the previous financial year. This incremental tonnage was spread across most major Bowen Basin producers. Other significant sales were made to Korea which purchased 5 607 255 tonnes (3 965 146 in 1991-92); Brazil 3 094 844 tonnes (2 121 488); Taiwan 2 419 867 (1 983 497); and France 2 231 069 tonnes (1 868 359).

Partly off-setting these gains were reductions in coking coal sales to India and the United Kingdom. In India, sales fell to 3 469 042 tonnes from 5 530 035 tonnes as a consequence of protracted contract negotiations. United Kingdom purchases declined only marginally to 1 948 928 tonnes from 2 159 530 tonnes.

Although total thermal coal sales decreased, increased tonnages were supplied to buyers in Korea, Taiwan, Malaysia, and the Philippines. Korean industry purchased 1 109 397 tonnes (811 463 tonnes in 1991-92); Taiwanese purchases were 1 105 639 tonnes (399 272); industry in Malaysia purchased 316 971 tonnes (253 374); and the Philippines industry purchased 446 522 tonnes.

Decreased sales of Queensland thermal coals were recorded to Japan, Hong Kong, The Netherlands, Denmark and France. Japanese purchases were 12 882 157 tonnes (14 120 715 tonnes in 1991-92); Hong Kong purchases were 2 089 672 tonnes (2 451 037); the Netherlands imported 1 806 097 tonnes (2 123 778); Danish importers purchased 859 962 tonnes (1 417 083); and France imported 498 725 tonnes (1 226 514).

It is noteworthy that there appears to be a growing demand for Queensland thermal coal from its Asia-Pacific neighbours. For example, the Philippines which did not buy Queensland coals during 1991-92, resumed purchases. In the case of diminished Queensland thermal coal sales to a number of European destinations several factors must be considered. These include the effect of South African, South American and North American sales into a highly competitive European market.



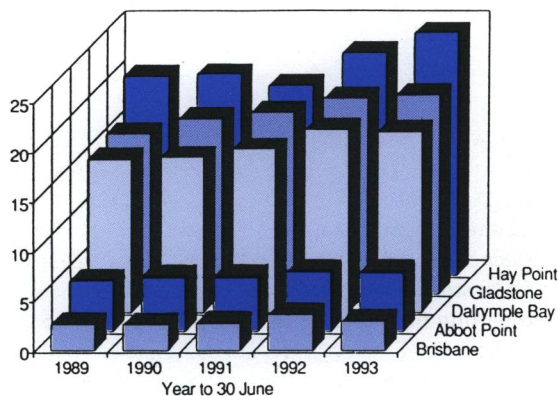
Queensland Mining Districts

For statistical purposes the Queensland coal industry is divided into three districts - Northern, Central and Southern. These districts contain eight, 17, and 17 mines respectively. They can be further broken down into six opencut and two underground mines in the Northern District, 11 opencut and six underground mines in the Central District, and 10 opencut and five underground mines, and two tailings recovery operations in the Southern District.

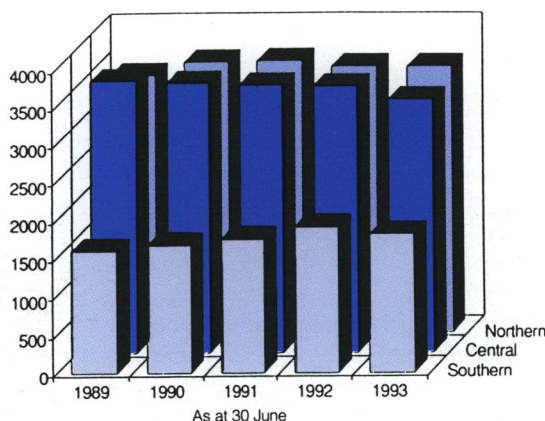
In the year under review, production in the Northern District was 28 281 338 tonnes of saleable coal. This was a decrease of 420 300 tonnes over the previous reporting period. Mining employment within the District remained stable with some job losses at Collinsville being offset by recruitment for the construction of the North Goonyella Mine. The recent opening of this mine saw the further application of extended shift rosters in the Bowen Basin. These rosters consist of four days on and four days off with each working day consisting of a twelve-hour shift. North Goonyella is a drive-in/drive-out mine where employees live in company accommodation on site whilst working and return to their permanent places of residence during off periods.

In addition to the North Goonyella development, the Queensland Coal Board also issued an approval for a new mining operation at the Newlands Mine. The approval relates to the planned development of an underground mine to supplement existing opencut operations at Newlands.

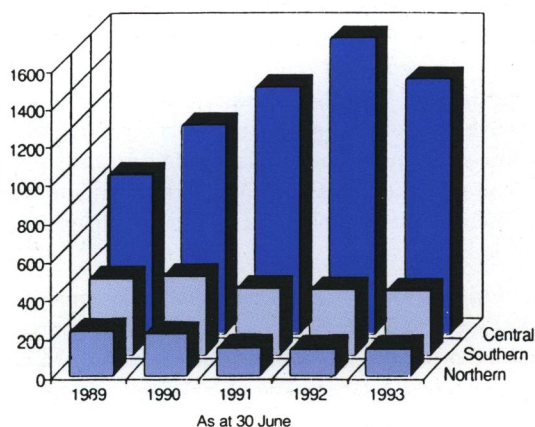
COAL EXPORTS BY PORT
(Million Tonnes)



EMPLOYMENT OPENCUT



EMPLOYMENT UNDERGROUND



Production in the Central District rose to 39 823 204 tonnes during 1992-93. This was an increase of 3.3%, or 1 270 506 tonnes, over the Central District figures for the 1991-92 year. Coal sector employment in the District, at June 30, was 4 680, a decrease of 373 jobs on the figure at June 30, 1992. The closure of the Cook Colliery, during the second quarter of the 1992-93 year, was the major contributor to the reduction. It should be noted, however, that Cook Colliery recommenced operations, at a much reduced scale, during the fourth quarter of the financial year, subsequent to its purchase by Oakbridge Ltd.

Other significant mining developments in the year were the commencement of site works at the Ensham-Yongala and Crinum Mines, operated by Ensham Resources Pty Ltd and BHP Australia Coal Ltd respectively. Ensham-Yongala will produce thermal coal from an opencut operation. Crinum, an underground operation on the Gregory Mine leases, will produce both coking and thermal coals. All coals will be sold on the international market. The third major new development in the Central District was the announcement, by QCT Resources, of a commitment to develop the Kenmare Underground Mine using longwall technology. This new mine will have the capacity to contribute approximately 2.5 million tonnes of product coal, lifting the long-term production capacity for South Blackwater to 4 million tonnes per annum. It is planned to have the longwall in full production by mid 1996. This development has the potential to bring a further 150 full-time jobs to the Blackwater area.

In addition to new mines, companies have continued to invest in more efficient plant and technology. At Curragh Mine near Blackwater a Marion/Dresser 8750 dragline with a 103 cubic metre bucket was commissioned and at the Oak Creek Opencut Mine there were extensive trials, which are continuing, of highwall mining techniques. These techniques include auger punch mining and use of the Addington method of continuous highwall mining. This technology has the capacity to allow the extraction of coal which would otherwise be uneconomical to mine by conventional methods.

In the Southern District production increased from 16 830 706 tonnes in 1991-92 to 17 196 524 tonnes in the 1992-93 year. This represents an increase of 2.2%. However, employment, fell by 106 from 2 252 at June 30, 1992 to 2 146 at the close of the review period. Most jobs were lost as a consequence of the scaling-down of operations at the New Whitewood Mine, operated by Aberdare Collieries, following depletion of the economically recoverable reserves on the mining lease areas. Other full-time jobs were lost at Rhondda Collieries, operated by Oceanic Mining and formerly known as FAI Mining.

Oceanic experienced a number of other changes during the year. These included the sale of the MW Haenke Underground Mine and adjacent reserves to the New Hope Corporation. The mine is now operated by New Haenke Coal Pty Ltd which is a wholly owned subsidiary of the New Hope Corporation. New Hope has extensive interests in the West Moreton region as well as overseas coal holdings.

At Kogan Creek in the Surat Basin, west of Toowoomba, a trial pit has been developed by Allied Queensland Coalfields to test a coal deposit which has the potential to produce a high volatile thermal coal suitable for domestic and overseas markets. Testing of trial shipments of the coal by potential clients has commenced. At Callide Mine a large new dragline is being fabricated to expand overburden stripping capabilities at the mine. During the year, the Ebenezer Opencut Mine (near Ipswich), operated by Idemitsu South Queensland Coal Pty Ltd commenced contract deliveries to a refurbished Swanbank Power Station.

On March 1, 1993, the Queensland Government released an extensive parcel of previously reserved coal-bearing areas in the Central Queensland region. The released areas contain extensive resources, largely consisting of thermal coals and low-grade coking coals. The release has attracted international attention.

In summary, the Queensland coal sector performed creditably during the 1992-93 year. Tonnages and individual productivity improved. However, employment decreased and there was continuing downwards pressure on prices.

Looking to the future there is some comfort in the expectation that the demand for Queensland's high-grade coking coals will remain firm. These coals will also continue to attract a premium price. In relation to thermal coals there is broad agreement that growing demand, particularly from emerging and strengthening Asian economies, will not benefit Queensland producers in the shorter term. There will be strong competition from a rapidly expanding Indonesian thermal coal industry. In addition, the European thermal coal market will be eagerly contested by suppliers in South Africa, South America, and North America. The high cost of replacing an ageing bulk carrier fleet will be reflected in increased ocean freight rates from Australia. Developments in Eastern Europe where a number of countries move towards market economies may attract growing European Community investment in the energy sectors of these countries.

In essence, it cannot be assumed that growth in demand will automatically translate to greater sales or increased market share for Queensland coals.



• Opencut Mining on Queensland's Bowen Basin.

Coal and Electricity

The public electricity supply industry in Queensland is the State's largest domestic user of coal.

More than 98% of electricity is generated by coal-fired steam turbines predominantly operated by the Queensland Electricity Commission (QEC). Mount Isa Mines also operates coal-fired generating plant at Mica Creek which supplies part of its output to the public electricity grid.

QEC and Mica Creek consumed 12 749 705 tonnes of coal in 1992-93. This was 83.65% of domestic consumption and 14.95% of total State production for the year.

DEVELOPMENT CATALYST

As the major domestic consumer of thermal coal the public electricity supply industry has been and will continue to be the catalyst for development of the State's efficient coal mining industry.

Despite being the major domestic coal consumer, QEC does not own or operate any coal mines. It relies on commercial pressure provided by open competitive tendering from private enterprise mines to achieve a reliable, flexible and cost-effective coal supply. As coal purchases represent around 60% of QEC's operating costs, the price of coal is the most significant determinant of electricity prices.

Table - TYPICAL COAL QUALITY SUPPLIED TO QUEENSLAND POWER STATIONS

Power Stations	S.E. GJ/t	Volatile Matter %	Moisture %	Sulphur %	Ash %
Gladstone	20-28	18-25	2-12	0.3-0.5	10-17
Stanwell	26	20	10	0.5	16
Tarong	20	28	5	0.3	28
Callide	20	25	10	0.3	16
Swanbank	23	36	5	0.5	23
Mica Creek*	28	20	2	1.0	15

* Mica Creek is owned and operated by MIM Holdings Ltd and supplies power to the public grid in Mount Isa..

S.E. = Specific Energy

GJ/t = Gigajoules per tonne.

ELECTRICITY DEMAND

Growth in electricity requirements in Queensland is largely determined by the continued large population increase from interstate migration together with growth in mining, other primary production, raw material processing and tourism. Over the next decade growth is predicted to compound at just under 5% a year with fuel requirements growing at a similar rate.

To meet the increased electricity demand in the near term, the construction of the 4x350MW station at Stanwell near Rockhampton is proceeding. The first unit was commissioned in March 1993 and subsequent units will be installed at yearly intervals. When complete in 1996 Stanwell is expected to burn between 3.5 and 4 mtpa of coal from the Blackwater area.

Planning for the longer term resulted in the QEC calling tenders in January 1992 for the supply of coal for steam generating plant at existing power stations and/or a new power station development anywhere in Queensland. The tender calls for quantities of 20, 40, 80 and 160 million tonnes of coal (equivalent to 20 GJ/t) for delivery commencing some time between 1997 and 2004. When tenders closed on October 29, 1992, offers were received from Callide Coalfields and Pacific Coal for extensions to Callide B and Tarong respectively and from the Surat Basin resources of AQC, and from Millmerran and MIM for greenfields developments. The tenders have a validity period of 27 months.

During the year the QEC successfully tested coal from Oakleigh and Jeebropilly at Swanbank Power Station. These mines produce a Walloon Series coal similar to the Ebenezer coal that is being supplied to Swanbank under a 7 year contract which commenced in July 1992.

Swanbank had previously burned only Bundamba Series coal from the Ipswich Basin. Following upgrading of Swanbank A milling plant to cope with Walloon's typically lower Hardgrove Grindability Index, the coal from Ebenezer has proved that the Walloon coal from the Moreton Basin performs well at Swanbank.

Swanbank's experience with Walloon coals is allowing the QEC to develop operating experience with coals similar to those tendered from the Surat Basin for new power stations.

Table - CAPACITY AND CONSUMPTION OF POWER STATIONS

Power Stations	Installed Capacity (MW)		Coal Consumed		Coal Source
			1991-92	1992-93	
Callide	700		2 620 812	2 776 752	Callide
Gladstone	1 680		3 474 392	3 105 065	Curragh/Blackwater/ Boundary Hill
Mica Creek (Mt Isa) *	165		442 327	481 663	Collinsville
Stanwell	350		-	381 045	Curragh
Swanbank	908		347 787	712 685	Ebenezer/Jeebropilly/ Oakleigh
Tarong	1 400		5 531 933	5 292 495	Meandu

* Mica Creek is owned by MIM Holdings Ltd and supplies power to the North Queensland Electricity Board.

The coals are from the same measures and handleability is recognised as a potential problem because of bentonitic clays.

However, the Swanbank experience is proving that the coal can be handled successfully by the mines and the power station.

Domestic Coal Consumption

The metal processing industry is a major consumer of coal, consuming 1.692 mt in 1992-93.

Coal is also used by many smaller industrial consumers involved in cement and brick manufacture, paper and hardboard production, food processing and the production of metallurgical coke. Since 1973 there has been an average growth of 8.4% per annum in the total domestic coal consumption mainly due to a growth of 9.8% in the electricity generating sector.

The breakdown of Queensland's domestic coal market for the past three years is given in the table opposite. Also given in the table is the Queensland Coal Board's forecast for coal consumption for 1993-94. These forecasts are based on a recent survey conducted by the Board of all coal consumers within the State.

The largest steady growth in coal consumption, other than for electricity generation, is the food processing industry, with an average growth over the past five years of 5% per annum. The increase in demand for processed and consumer ready food products and the opening up and growth of Asian economies has created demand for a broad range of food products. It is expected that coal requirements for food processing within Queensland will continue to grow at approximately 5% per year.

Table - DOMESTIC COAL CONSUMPTION AND FORECAST - MTPA

Consumer Group	Consumption			
	1990-91	1991-92	1992-93	Forecast
				1993-94
Electricity	11.517	12.417	12.750	13.300
Metal Processing	1.574	1.675	1.692	1.890
Building Materials	0.241	0.232	0.243	0.260
Paper Pulp & Board	0.086	0.092	0.080	0.075
Coke Works	0.081	0.079	0.067	0.068
Food Processing	0.148	0.150	0.165	0.175
Others	0.227	0.244	0.244	0.222

Coal Research Activities

INTRODUCTION

Coal will continue to supply a very substantial share of primary energy needs in the Asia-Pacific region in the foreseeable future. However, to maintain market share the industry must remain competitive while meeting more stringent requirements to minimise the impact of mining and utilisation of coal on the environment.

The Queensland coal industry has maintained steady growth in coal exports, even though increased international competition is applying downward pressure on prices. At the same time the depth at which the coal is mined is steadily increasing, which requires producers to seek technological innovations in relation to slope stability and ground conditions.

A major avenue for the Australian coal industry to meet the challenges of increased international competition and environmental concerns is through greater participation in the funding and directing of coal related research and development under Australian Coal Association Research Program (ACARP). It is through ACARP that the industry can better define its problems and direct funds to those areas in most need of research. As industry will have direct ownership of the products of research, this should ensure rapid development and commercialisation of the research work.

Already, the direct interaction between producers and researchers through industry monitoring of research activities and through ACARP organized workshops has resulted in an increased understanding by researchers of the problems of the industry. By fostering co-operation between research organisations and funding bodies ACARP is reducing duplication in the research effort and maximising the value of the research dollar.

The Queensland Government's commitment to support world class research is demonstrated by its funding of the facilities of the CSIRO's Centre for Advanced Technologies at Pinjarra Hills in Brisbane. The majority of research projects undertaken are coal related. The establishment of the Centre for Mining Technology and Equipment at this facility will significantly expand Queensland's ability to meet the coal industry's research needs.

In addition, the Queensland Government is supporting coal research through the Department of Minerals and Energy's Safety in Mines Testing and Research Station and its 10% shareholding in Australian Coal Industry Research Laboratories Pty Ltd.

The following are some of the broader research issues facing the coal mining industry.

INTERNATIONAL COMPETITIVENESS

Efforts to improve international competitiveness of Queensland coals have primarily focussed on the reduction of mine operating costs. Areas of focus include equipment maintenance and reliability, transport systems, communications, automation and management. Of particular interest to opencut operators are recent advances in dragline bucket design, and drilling and blasting technology. Specific to underground mining productivity is research into the improvement of roadway development rates.

International competitiveness has also been enhanced by tightening product specification and coal quality assurance through improved coal preparation and better identification of the requirements of the end users.

INCREASED DIFFICULTY IN MINING

As Queensland's opencut coal mines progressively increase in depth research issues to be addressed include slope stability of pit walls and spoil piles, in-pit crushing and conveying and highwall mining systems. New coal mines being developed generally utilize underground methods, particularly longwall technology. As underground mining becomes more widespread, research priorities will include methane drainage, remote sensing exploration techniques and strata control.

ENVIRONMENTAL ISSUES

Environmental issues in the past generally related to the rehabilitation of exhausted opencuts. Underground mine subsidence issues are now becoming increasingly important as underground mining expands.

Previous uncertainty by the industry on environmental issues has now largely been resolved with the joint development of Environmental Management Guidelines by the Department of Minerals and Energy and the Queensland Mining Council. The coal industry, committed to a standard of environmental management, is now applying research funds to determine how these standards can be cost effectively met. Issues include determination of optimum landforms, protection of surface and ground water regimes, and revegetation.

HEALTH AND SAFETY

Expectations of the community in general, and the coal mines inspectorate and the mine workers in particular, are encouraging mining companies to improve scrutiny of issues relating to workers' health and safety. Coal companies are recognising

that their efforts to establish high health and safety standards will significantly improve productivity and lower operating costs.

Health and safety research issues include disaster prevention, dust suppression, noise reduction and ergonomic design. Lifestyle issues have not been seriously considered in the past but with the introduction during 1992-93 of the Queensland Coal Industry Employees' Health Scheme, a data base will be developed to assist this area of research.

Research by the key coal research organisations, in Queensland is outlined below:

AUSTRALIAN COAL ASSOCIATION RESEARCH PROGRAM (ACARP)

ACARP has been operating since early 1992 using funds from the Commonwealth Research Levy on coal production. Apart from continuing with existing funding commitments, a further \$8 million is expected to be awarded for new research projects during 1993-94. It is anticipated that half the research funds will be directed to underground mining research with the balance shared between opencut and coal preparation and utilisation.

One key feature of ACARP is that co-operative research with mining operations and other groups is strongly encouraged. A monitor or a monitoring committee is assigned to each project. This wide industry involvement in research projects assists in the timely transfer of findings of research to mining operations.

ACARP UNDERGROUND PRIORITIES

The priorities for underground research are divided into the following areas:-

- ◆ Roadway development productivity (equipment availability, utilisation and application, roadway support and panel services);
- ◆ Strata control;
- ◆ Transport systems;
- ◆ Maintenance and reliability;
- ◆ Exploration techniques; and
- ◆ Occupational health and safety.

ACARP OPENCUT PRIORITIES

The priorities for opencut research are divided into the following areas:-

- ◆ Overburden removal (dragline operations, truck/shovel operations, drilling and blasting);
- ◆ Coal extraction;
- ◆ Rehabilitation; and
- ◆ Highwall mining.

ACARP COAL PREPARATION PRIORITIES

The priorities for coal preparation research are:-

- ◆ Optimisation of fine coal output while minimising the environmental impacts of tailings and reject disposal;
- ◆ Reduction in moisture in product coal;
- ◆ Improvement in the performance of dense medium circuits for coarse coal;
- ◆ Improvement in quality and yield through better process control; and
- ◆ Reduction of transport and handling problems by better moisture control and design of storage facilities.

COAL UTILISATION PRIORITIES

The priorities for coal utilisation are:-

- ◆ Identification and promotion of beneficial characteristics of Australian coals;
- ◆ Fundamental studies into reducing the impact of coal utilisation on the environment; and
- ◆ Improvement of coal characterisation methods to aid meaningful prediction of coal performance to end-user applications.

CENTRE FOR MINING TECHNOLOGY AND EQUIPMENT (CMTE)

The impressive facilities of the Queensland Centre for Advanced Technology at Pinjarra Hills are a joint venture between the Queensland Government and the CSIRO. These facilities house several CSIRO Divisions including those incorporated in CMTE that work on mining related issues. The Divisions within CSIRO that have combined resources in the CMTE are Geomechanics, Manufacturing Technology, Coal and Energy Technology, and Mineral and Process Engineering.

The CMTE also draws on other institutions such as the University of Queensland, the Julius Kruttschnitt Mineral Research Centre and the Safety in Mines Testing and Research Station where more diverse resources are available to fulfil industry research requirements. While the CMTE primarily services mining operators, it also has a brief to undertake fundamental research to resolve some of the long term industry issues.

Included in the wide range of research projects are the coal mining related projects of systems for dragline automation, coal face analyser, integrated underground communications, mines rescue vehicle and strata stability in highwall mining.

In the area of coal preparation, the CMTE is addressing fine coal classification, coarse coal dewatering and novel floatation methods.

The Division of Coal and Energy Technology is located at North Ryde and Lucas Heights in Sydney undertakes research into coal preparation, combustion gasification and pyrolysis of Australian coals.

SAFETY IN MINES TESTING AND RESEARCH STATION (SIMTARS)

SIMTARS is Australia's leading testing facility for equipment for use in underground coal mines. The testing centre is developing reciprocal approval status with other nations so that testing and approval delays will be minimised, thus permitting the rapid application of state of the art mining systems to the Queensland coal industry. A major long term benefit is that mining equipment can be developed in Queensland and marketed internationally in the knowledge that it will pass most international testing procedures.

Allied to this work is the capability of SIMTARS to provide assistance in relation to mine fires, explosions and other safety issues. SIMTARS develops and maintains state of the art mine gas monitoring and testing systems.

Activities are divided into:-

- ◆ Occupational Hygiene and Laboratory Services;
- ◆ Research and Technical Services; and
- ◆ Electrical Testing and General Services.

Research projects include:-

- ◆ Frictional ignition and explosions;
- ◆ Coal dust evaluation;
- ◆ Mine fire gas analysis investigation of Bowen Basin Coals;
- ◆ Analysis of machinery lubricating oil; and
- ◆ Arc fault containment in flame proof enclosures.

Fee for service activities include:-

- ◆ Equipment testing;
- ◆ Electrical calibration; and
- ◆ Environmental monitoring and training.

AUSTRALIAN COAL INDUSTRY RESEARCH LABORATORIES (ACIRL)

As a research establishment, ACIRL is probably the most exposed to market forces in the coal research and technology sectors. ACIRL operates on a commercial basis with no government or industry subsidies.

ACIRL's headquarters are in New South Wales, but the organisation has a major Queensland research facility at Riverview near Ipswich and a laboratory

in Emerald. While much of the activity is in coal, coke and combustion testing, ACIRL's strength is in its integrated service that goes from basic exploration and mine design to coal utilisation with an emphasis on quality control.

A significant recent development in mining research by ACIRL is the formation of their Australian Dragline Performance Centre which is at the forefront of analysis and design of dragline systems and operations. As opencut mining depths in Queensland increase and approach the limits of economic dragline operations, large benefits can be gained from small increases in dragline performance. A scale model of a dragline, at the Riverview site, permits analysis of many parameters including bucket efficiency. This work is complemented by ACIRL's capabilities in computer terrain modelling which can match overburden handling with final landform options.

Current mining research projects being undertaken by ACIRL under the ACARP scheme include:-

- ◆ Dragline investigations;
- ◆ Geological assessment techniques;
- ◆ Mobile boot-end study;
- ◆ Rock bolting and ground control studies for underground and opencut mines;
- ◆ Spoil management;
- ◆ Mine subsidence;
- ◆ Diesel engine performance; and
- ◆ Underground hearing loss prevention investigations.

ACIRL's Australian Combustion Technology Centre and Australian Coking Research Centre at Riverview supports the coal industry with expert consulting and applied research activities in the area of coal utilisation. Several projects evaluating the market potential of thermal and coking coals are conducted at these Centres.

JULIUS KRUTTSCHNITT MINERAL RESEARCH CENTRE (JKMRC)

The JKMRC is attached to the Department of Mining and Metallurgical Engineering of the University of Queensland and works in association with the CMTE. In terms of mining research, the strength of the JKMRC lies in an extensive Advanced Blasting Technology Study. The Study's funding of \$3.9 million is provided by the mining industry through Australian Mineral Industry Research Association.

JKMRC also has been researching the fundamental behaviour of coal preparation processes leading to

the formation of computer models for process simulation. This work assists in better coal plant design and better process control for improved product quality.

JOINT COAL BOARD (JCB)

The JCB undertakes research related data collection within its operations and funds research projects through a trust.

Areas of research interest include:-

- ◆ Cancer surveillance;
- ◆ Airborne dust control and suppression;
- ◆ Noise measurement procedures;
- ◆ Ergonomic studies in mines;
- ◆ Diesel fume emissions;
- ◆ Initial injury management; and
- ◆ ACARP'S Health and Safety Commissioned Study.

BHP AUSTRALIA COAL LIMITED - SPECIAL RESEARCH PROGRAM

This program commenced in July 1992 with a \$65 million budget to be spent over a five year time frame. At the end of the first year, 59 research projects have been commenced. The emphasis is on the company's Queensland coal operations.

Project areas includes:-

- ◆ Exploration and mining;
- ◆ Coal preparation and utilisation;

- ◆ Occupational health and safety; and
- ◆ Mine site rehabilitation.

Specific mining projects include:-

- ◆ Development of highwall mining systems;
- ◆ Large truck design;
- ◆ Dragline-hopper-truck systems;
- ◆ Dragline design and load monitoring;
- ◆ Methane drainage; and
- ◆ Review of coal health and safety studies.

In the area of coal preparation, the BHP Australia Coal Limited - Special Research Program is funding work on classification and dewatering of fine and coarse coal. Research is being undertaken into product development by way of assessing the blending of coking coals to improve coking performance and coke strength. Additional work is being undertaken on the utilisation of coal in relation to the reduction of oven wall pressures in coke ovens, and on the use of low volatile coals, particularly on pulverised coal injection in ironmaking.

The structure of the Special Research Program provides for syndicated research and for a major commitment to the CMTE for fundamental research into coal mining and processing projects. Support of \$1 million per annum over five years allowed CMTE to successfully apply for an extension of its charter to include underground research and attract comparable additional funding from the Commonwealth Government.



• Hay Point exports Bowen Basin coal around the world.

The Queensland Coal Board at Work

CONTINUING PROGRESS

The Queensland Coal Board, during the 1992-93 year, continued to improve the delivery of services required by Government, mining employees and industry.

Significant users of Board expertise include State, Federal and overseas Governments and their various agencies, coal industry workers and their unions, coal companies and their industry organisations, domestic and international buyers of Queensland coals, commodity analysts, research groups, and the finance and investment sector. In addition to its mainstream user groups, Board services were also sought and utilised by schools and institutions of higher learning.

The period under review saw the second full year of successful operations by a restructured Board. This restructure included the appointment, in 1990 and 1991 of three full-time Executive Members, Mr Peter Ellis, Mr Greg Watson, and Mr Bill Platt.

The Board has a statutory obligation in relation to the health and welfare of coal mining workers and their communities. A key achievement in meeting this obligation was the successful introduction by the Board, on May 1, 1993, of the Queensland Coal Industry Employees' Health Scheme 1993. The introduction of the Scheme, which replaces health provisions in force since 1982, was the key outcome of the exhaustive collective efforts of a working party which comprised union and company representatives and health professionals. This working party, under the direction of the Board, undertook an extensive research and consultative programme during the two years following its formation in 1991.

Key provisions of the scheme, which has been well-received by a majority of miners, include comprehensive pre-employment and continuing health assessments of all on-site coal mine workers. One immediate benefit from the scheme has been the early detection of various ailments, some of them potentially life-threatening. Such early detection allows timely personal or medical intervention and can reduce the seriousness of some medical conditions. Further, the comprehensive collection and evaluation of health and life-style information over an extended period will facilitate the development of the most appropriate healthcare programmes for the coal mining environment. One immediate benefit is the improved ability of coal mine managements, in respect of their legal duty of care, to ascertain the fitness of workers to safely undertake specific tasks. The Board and health professionals also believe the scheme will reduce work time lost through accidents and illness.

Obviously, such reductions will enhance productivity and will decrease workers' compensation claims and premiums.

On an operational level, the Scheme will rely on the services of 17 Board approved physicians. These practitioners will assume responsibility for minesite health management programmes. Previously, more than 80 health professionals were directly involved in the processes of pre-employment fitness testing. The Board believes the streamlining and rationalisation of the testing process will deliver more consistency in, and accountability for, worker health assessments.

A significant feature of Board expertise lies in the areas of collection, evaluation and dissemination of technical, scientific, and operational information on this State's coal resources and on current and pending mining activities. This information is distributed, on a sale and subscription basis, within Queensland, throughout Australia and overseas. The material is presented in a number of Board publications. These are: Queensland Coal Board Monthly Statistics; the Quarterly Queensland Coal Report; Queensland Coal Board Annual Review; and Queensland Coal, a comprehensive guide to coal port and railway infrastructure within the State. During the year under review, the Board was pleased to substantially revise and reproduce the 9th Edition of Queensland Coals - Physical and Chemical Properties, Colliery and Company Information. This well regarded document continues to enjoy strong national and international sales. Of particular interest in this 9th Edition has been the inclusion of information on 20 previously undescribed coal deposits within the State. The majority of these deposits are located within a region previously covered by the Central Queensland Coal Area, RA55.

In addition to its obligations to produce information on the Queensland coal resource, the Board works closely with the Joint Coal Board. During 1992-93, as a result of this close co-operation and regular consultation, the two organisations compiled and distributed a monthly document, Australian Coal Exports, and an annual book, Australian Black Coal Statistics.

Demand for written technical and scientific material continued to grow during the year, with almost 1 000 national and international subscribers to Board publications. There was also a steady rise in requests for verbal briefings and presentations by the Board's specialist staff. In the course of the year these staff members met with overseas government, diplomatic, and trade representatives who were given detailed information on existing coal mining operations and coal qualities as well as material on

potential mines and current legislation as it relates to mine development and mine safety in Queensland. While numerous routine inquiries flowed from well established markets, particularly Japan, Korea and India, the Board was encouraged by inquiries from potential buyers or investors from the Middle East, South-East Asia, Central and Southern America, and some Pacific island states. Presentations aside, the Board regularly responds to requests for information from the Queensland coal sector. In this respect, Board staff enjoy a co-operative working relationship with industry. Similar relationships also extend to academic and research bodies.

Although much of the Board's day-to-day operation has an external focus, considerable effort is expended on serving the growing needs of government departments and their various agencies, Federal as well as State. At a national level, the Board regularly exchanged industry information with the Department of Primary Industries and Energy, the Department of Foreign Affairs and Trade, the Australian Bureau of Statistics, the Australian Bureau of Agricultural and Resources Economics, and Austrade. Within Queensland the Board continues to provide scientific and technical information and advice on the coal sector to the Department of Minerals and Energy, the Department of the Premier, Economic and Trade Development, the Department of the Treasury, and the Department of Transport. Further, the Board continued to co-operate with Queensland Rail, the Queensland Ports Authority, the Gladstone Harbour Board and the Queensland Electricity Commission. A well-received initiative was the Board's introduction, during the year of a regular and extensive information bulletin which is circulated to key areas within the State Government. The Board believes the collection and delivery of timely information will expand government understanding of the nature, quality and long-term value of the Queensland coal sector.

In addition to the delivery of a comprehensive range of written material, the Board was pleased to provide detailed technical and financial briefings to various senior personnel, up to and including ambassadors, of the Department of Foreign Affairs and Trade. One benefit from such meetings has been a flow of information requests to the Board from Australian agencies in Europe and Asia.

Throughout the year, the Board continued to offer a range of services to domestic consumers. In all, Board specialists took 456 samples of coal for analysis during the year. These regular analyses have assisted in the quality control of coals sold to Queensland users. Concurrent with the sampling service, Board officers made a total of 260 visits to various coal-burning installations in Queensland. During these visits information was provided on

the effective storage and use of coal by industry and on upgraded technologies which facilitate cleaner use of coal. The Board believes this advisory service contributes both to improving fuel efficiency and a greater awareness of current emission controls which can be readily implemented.

Looking to the future, the Board believes there is a strong case for the continuing promotion of the advantages of coal as a highly cost-effective, safe, easily transported and potentially clean source of energy for Australian industry.

Despite improved productivity and more flexible work practices, employment in the coal sector continued to contract during the year under review. As a direct consequence, the Board made available in excess of \$356 000 from the Coal Industry Employees' Severance Pay Fund. This money was distributed to workers retrenched from West Moreton operations. The Board has managed this fund since its establishment in 1978. Employees currently entitled to benefits from the Fund are workers within the New Hope group of companies, Oceanic Mining (Rhondda Collieries), Oakleigh Collieries, Aberdare Collieries and Burgowan Collieries. During the year Aberdare Collieries gave notice of its intention to withdraw as a contributor to the Fund. This withdrawal will be effective from June 1, 1995.

In keeping with its forward plans, the Board began an exhaustive review of the Coal Industry (Control) Act 1948-1978. This legislation is administered by the Queensland Coal Board. A working party comprising employer, employee, consumer and government interests was established in January 1993. This group met under the chairmanship of the Board. Concurrent with this examination of the legislation, a compliance review, required by the Public Finance Standards 1990, was commenced in June 1993. It is anticipated that the findings of these examinations will be wholly or substantially implemented during the 1993-94 financial year.

In closing, the Board Members place on public record their appreciation of the achievements of Queensland Coal Board staff during a time of continuing and considerable change.

FURTHER INFORMATION

Detailed information on the Queensland coal industry is available from:

The Queensland Coal Board

GPO Box 384
BRISBANE QLD 4001
AUSTRALIA

Telephone: (07) 237 1521
Facsimile: (07) 221 6759

Queensland Coal Resources

EXPLORATION

The rescinding of the Central Queensland Coal Area - RA55 from the March 1, 1993 over approximately 280 000 km² of coal bearing land has resulted in an important boost to coal exploration in the State, with some 16 new Exploration Permits for Coal (EPCs) granted during the last quarter of the financial year. Ground held under EPCs increased from 9 800 km² in July 1992 to over 16 000 km² at June 30, 1993.

The level of activity is expected to increase further in early 1994 when tenders for 12 areas offered under Stage 2 of the RA55 release are awarded. It is expected that the higher level of activity will continue for at least the next two years.

Tonnage estimates of in situ coal resources¹ for Queensland's operating mines and undeveloped coal deposits are reported in the following tables from the latest Department of Minerals and Energy figures published in the October 1993 edition of the Queensland Government Mining Journal. Title-holders to the tenements are listed in that Journal.

Resources quoted are in million of tonnes of raw coal in situ with no allowance made for potential losses from mining or beneficiation. Adjustments

have been made, where applicable, for depletion due to mining operations up to the June 30, 1993.

The division between coking and non-coking coal is placed at a Crucible Swelling Number (CSN) of 4 for raw coal in accordance with criteria used by the Department of Minerals and Energy. It is possible that some coal categorised as non-coking can be beneficiated to produce a saleable coking fraction and vice versa. Market demand will ultimately determine the end use for such coals.

Nominal limits of 60 metres of overburden for opencut resources and a 1.5 metres minimum seam thickness have normally been used except where mining practice indicates other criteria such as overburden to coal ratios are more appropriate to determine resource categories.

Queensland's operating coal mines appear in bold capitals in the tables except for New Hope and Rhondda which are incorporated in the Ipswich Central, West and South leases.

1 Galligan, A.G., and Mengel, D.C., 1986: Code for reporting of Identified Coal Resources and Reserves. Queensland Government Mining Journal, 1987, 201-203.

The Queensland Coal Board gratefully acknowledges the contribution of the Department of Minerals and Energy to this section of the Review.

Table - PERMIAN COAL RESOURCES (MILLION TONNES)

		Coking Coal						Non-Coking Coal							
		Opencut			Underground			Opencut			Underground			Total	
MINE/Deposit	Title	M	I	M+I	M	I	M+I	M	I	M+I	M	I	M+I		Notes
Bowen Basin															
Baralaba	MLs, EPC257	0	0	0	0	0	0	12	2	14	65	55	120	134	T
Bee Creek	ML4751	0	0	0	0	0	0	21	0	21	56	54	110	131	S
BLACKWATER	MLs	286	20	306	166	220	386	39	4	43	19	85	104	839	DT
	ML1800														
BLAIR ATHOL	ML1804	0	0	0	0	0	0	248	0	248	0	0	0	248	P
	ML1881														
Bluff	MLs	0	0	0	0	0	0	0	0	0	0	10	10	10	
	EPC190	0	0	0	0	0	0	0	9	9	0	0	0	9	
Burton Downs	EPC497	0	45	45	0	70	70	0	0	0	0	0	0	115	
Caledonia	EPC369	0	0	0	0	0	0	0	0	0	0	690	690	690	C
Clermont	ML1884	0	0	0	0	0	0	250	0	250	0	0	0	250	DPR
COLLINSVILLE	MLs	22	0	22	68	13	81	27	0	27	62	36	98	228	P
COOK	MLs	0	0	0	200	530	730	0	0	0	0	0	0	730	
CURRAGH	MLs	44	0	44	13	0	13	67	0	67	14	0	14	138	S
Curragh East	EPC369	20	0	20	17	0	17	27	0	27	18	0	18	82	S
Curragh North	EPC369	0	0	0	0	0	0	40	0	40	0	100	100	140	CS
Daunia	ML1781	137	0	137	28	0	28	0	0	0	0	0	0	165	D
Eastern Creek	ML4754	0	0	0	0	0	0	15	0	15	0	0	0	15	P
	ML4755														

(Continued)

Table - PERMIAN COAL RESOURCES (MILLION TONNES)

		Coking Coal						Non-Coking Coal							
		Opencut			Underground			Opencut			Underground			Total	
MINE/Deposit	Title	M	I	M+I	M	I	M+I	M	I	M+I	M	I	M+I		Notes
ENSHAM - YONGALA	ML70049 EPC505	0	0	0	0	0	0	90	55	145	330	1030	1360	1505	CPT
GERMAN CREEK	ML1831	60	3	63	202	280	482	0	25	25	0	0	0	570	PT
GERMAN CREEK EAST	ML19980 EPC414	0	0	0	0	0	0	49	5	54	60	305	365	419	CP
GOONYELLA	ML1763	228	54	282	1100	189	1289	0	0	0	0	0	0	1571	DT
GORDONSTONE	ML1978 EPC389	0	0	0	359	50	409	0	0	0	35	135	170	579	P
GREGORY	ML1789	43	0	43	73	12	85	0	0	0	0	0	0	128	DT
Crinum	ML1923	2	2	4	124	29	153	0	0	0	0	0	0	157	DT
Liskeard	ML7007	13	0	13	0	0	0	0	0	0	0	0	0	13	PT
	MDL133														
Hail Creek - Lake Elphinstone	ML4738	160	15	175	0	635	635	0	0	0	0	0	0	810	
Havilah	EPC253	0	0	0	0	0	0	0	30	30	0	0	0	30	P
JELLINBAH EAST	MLs	0	0	0	0	0	0	90	32	122	64	31	95	217	
	EPC449														
Jellinbah Station	EPC369	0	0	0	0	0	0	0	20	20	0	415	415	435	C
Kemmis -Walker	ML4750	0	0	0	0	0	0	133	0	133	0	272	272	405	D
Lake Lindsay	EPC472	27	8	35	55	55	110	40	30	70	55	0	55	270	C
Lake Vermont	—	0	0	0	0	0	0	80	0	80	195	0	195	275	C
Lancewood	ML4752	0	0	0	0	78	78	0	0	0	0	0	0	78	
Mavis Downs	MDL136	0	0	0	0	0	0	4	0	4	0	5	5	9	S
Middlemount	—	4	3	7	5	4	9	20	0	20	95	30	125	161	P
Morambah	MDL135	0	0	0	0	0	0	6	0	6	7	0	7	13	S
Moranbah	—	0	20	20	0	1 020	1 020	0	0	0	0	0	0	1 040	
Moranbah North	EPC506	0	0	0	146	51	197	0	0	0	0	0	0	197	P
Moranbah South	—	0	12	12	0	240	240	0	0	0	0	0	0	252	
MOURA	MLs	38	0	38	737	0	737	64	0	64	172	0	172	1011	PS
Moura West	—	0	0	0	0	365	365	0	0	0	0	0	0	365	
NEWLANDS	ML4748	0	0	0	0	0	0	61	0	61	83	95	178	239	P
NORTH	ML 6949	0	0	0	0	196	196	0	0	0	0	0	0	196	
GOONYELLA	EPC453														
NORWICH PARK - SARAJI	ML1782	257	192	449	120	209	329	0	0	0	0	0	0	778	DT
OAKY CREEK	ML1832	75	0	75	305	146	451	0	0	0	0	0	0	526	PT
	ML2004														
	EPC476														
PEAK DOWNS - Isaac River - SARAJI	ML1775	559	105	664	854	344	1198	0	0	0	0	0	0	1862	DT
Poitrel	ML4749	22	0	22	0	0	0	86	0	86	0	0	0	108	D
RIVERSIDE	ML1764	59	0	59	0	0	0	0	0	0	0	0	0	59	D
	ML1802														
Rolleston	EPC538	0	0	0	0	0	0	275	0	275	0	0	0	275	DT
Rugby	—	0	0	0	0	0	0	0	0	0	0	180	180	180	
Sirius Creek	MLs	0	0	0	105	385	490	0	0	0	0	0	0	490	
SOUTH	MLs	102	29	131	143	200	343	120	34	154	266	372	638	1266	DT
BLACKWATER	EPC261														
	EPC461														
Suttor Creek	ML4761	8	0	8	0	0	0	38	0	38	91	67	158	204	S
Taroborah	—	0	0	0	0	0	0	0	15	15	0	110	110	125	
Theodore North	EPC202	0	0	0	0	0	0	71	0	71	260	253	513	584	
Theodore South	EPC202	0	0	0	0	0	0	64	20	84	313	340	653	737	T
Togara North	—	0	0	0	0	0	0	0	0	0	0	770	770	770	
Togara South	—	0	0	0	0	0	0	0	0	0	1300	1300	1300		
Valeria	EPC418	0	0	0	0	0	0	206	14	220	0	0	0	220	CDP
Wards Well	ML1790	0	0	0	340	0	340	0	0	0	0	0	0	340	
West Nebo	EPC446	0	0	0	0	0	0	3	29	32	0	15	15	47	PD
Winchester	ML1791	9	2	11	0	0	0	11	0	11	0	0	0	22	
Winchester South	EPC486	0	0	0	0	0	0	78	0	78	63	0	63	141	C
Wotonga	MDL137	0	0	0	0	0	0	9	0	9	0	0	0	9	S
YARRABEE	ML1770	0	0	0	0	0	0	23	0	23	0	0	0	23	
	EPC123	0	0	0	0	0	0	0	15	15	0	0	0	15	
SUB-TOTAL		2 175	510	2 685	5 160	5 321	10 481	2 368	339	2 707	2 323	6 755	9 078	24 951	

(Continued)

Table - PERMIAN COAL RESOURCES (MILLION TONNES)

		Coking Coal						Non-Coking Coal						Total	Notes
		Opencut			Underground			Opencut			Underground				
Galilee Basin															
MINE/Deposit	Title	M	I	M+I	M	I	M+I	M	I	M+I	M	I	M+I		
Alpha	—	0	0	0	0	0	0	1015	105	1120	0	0	0	1120	DP
Kevins Corner	EPC244	0	0	0	0	0	0	280	630	910	0	0	0	910	D
Pentland	EPC526	0	0	0	0	0	0	380	175	555	0	0	0	555	DR
SUB-TOTAL		0	0	0	0	0	0	1675	910	2585	0	0	0	2585	
TOTAL - PERMIAN BASINS		2 175	510	2 685	5 160	5 321	10 481	4 043	1 249	5 292	2 323	6 755	9 078	27 536	

Table - MESOZOIC COAL RESOURCES (MILLION TONNES)

		Opencut			Underground			Total	Notes
Area	Title	M	I	M+I	M	I	M+I		
Non-Coking Coal									
Moreton Basin									
Bringalily	EPC467	0	315	315	0	0	0	315	DRT
Commodore	EPC467	175	0	175	0	0	0	175	DRT
EBENEZER	EPC424	39	0	39	0	0	0	39	RT
	ML4712								
Felton East	EPC485	0	465	465	0	0	0	465	DPT
Felton West	EPC485	337	131	468	0	0	0	468	DPRT
Glen Roslyn	EPC513	120	175	295	0	0	0	295	DT
JEEBROPILLY	MLs	37	5	42	0	0	0	42	DTP
	EPC437								
Lochbar	EPC467	35	0	35	0	0	0	35	DPS
Manningvale East	EPC513	0	110	110	0	0	0	110	T
Manningvale West	EPC513	0	30	30	0	0	0	30	T
Mount Mort	EPC424	21	0	21	0	0	0	21	T
OAKLEIGH	MLs	0	1	1	7	0	7	8	TO
Ownaview	—	0	112	112	0	0	0	112	T
Rosewood	MLs	13	15	28	0	0	0	28	DT
	EPC437								
Sabine	EPC513	0	75	75	0	0	0	75	T
Sub-Total		777	1 434	2 211	7	0	7	2 218	
Surat Basin									
Austinvale	EPC157	110	45	155	0	0	0	155	T
Boxvale	EPC450	0	10	10	0	0	0	10	T
Braemar	EPC465	95	20	115	0	0	0	115	
Bymount	—	0	20	20	0	0	0	20	
Cameby Downs	—	0	55	55	0	0	0	55	
Collingwood	—	85	30	115	0	0	0	115	RT
Elimatta	EPC450	0	115	115	0	0	0	115	T
Frank Creek	EPC450	65	10	75	0	0	0	75	T
Glen Arden	—	0	45	45	0	0	0	45	RT
Glen Laurel	EPC450	20	0	20	0	0	0	20	T
Glen Wilga-Haystack Road	EPC468	120	80	200	0	0	0	200	F
Horse Creek	EPC465	0	295	295	0	0	0	295	T
Kogan	EPC465	90	35	125	0	0	0	125	
Kogan Creek	EPC464	115	100	215	0	0	0	215	RT
Orazabah	EPC450	0	45	45	0	0	0	45	T
Pony Plains	EPC450	0	55	55	0	0	0	55	T
Rywung	EPC450	30	45	75	0	0	0	75	

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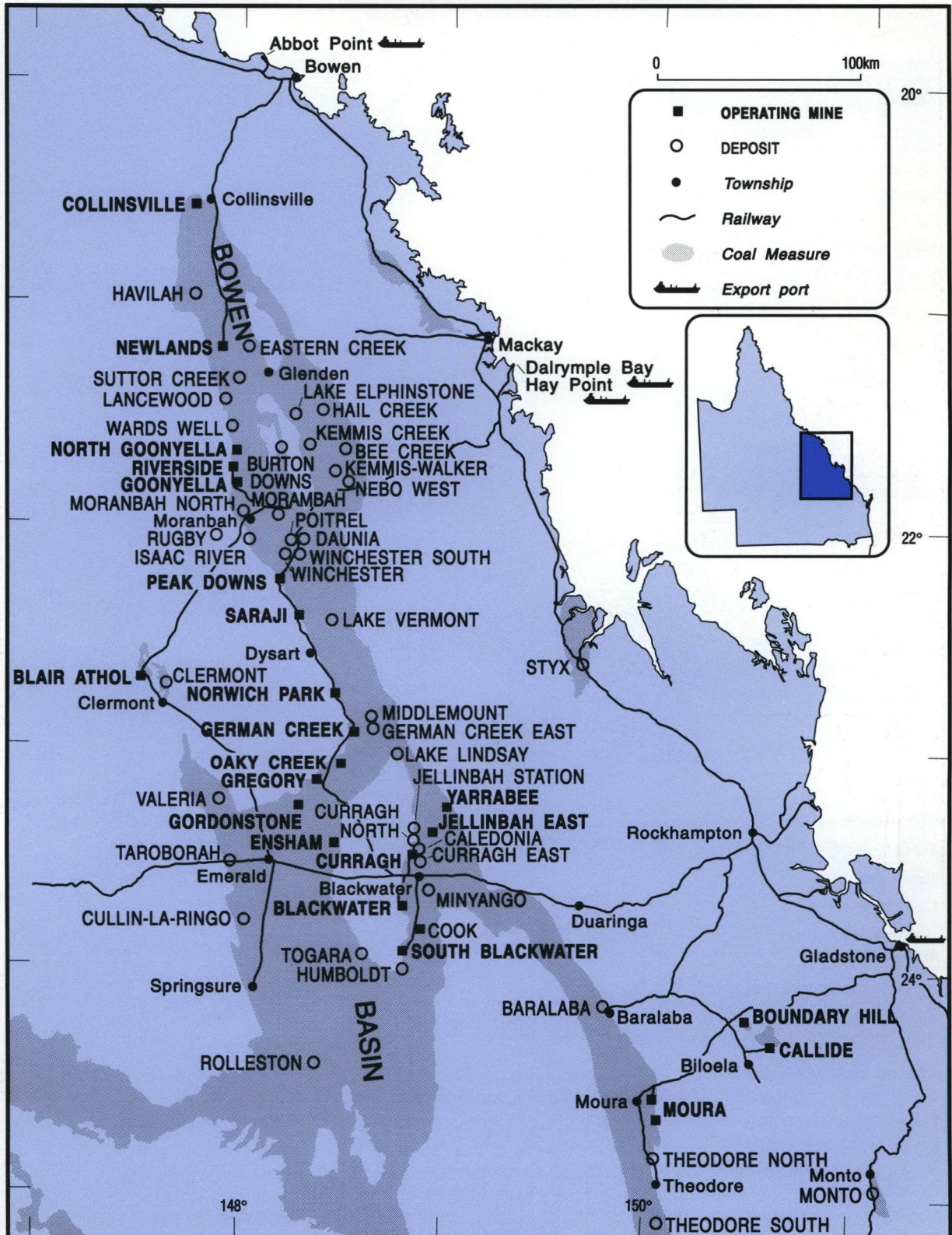
Table - MESOZOIC COAL RESOURCES (MILLION TONNES)

		Opencut			Underground			Total	Notes
Area	Title	M	I	M+I	M	I	M+I		
Non-Coking Coal									
Sefton Park	EPC450	25	5	30	0	0	0	30	
Summer Hill	EPC157	0	120	120	0	0	0	120	T
Tarcoola	EPC465	80	65	145	0	0	0	145	
Taroom	EPC189	115	55	170	0	0	0	170	DRT
Two Up	—	0	85	85	0	0	0	85	DT
Woleebee	EPC157	250	45	295	0	0	0	295	T
Wubagul	EPC450	45	25	70	0	0	0	70	T
SUB-TOTAL		1 245	1 405	2 650	0	0	0	2 650	
Callide Basin									
BOUNDARY HILL	MLs	22	2	24	23	21	44	68	DP
CALLIDE	EPC188	160	30	190	447	62	509	699	DP
SUB-TOTAL		182	32	214	470	83	553	767	
Ipswich Basin									
Ipswich North	MLs	0	0	0	18	0	18	18	
Ipswich East	MLs	0	3	3	42	5	47	50	
Ipswich Central	MLs	0	0	0	42	0	42	42	
	MLs	1	0	1	48	0	48	49	
Redbank Plains	—	0	0	0	32	43	75	75	
Ipswich West	MLs	0	0	0	62	4	66	66	
	MLs	0	0	0	156	0	156	156	
Ipswich South	MLs	0	0	0	73	45	118	118	
	EPC221								
SUB-TOTAL		1	3	4	473	97	570	574	
Mulgildie Basin									
Monto	EPC533	55	55	110	0	0	0	110	DT
SUB-TOTAL		55	55	110	0	0	0	110	
Styx Basin									
Styx	EPC529	0	0	0	4	0	4	4	P
SUB-TOTAL		0	0	0	4	0	4	4	
Tarong Basin									
Kunioon	EPC235	100	90	190	0	0	0	190	DR
MEANDU	ML6674	132	10	142	0	0	0	142	DR
Taabinga	EPC242	59	33	92	0	0	0	92	
SUB-TOTAL		291	133	424	0	0	0	424	
TOTAL - NON-COKING COAL		2 551	3 061	5 612	954	180	1 134	6 746	
Coking Coal									
Laura Basin									
Bathurst Range	EPC463	0	0	0	0	157	157	157	P
SUB-TOTAL		0	0	0	0	157	157	157	
TOTAL - COKING COAL		0	0	0	0	157	157	157	
TOTAL - MESOZOIC BASINS		2 551	3 061	5 612	954	337	1 291	6 903	

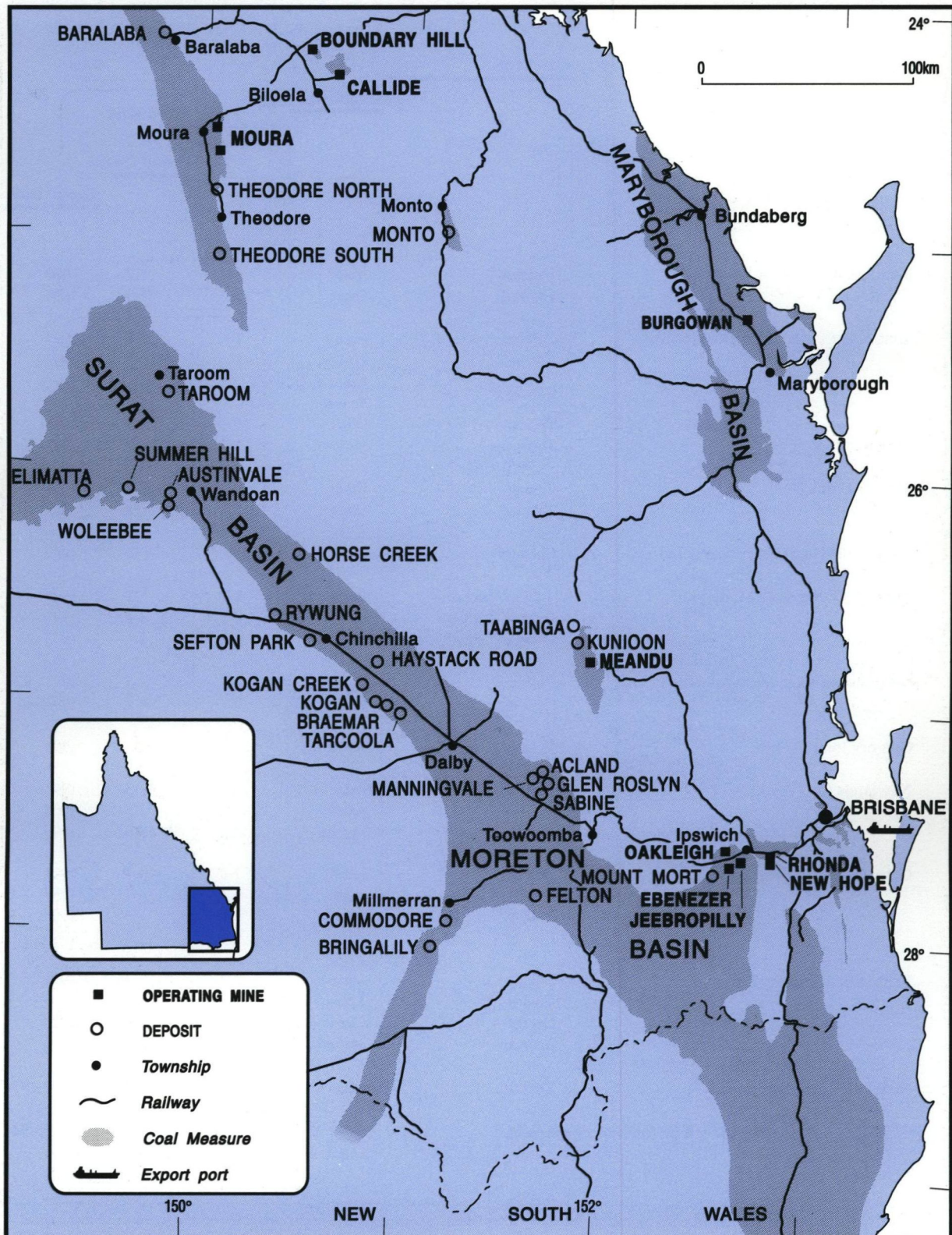
Legend of Abbreviations

- C = a coking fraction may be obtainable from the non-coking resource.
- D = opencut resources include some coal deeper than 60 metres.
- I = Indicated Category
- M = Measured Category
- O = some underground resources may be amenable to opencut extraction.
- P = provisional estimate
- R = opencut reserves defined by overburden ratio rather than depth limit.
- S = opencut limit less than 60 metres.
- T = includes some resources in seams less than 1.5 metres thick.

CENTRAL QUEENSLAND COAL AREAS



SOUTH EAST QUEENSLAND COAL AREAS



Export Contracts

Table - EXPORT CONTRACTS CURRENT AS AT JUNE 30, 1993

COMPANIES	Coal Type	Countries/Regions			
			Million Tonnes *		Expiry Date
				Period (Years)	
Blair Athol Coal Joint Venture	Thermal	Japan	5	17	2000
	Thermal	Other	3	1-3	1994
Central Queensland Coal Associates	Coking	Japan	7	1	1994
	Coking	Europe	10	1-3	1993
	Coking	Korea & Taiwan	5	1-5	1996
	Coking	Other	15	1-5	1996
	Thermal	Various	1	1	1993
Miniere Limited	Coking	Other	0.2	n/a	n/a
	Thermal	Other	0.1	n/a	n/a
Collinsville Coal Company Pty Ltd	Coking	Japan	15	15	1999
Curragh Queensland Mining Ltd	Coking/Thermal	Japan	2.0	1	1993
	Coking/Thermal	Europe	0.5	1-4	1993 - 96
	Coking/Thermal	Other	0.9	1-4	1993 -96
Gordonstone Coal Management Pty Ltd	Coking	Japan	1.5	5	1993 - 97
	Coking	Europe	0.5	5	1993 - 97
Gregory Joint Venture	Coking	Japan	13	1-13	1995
Newlands Coal Pty Ltd	Thermal	Japan	12	1-15	1998
		Asia	18.4	10	2002
		Europe	8.8	1-15	1998
Oak Creek Joint Venture	Coking	Japan	1.1	1	1994
	Coking	India	1.3	1	1993
	Coking	Algeria	1.1	6	2000
	Coking	Iran	0.4	1	1993
BHP Mitsui Coal Pty Ltd	Coking	Japan	3.0	1	1994
	Coking	Korea	0.5	1	1993
	Coking	Others	1.0	1	1993
	Thermal	Various	1.2	1	1993
New Hope Corporation Ltd	Thermal	Japan	1.2	1-5	1993 - 97
Capricorn Coal Development Joint Venture	Coking	Other Asia	2.0	3-5	1996 - 98
		Other	1.5	1-3	1995

* This information has been supplied by coal companies. Export tonnages, depending on the nature of the contract, relate to either tonnes per year or tonnes in total over the life of a contract.

Coal Export Facilities

PORTS

ABBOT POINT

Ownership: The facility is owned by the Ports Corporation of Queensland, a Queensland statutory agency.

Operator: Abbot Point Bulkcoal Pty Ltd, a wholly-owned subsidiary of MIM Holdings Pty Ltd, operates the facility.

Berths: One.

Vessel Size: 35 000 - 165 000 dead weight tonnes (d.w.t.).

Loading Rate: 4 600 tonnes/hour (t/hr).

Loading: Around the clock.

Stockpile Capacity: 0.5 million tonne (mt) live, 0.75 mt dead.

Expansion Plans: The facility is designed to be increased to 16 mt annual capacity, and further wharf construction could increase it to 24 mt.

Main Users: Newlands and Collinsville mines.

Throughput 1992-93: 5 861 729 tonnes.

BRISBANE

Ownership: The facility is owned by Queensland Bulk Handling Pty Ltd, a joint venture company owned equally by New Hope Corporation Ltd and TNT Shipping and Development.

Operator: The facility is also operated by Queensland Bulk Handling Pty Ltd.

Berths: One.

Vessel Size: 10 000 - 90 000 d.w.t.

Loading Rate: 3 300 t/hr.

Loading: Around the clock.

Stockpile Capacity: 280 000 tonnes.

Expansion Plans: Not at present.

Main Users: New Hope, Jeebropilly, Haenke, Ebenezer, Rhondda, Aberdare and Oakleigh mines.

Throughput 1992-93: 2 848 574 tonnes.

DALRYMPLE BAY

Ownership: The facility is owned by The Ports Corporation of Queensland.

Operator: The facility is operated by Dalrymple Bay Coal Terminal Pty Ltd, a company comprising representatives of the coal companies exporting through the terminal - Blair Athol Coal Pty Ltd

(Blair Athol mine), Capricorn Coal Management Pty Ltd (German Creek mine), BHP Mitsui Coal Pty Ltd (Riverside mine), Mount Isa Mines Limited (Oak Creek mine) and North Goonyella Coal Properties Pty Ltd (North Goonyella Mine).

Berths: One.

Vessel Size: 20 000 - 200 000 d.w.t.

Loading Rate: Nominally 6 600 t/hr.

Loading: Around the clock.

Stockpile Capacity: 1.8 mt.

Expansion Plans: The facility is to increase its annual capacity a further 4 million tonnes to accommodate the North Goonyella mine. There is the possibility to expand to 37 million tonnes annual capacity in the future.

Main Users: Blair Athol, German Creek, Riverside, Oak Creek and North Goonyella mines.

Throughput 1992-93: 18 151 941 tonnes.

GLADSTONE

BARNEY POINT

Ownership: The facility is owned by BHP Mitsui Coal Ltd.

Operator: The facility is operated by Bulk Handling and General Services.

Berths: One.

Vessel Size: 90 000 d.w.t.

Loading Rate: 2 000 t/hr.

Loading: Around the clock.

Stockpile Capacity: 400 000 tonnes.

Expansion Plans: None at present.

Main Users: Moura, Blackwater and, occasionally, Gregory mines.

Throughput 1992-93: 2 051 169 tonnes.

CLINTON

Ownership: The facility is owned by the Gladstone Port Authority.

Operator: The facility is also operated by the Gladstone Port Authority.

Berths: Two (Simultaneous loading as from early 1994)

Vessel Size: 220 000 d.w.t. each berth.

Loading Rate: 4 000 t/hr (8 000 t/hr with 2nd shiploader - early 1994).

Loading: Around the clock.

Stockpile Capacity: 3.3 mt in 12 Stockpile areas.

Expansion Plans: Duplication of shiploading conveyor system and construction of second shiploader to be completed by March 1994. This will raise the capacity of the facility from its current 21 mtpa to 30 mtpa.

Main Users: Gregory, Moura, Blackwater, Curragh, South Blackwater, Jellinbah East, Oaky Creek, Gordonstone and Yarrabee mines.

Throughput at 1992-93: 17 874 368 tonnes of export coal and 30 127 tonnes of interstate coal, a total of 17 904 495 tonnes.

HAY POINT

Ownership: The facility is owned by Central Queensland Coal Associates Joint Venturers.

Operator: The facility is operated by Hay Point Services Pty Ltd, (owned by BHP Australia Coal Ltd).

Berths: Two, allowing simultaneous loading.

Vessel Size: 150 000 d.w.t (No. 1 berth), 200 000 d.w.t (No. 2 berth).

Loading Rate: 4 000 t/hr (No. 1 berth), 6 000 t/hr (No. 2 berth).

Loading: Around the clock.

Stockpile Capacity: 2.5 mt.

Expansion Plans: None at present.

Main Users: Goonyella, Peak Downs, Saraji and Norwich Park mines.

Throughput 1992-93: 24 256 032 tonnes of export coal and 368 181 tonnes of interstate coal, a total of 24 624 213 tonnes.

Table - QUEENSLAND COAL PORTS

Coal Exports for 1992-93							
PORTS	Annual Loading Capacity		Hourly Loading Rate		Dredged Channel L.W.D.		
	mt	mt	t/hr	D.W.T.	Berth Length		Berth L.W.D.
					metres	metres	metres
Abbot Point	5.86	12.00	4 600	165 000	17.2	264	19.2
Brisbane							
- Fisherman Islands	2.85	5.00	3 000	90 000	13.5	240	13.0
Dalrymple Bay	18.15	22.55	6 600	200 000	13.4	254	15.62
Gladstone							
- Barney Point	2.05	7.00	2 000	90 000	15.8	230	15.0
- Clinton	17.87	# 21.00	* 4 000	220 000	16.0		18.8
- No. 1						380	
- No. 2						370	
Hay Point	24.26						
- No.1		11.00	4 000	150 000	12.03	343	16.4
- No.2		14.00	6 000	200 000	12.03	366	16.7
TOTAL	71.04	92.55					

L.W.D. = Low Water Depth

30.00 mtpa as at early 1994

* 8 000 mt/hr as at early 1994

RAILWAYS

THE RAILWAY SYSTEM

Queensland Rail operates a world-class transportation network for the movement of coal and minerals. The coal rail network comprises approximately 2 000 km of heavy gauge track. Most coal lines are electrified, with a total of over 1 300 km of electrified track. Computerised centralised traffic control operates over 1 300 km of the network with the remainder being worked under automatic signalling and train order working. Computerised monitoring of track condition and mechanised maintenance ensure high track availability and reliability. Concrete sleepers are being progressively introduced to improve track capacity and life.

To keep pace with the expected continued growth in the coal industry throughout the 1990's and early next century, train and track infrastructure are continually being expanded and upgraded. Queensland Rail is introducing new larger wagons, strengthening existing wagons and duplicating much of its rail network. Increased capacity of the railway system is also being realised through operational and work practice improvements. The expansion and upgrading of train and track infrastructure is coordinated with the upgrading of port infrastructure.

The following is a brief description of the railway system within each of the main coal areas in Queensland:

The Newlands System

The Newlands System, serving the Northern Bowen Basin, is a 170 km long non-electrified line connecting the Newlands and Collinsville coal mines to the Abbot Point Export Coal Terminal, to the north of Bowen. Trains operating in this system typically consist of four diesel-electric locomotives with 82 x 73 tonne wagons (i.e. nominally 4 600 net tonne trains).

The Goonyella System

The Goonyella System is the network of lines which connects the mines in the Central Bowen Basin to the Dalrymple Bay and Hay Point Export Coal Terminals to the south of Mackay. The system is fully electrified and the trains operated typically consist of four electric locomotives with 136 x 71 tonne wagons, or 120 x 80 tonne wagons, or 108 x 90 tonne wagons (i.e. approximately 7 500 net tonne trains). This system carries the bulk of Queensland's export coal.

The Blackwater System

The Blackwater System is the network of lines which connect the mines in the Southern Bowen Basin to the Clinton and Barney Point Export Coal

Terminals at Gladstone. The system is fully electrified and trains operated typically consist of four electric locomotives with 102 x 71 and 73 tonne wagons (i.e. nominally 5 500 net tonne trains).

The Moura System

The Moura System is a non-electrified line that connects the Moura, Callide, and Boundary Hill mines to the Clinton and Barney Point Export Coal Terminals at Gladstone. The system operates trains typically comprised of three diesel-electric locomotives with 61 x 71 tonne wagons (i.e. nominally 3 200 net tonne trains).

The West Moreton System

The West Moreton System connects the coal mines to the west of Brisbane to the Fisherman Islands Export Coal Terminal. The system is partially electrified and operates trains typically comprised of two diesel-electric locomotives with 39 x 63 tonne wagons (i.e. nominally 1 800 net tonne trains).

SYSTEM FLEXIBILITY

The railway system is fully interconnected providing considerable flexibility for the transport of coal between the main coal areas. This has a significant benefit for exporters. The ability to market coal from more than one port increases the reliability of supply to overseas coal buyers and provides opportunities for coal blending thereby giving exporters access to a wider number of markets.

Queensland Rail is continuously examining various proposals to further enhance the flexibility of the rail/port system.

For example, Queensland Rail is currently examining the feasibility of constructing a western rail link between the Goonyella and Newlands Systems to provide a more efficient access for the mines in these systems to the alternative ports. The feasibility of extending the Moura System to connect with the extensive thermal coal deposits in the Surat Basin on the Darling Downs west of Brisbane is also being examined, as is the electrification of that system to enhance the integration of the train fleet.

RELIABLE SERVICE

Queensland Rail has earned a reputation for providing a reliable transport service for its customers. Improvements in train and track infrastructure reliability have minimised ontrack failures. A recent industrial agreement ensures export coal traffic is exempt from direct industrial action for a period of seven days should a dispute arise. Queensland Rail is also implementing Quality Assurance systems in all areas of its Coal & Minerals Group. Quality Assurance systems are the documented management procedures and

instructions for controlling and verifying that Queensland Rail's work processes/practices produce services that meet customers' requirements. Certification is the independent review of an organisation's quality system against the appropriate International Standard to ensure that it has been satisfactorily implemented and is effective.

Many purchasing organisations, as a means of controlling the quality of purchased goods, are now specifying that prospective suppliers must have certified quality systems. The European Community (EC) member nations have stipulated that foreign companies wishing to sell goods to the EC must have certified quality systems in place to the relevant ISO 9000 series standard. Several Queensland coal mining companies which export to Europe are now faced with this requirement to implement quality systems and have them certificated by an internationally recognised certification agency.

The Coal & Minerals Group of Queensland Rail, as part of the Queensland coal supply chain, is working to obtain certification to the International Standards Organisation ISO 9002 standard of its quality systems in its Operations Division by the end of 1993.

FURTHER INFORMATION

For further information on coal transport please contact:

Coal & Minerals Group
Queensland Rail
GPO Box 1429
Brisbane Qld 4001
Australia

Phone 011 61 7 235 1312 (International Code)



• *The State's Coal Ports are amongst the most efficient in the world.*

Mine and Company Information

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STATISTICAL DISTRICTS

As announced in the 40th Annual Review, previous statistical districts have been combined to form three major areas. Collieries north of latitude 22° 38' fall into the Northern District, those south of this latitude and north of 24° form the Central District while collieries south of 24° are grouped into the Southern District.

The northern demarcation, 22° 38', lies just south of the town of Dysart while the southern boundary of Central, 24°, runs through the town of Calliope.

A map illustrating these districts is on page 3 of this Annual Review.

SELECTED MINES AND PROJECTS

The majority of Queensland's mines are located in the Bowen Basin of Central Queensland and supply the bulk of Queensland's export coking and thermal coals. The remainder are located in the south-east of the State and supply thermal coal primarily for on-site electricity generation and local domestic use.

In addition to the selected operating mines, this section reviews the current status of a major greenfields project, Clermont, as an example of ongoing development of Queensland's major coal resources.

SELECTED OPERATIONS DURING 1992-93

MINE	COLLIERY	OWNER	OPERATOR	TYPE
NORTHERN DISTRICT				
Bowen Central No. 3	Collinsville	NCA Joint Venture	Collinsville Coal Co. P/L	O
Goonyella	Goonyella	Central Qld Coal Associates	BHP Australia Coal Ltd	O
Newlands	Newlands	NCA Joint Venture	Newlands Coal P/L	O
Peak Downs	Peak Downs	Central Qld Coal Associates	BHP Australia Coal Ltd	O
Riverside	Riverside	BHP Mitsui Coal P/L	BHP Australia Coal Ltd	O
Saraji	Saraji	Central Qld Coal Associates	BHP Australia Coal Ltd	O
Bocum	Collinsville	NCA Joint Venture	Collinsville Coal Co. P/L	U
Bowen No. 2	Collinsville	NCA Joint Venture	Collinsville Coal Co. P/L	U
CENTRAL DISTRICT				
Blackwater	Blackwater	Central Qld Coal Associates	BHP Australia Coal Ltd	O
Blair Athol	Blair Athol	Blair Athol Coal Project J/V	Pacific Coal P/L	O
Curragh	Curragh	Curragh Joint Venture	Curragh Qld Mining Ltd	O
Ensham - Yongala	Ensham - Yongala	Ensham Resources Pty Ltd	Ensham Resources Pty Ltd	O
German Creek	German Creek	Capricorn Coal Dev'tment J/V	Capricorn Coal M'tment P/L	O
German Creek East	German Creek	German Creek East J/V	Capricorn Coal M'tment P/L	O
Gregory	Gregory	Gregory Joint Venture	BHP Australia Coal Ltd	O
Jellinbah East	Jellinbah East	Advance Qld Resources & Mining P/L	Advance Qld Resources & Mining P/L	O
Norwich Park	Norwich Park	Central Qld Coal Associates	BHP Australia Coal Ltd	O
Oaky Creek	Oaky Creek	Oaky Creek Coal J/V	Oaky Creek Coal P/L	O
South Blackwater	South Blackwater	South Blackwater Coal Ltd	South Blackwater Coal Ltd	O
Yarrabee	Yarrabee	Yarrabee Coal Company P/L	Yarrabee Coal Company P/L	O
Cook	Cook	Oakbridge Ltd	Minere Ltd	U
German Creek Central	German Creek	Capricorn Coal Dev'tment J/V	Capricorn Coal M'tment P/L	U
German Creek Sthn	German Creek	Capricorn Coal Dev'tment J/V	Capricorn Coal M'tment P/L	U
Gordonstone	Gordonstone	Gordonstone Joint Venture	Gordonstone Coal M'tment P/L	U
Laleham	South Blackwater	South Blackwater Coal Ltd	South Blackwater Coal Ltd	U
Oaky Creek No. 1	Oaky Creek	Oaky Creek Coal J/V	Oaky Creek Coal P/L	U
SOUTHERN DISTRICT				
Boundary Hill	Boundary Hill	Callide Joint Venture	Callide Coalfields P/L	O
Callide	Callide	Callide Joint Venture	Callide Coalfields P/L	O
Ebenezer	Ebenezer	Idemitsu South Qld Coal P/L	Idemitsu South Qld Coal P/L	O
Jeebropilly	Jeebropilly	New Hope Corporation Ltd	Jeebropilly Collieries P/L	O
Meandu	Meandu	Pacific Coal P/L	Tarong Coal	O
Moura	Moura	BHP Mitsui Coal P/L	BHP Australia Coal Ltd	O
New Hope No. 358	New Hope	New Hope Corporation Ltd	New Hope Collieries P/L	O
New Whitwood	Aberdare	Allied Qld Coalfields Ltd	Allied Qld Coalfields Ltd	O
Oakleigh	Oakleigh	Oakleigh Colliery P/L	Oakleigh Colliery P/L	O
Wattle Glen Ext.	Rhondda	Oceanic Coal Australia Ltd	Oceanic Coal Australia Ltd	O
Aberdare Reclaiming	Aberdare	Allied Qld Coalfields Ltd	Allied Qld Coalfields Ltd	R
Moura Reclaiming	Moura	BHP Mitsui Coal P/L	BHP Australia Coal Ltd	R
Burgowan	Burgowan	Burgowan Collieries P/L	Burgowan Collieries P/L	U
M.W. Haenke No. 2	New Haenke	New Hope Corporation Ltd	New Haenke Mining P/L	U
Moura No. 2	Moura	BHP Mitsui Coal P/L	BHP Australia Coal Ltd	U
New Hope W Leases No. 2	New Hope	New Hope Corporation Ltd	New Hope Collieries P/L	U
Oakleigh No. 3	Oakleigh	Oakleigh Colliery P/L	Oakleigh Colliery P/L	U

O - Opencut U - Underground R - Tailings Recovery

SELECTED OPERATIONS

BLACKWATER, GOONYELLA NORWICH PARK, PEAK DOWNS AND SARAJI

Operator

BHP AUSTRALIA COAL LIMITED

GPO Box 1389
BRISBANE QLD 4001
Phone: (07) 226 0600
Fax: (07) 229 2575

Company Information

The Blackwater, Goonyella, Norwich Park, Peak Downs and Saraji mines are owned by Central Queensland Coal Associates (CQCA) which is a joint venture between BHP Australia Coal Limited 44.72%, QCT Resources Limited 27.78%, Mitsubishi Development Pty Ltd 13.33%, Australian Mutual Provident Society 8.61% and Pancontinental Mining Limited 5.56%.

CQCA also owns the coal terminal at Hay Point, 40 km south of Mackay. The CQCA Joint Venture is managed by BHP Australia Coal Limited.

Locations

Blackwater Mine

Blackwater mine is situated 216 km west of Rockhampton and 305 km by rail from Gladstone.

Goonyella Mine

Goonyella mine is approximately 225 km south-west of Mackay and 198 km by rail from Hay Point.

Norwich Park Mine

Norwich Park mine is approximately 110 km south-east of Goonyella and about 256 km by rail from Hay Point.

Peak Downs Mine

Peak Downs mine is located 60 km south of the Goonyella mine and about 195 km by rail from Hay Point.

Saraji Mine

Saraji mine is situated 24 km south of Peak Downs and 216 km south-west of Hay Point.

Coal Quality

Blackwater, Goonyella and Peak Downs coals are medium volatile, while Saraji and Norwich Park are low volatile. The coals are hard coking with International Standard Classifications 434. Typical washed coal analyses are given in the table below.

Table - TYPICAL ANALYSES OF CQCA COALS

	Blackwater	Goonyella	Peak Downs	Norwich Park	Saraji
Total Moisture (a.r%)	10.0	10.0	10.0	10.0	10.0
Moisture (ad%)	2.0	1.3	1.0	1.0	1.0
Volatile Matter (ad%)	26.5	25.0	21.0	17.0	19.0
Fixed Carbon (ad%)	63.7	65.2	68.5	71.3	70.7
Ash (ad%)	8.2	8.9	9.7	9.9	9.7
Total Sulphur (ad%)	0.50	0.55	0.60	0.65	0.60
C.S.N.	6	8	9	9	9
Specific Energy MJ/kg	32.06	32.94	32.69	31.9	32.69

Operations

Blackwater, Goonyella, Peak Downs, Saraji and Norwich Park are opencut operations with annual coal production capacity in 1992-93 in million tonnes of 3.8, 6.3, 6.0, 5.0 and 4.7 respectively.

The Blackwater mine also has a thermal coal production capacity of 1.2 million tonnes per year for the Queensland Electricity Commission under the terms of the lease agreement.

Employees at the mines totalled 4 738 at June 30, 1993, including manning for Goonyella and Riverside which, for operational purposes, are amalgamated under one management structure.

A total of 24 large draglines are used at the opencuts to strip overburden above the coal seams. Truck and shovel pre-stripping fleets operate at Goonyella, Peak Downs, Saraji and Blackwater. Coal is extracted using electric shovels and/or front-end loaders with 110 to 200 tonnes capacity bottom-dump coal haulers. After crushing in rotary breakers, the coal is processed to customer specifications in mine preparation plants using heavy medium cyclones for the coarse coal fractions and froth flotation for the fine coal product. Both coarse and fine coals are combined and conveyed to a radial stacker for stockpiling prior to railing.

Coal from the four northern mines is shipped from Hay Point. The Hay Point facilities have loaded ships of 200 000 tonnes capacity. The port is designed for annual loading in excess of 20 million tonnes. Blackwater coal is shipped through the Clinton loading facility at Gladstone.

General

The Goonyella, Peak Downs, Saraji and Norwich Park opencut mines are located on three of four Special Coal Mining Leases held by the original CQCA participants. The fourth lease, covering an area referred to as Daunia, is undeveloped. The development and mining of coal reserves on these four leases is governed by the terms of a franchise agreement with the State Government. The Blackwater Mine's operations, which became part of CQCA in 1984, are situated on several other leases.

Blackwater mine employees and their families live in the town of Blackwater which has a population of around 8 000 people. Employees at Goonyella and Peak Downs live in Moranbah, which also has a population of approximately 8 000. Dysart is the centre for Saraji and Norwich Park employees, and has a population exceeding 4 500.

Japan is still the major customer for coal from the CQCA mines, although marketing diversification in recent years has resulted in increased sales to Europe as well as South Korea, Taiwan, India, Brazil and others.

Capital Expenditure

Capital Expenditure for the CQCA mines and port during 1992-93 totalled \$80.5 million.

BLAIR ATHOL

Operator

PACIFIC COAL PTY LTD

GPO Box 391
BRISBANE QLD 4001
Phone: (07) 223 7200
Fax: (07) 229 5087

Company Information

Current interests in the project are - The Coal Cliff Collieries Pty Limited 57.195%, Arco Coal Australia Inc. 17.527%, ARCO Resources Limited 13.889%, EPDC (Australia) Pty Ltd 7.9723% and JCD Australia Pty Ltd 3.4167%.

Location

The Blair Athol coalfield is located 22 km from the town of Clermont and is about 280 km south-west of Mackay. It is contained within an isolated sub-basin on the western margin of the Bowen Basin.

Coal Quality

The typical coal quality is indicated in the table below.

Table - TYPICAL ANALYSIS FOR BLAIR ATHOL

	Product Coal
Moisture (ad%)	7.5
Volatile Matter (ad%)	27.2
Fixed Carbon (ad%)	57.3
Ash (ad%)	8.0
Total Sulphur (ad%)	0.3
Specific Energy (at 7.5% moisture) MJ/kg	27.3

General

The present opencut mine was opened in 1984. The initial capacity was five million tonnes per year with the coal exported chiefly to power utilities in Japan.

Development of the project included a major mining facility, railway construction, electricity reticulation and building of houses in Clermont for the mine's workforce.

Annual production as at June 30, 1993 is around nine million tonnes with a workforce of 370.

The Japanese contract expires in the year 2000.

Capital Expenditure

Capital Expenditure during 1992-93 totalled \$13.6m. Comprising \$1.7m, \$10.8m and \$1.1m on mine specialist equipment, rail and port infrastructure, and town infrastructure respectively.

BOUNDARY HILL AND CALLIDE

Operator

CALLIDE COALFIELDS PTY LTD

GPO Box 3109
BRISBANE QLD 4001
Phone: (07) 834 1333
Fax: (07) 832 6879

Company Information

The mines are owned by The Shell Company of Australia Limited 66.7% and Australian Mutual Provident Society 33.3%.

The managing company is Callide Coalfields Pty Limited a wholly owned subsidiary of Shell Australia Limited.

Location

The Callide coalfield is located 140 km west-south-west of the port of Gladstone, and 15 km north-east of Biloela.

Coal Quality

The mines produce a sub-bituminous coal with excellent combustion characteristics, which has generally been used for steam raising. Coal from Boundary Hill mine is also highly reactive to carbon dioxide and suitable for a range of metallurgical processes, such as Direct Reduction and Sirosmelt. Typical analyses are given in the table below.

Table - TYPICAL ANALYSES OF BOUNDARY HILL AND CALLIDE

	Boundary Hill	
		Callide
Moisture (ad%)	11.7	10.9
Ash (ad%)	14.4	18.9
Volatile Matter (ad%)	25.3	23.7
Fixed Carbon (ad%)	48.6	46.5
Specific Energy MJ/kg (adb)	21.8	21.1

Operation

The current annual production rate from the Callide coalfields is approximately four million tonnes from four opencut areas. The Callide mine is based on the Dunn Creek/Trap Gully/The Hut areas in the southern end of the field and the Boundary Hill mine is located at the northern end. The mines employ approximately 420 people.

Remarks

Callide Coalfields will increase saleable coal production capacity to six million tonnes per annum by 1994 to meet requirements under a new QEC contract.

Major customers are the Callide 'B' Power Station adjacent to the Callide mine, and the Queensland Alumina Refinery at Gladstone and the Gladstone Power Station.

The coal is also used to bunker the coal fired ships on the Weipa/Gladstone bauxite run.

CLERMONT

Operator

CLERMONT COAL MINES LIMITED

GPO Box 34

BRISBANE QLD 4001

Phone: (07) 221 2138

Fax: (07) 221 0146

Company Information

Clermont Coal Mines Limited is a joint venture between Exxon Coal Australia Limited 55% and Mitsubishi Development Pty Ltd 45%.

Mining Titles

M.Ls 1884 and 1904.

Location

The Clermont coal deposit is located approximately 10 km north of the central Queensland town of Clermont.

Coal Quality

The coal is of remarkable consistent quality throughout the deposit. The indicated product coal specification is given in the following table.

Table - TYPICAL ANALYSIS OF CLERMONT

	Raw Coal
Moisture (ad%)	5.00
Ash (ad%)	9.5 (+/- 0.5)
Volatile Matter (ad%)	27.50
Fixed Carbon (ad%)	58.00
Total Sulphur (ad%)	0.40
Specific Energy MJ/kg	27.84

Use was made of core recovered from the thick seam to obtain sufficient coal for testing and analysis, because of the depth of overburden and the consequent cost of obtaining bulk samples.

Combustion testing and analysis has been carried out on core samples from 200 mm diameter cores located across the coalfield, giving a representative sample of about 30 tonnes.

The product specification can be achieved without washing.

General

Feasibility studies for the development of an opencut mine operation, employing inpit crusher, trucks and shovels for overburden and coal, have been completed and detailed design work is well advanced.

Production from the opencut operation is planned to commence in the mid/late 1990's at a capacity of some six million tonnes per year.

A ten kilometres spur line to connect the Clermont mine to the Blair Athol/Dalrymple Bay rail link has been designed and its construction approved by the Queensland Government. Where necessary, duplication and upgrading of the existing track will be carried out to handle the additional traffic.

It is proposed that product coal from the Clermont Coal Project will be loaded through the Dalrymple Bay Coal Terminal, and the projected fulltime workforce is 380 persons.

COLLINSVILLE

Operator

COLLINSVILLE COAL COMPANY PTY LTD

GPO Box 1433
BRISBANE QLD 4001
Phone: (07) 833 8000
Fax: (07) 832 2430

Company Information

Collinsville Coal Company Pty Ltd is the Agent for the Joint Venture Manager, Mount Isa Mines Limited. Collinsville Mine is owned by Mount Isa Mines Limited (75%) and Agipcoal Australia Pty Ltd (25%) under the NCA Joint Venture.

Mine Names

Bowen No. 2 mine - underground.
Bocum mine - underground.
Bowen Central - opencut.

Location

Collinsville is 105 km by rail south-west of the port of Abbot Point and 86 km by road from Bowen.

Coal Quality

Collinsville coals are medium volatile bituminous in rank. Products range from washed high quality export coking coal to unwashed domestic thermal coal. A variety of qualities are produced from the working seams due to vertical and lateral quality variations within each seam. Product quality is controlled largely by the mining horizon within each seam, blending and coal preparation. The Bowen seam, for instance, can produce both thermal and domestic coking quality coal. Raw sulphur contents vary from 0.6% to 2.3%. Sulphur is generally concentrated in the top of the seams.

Typical coal analyses are given below.

Table - TYPICAL ANALYSES OF COLLINSVILLE

	Thermal (R.O.M.)		
	Thermal (R.O.M.)		Coking
	Bowen Central + U/ground Mines	Blake West opencut Seam	
Moisture (ad%)	1.5	2.0	1.5
Volatile Matter (ad%)	23.0	20.0	26.0
Fixed Carbon (ad%)	61.7	58.5	62.5
Ash (ad%)	13.0	18.8	9.2
Total Sulphur (ad%)	0.8	0.7	0.8
C.S.N.	0.4	1	6-7
Specific Energy MJ/kg	30.2	27.8	32.0

The Scott Denison and Garrick seams are blended and washed to produce coking quality coal for export. Typical washed product qualities for a 4:1

blend of Scott Denison seam and Garrick seam are given in the aforementioned Table.

General

The Collinsville mines are part of the Newlands/Collinsville/Abbot Point (NCA) project.

Approximately 582 people are employed at the Collinsville mines.

Capital Expenditure

Capital Expenditure during 1992-93 amounted to \$1.9m, being solely for mine development.

COOK

Operator

MINIERE LTD

PO Box 75
BLACKWATER QLD 4717
Phone: (079) 86 0301
Fax: (079) 86 0202

Company Information

The company is a subsidiary of Oakbridge Ltd.

Mine Name

Cook colliery.

Location

The Cook underground mine is located 216 km west of Rockhampton and 29 km south of Blackwater. Mined coal is trucked 14 km to the preparation plant and rail loadout. The product coal is then railed 300 km in 5 000 tonne unit trains to the Clinton coal loading facility at Gladstone.

Coal Quality

There are two coal products as detailed in the table below.

Table - TYPICAL ANALYSES OF COOK

	Coking	Thermal
Moisture (ad%)	1.4	1.6
Volatile Matter (ad%)	27.5	24.5
Ash (ad%)	7.0	13.2
Total Sulphur (ad%)	0.4	0.35
C.S.N.	7.5	-
Specific Energy MJ/kg	32.8	29.5

Operation

From July 1993 mining is on a trial basis to test costs and markets. A total of 20 people is employed. No specific market has yet been determined.

CURRAGH

Operator

CURRAGH QUEENSLAND MINING LIMITED

GPO Box 1214
BRISBANE QLD 4001
Phone: (07) 867 8191
Fax: (07) 867 8285

Company Information

Curragh Queensland Mining Limited operates the Curragh mine on behalf of a co-venture comprising ARCO Coal Australia Inc 60%, Mitsui Coal Development (Australia) Pty Ltd 10% and RW Miller and Co 30%.

Location

Curragh is situated 10 km north of Blackwater in Central Queensland.

Coal Quality

Coking and thermal coals are exported to the specifications given in the table overleaf.

Table - TYPICAL ANALYSES OF CURRAGH

	Coking	Thermal
Total Moisture (a.s.%)	10 max.	10 max.
Volatile Matter (ad%)	23 max.	19 app.
Ash (ad%)	7 max.	13 max.
Total Sulphur (ad%)	0.6 max.	0.65 max.
CSN	7.5	-
Specific Energy MJ/kg	-	30.56
HGI	-	80 app.

Operations

The Curragh mine produces a number of products as follows:

- ◆ domestic thermal coal is supplied under a long term contract to the Queensland Electricity Commission. The 20 year contract is for a total of 66.4 million tonnes of coal for use at Gladstone and for the new power station being built at Stanwell near Rockhampton; and
- ◆ hard coking, other metallurgical coals and high energy export thermal coal.

The Curragh mine capacity is currently 6.7 million tonnes per annum split approximately 50% coking type coal and 50% thermal coal.

General

Export coal is shipped through the Clinton facility in the port of Gladstone where Curragh has two stockpile areas each of 300 000 tonnes capacity.

Curragh developed housing and associated infrastructure in Blackwater for the mine workforce of 500.

A contract has been signed for the supply of one million tonnes of coking coal per annum to the Japanese steel mills. The balance of the production is being sold to markets in Asia, Europe and South America.

EBENEZER

Operator

IDEMITSU SOUTH QUEENSLAND COAL PTY LTD

M.S.F. 861 Coopers Road
WILLOWBANK QLD 4306
Phone: (074) 67 3355
Fax: (074) 67 3463

Company Information

Idemitsu South Queensland Coal Pty Ltd is a wholly owned subsidiary of the Idemitsu Kosan Company Limited of Japan.

Location

Ebenezer mine is located in south-east Queensland approximately 50 km and 20 km by road south-west from Brisbane and Ipswich respectively.

Coal Quality

Ebenezer coal is a typical per hydrous Walloon coal and is classified as a marginal high volatile A to high volatile B bituminous coal on the ASTM System.

A typical washed product coal for export sale is a moderate ash, low sulphur, moderate calorific value coal which would be within the specification range in the table following.

Table - TYPICAL ANALYSIS OF EBENEZER

	Clean Coal
Total Moisture (a.s.%)	10.0
Moisture (ad%)	4.0
Volatile Matter (ad%)	37.9-42.2
Fixed Carbon (ad%)	39.0-45.7
Ash (ad%)	13.4-15.3
Total Sulphur (ad%)	0.41-0.60
Specific Energy MJ/kg	28.05

Operations

Ebenezer mine is a multi-seam opencut mine. Coal and overburden are currently mined on a contract basis from up to 53 discrete coal seams.

A total of six overburden and coal removal units consisting of one Hitachi EX1800 Excavator, one Komatsu PC1000 Excavator, one CAT 245ME excavators, five CAT 992C and four CAT 998B

front-end loaders are used for overburden and coal removal. A fleet of 30 trucks consisting of eight Terex and five Aveling Barford rear dump trucks of 50 tonne capacity and 17 CAT 777 rear dump trucks of 85 tonne capacity are used to haul overburden and coal.

A fleet of six graders and eight tractor/dozers consisting of two CAT D9, four CAT D10, one CAT D11 and one CAT D8 are used extensively for ripping of thin non coal midburdens and partings, ripping of coal and top of coal, and clean up. The Ebenezer coal preparation plant consists of a Baum jig to effect high gravity separation, and dense medium cyclones to effect low gravity separation of the coarse coal fractions and spirals for the fine coal fractions.

The workforce for the opencut, coal preparation plant and administration office consist of approximately 270 employees.

General

Coal is shipped from the Port of Brisbane's Fisherman Islands Terminal and also trucked to QEC Swanbank Power Station.

ENSHAM - YONGALA

Operator

ENSHAM RESOURCES PTY LIMITED

GPO Box 814

BRISBANE QLD 4001

Phone: (07) 221 1201

Fax: (07) 221 1225

Company Information

Ensham Resources Pty Limited is a joint venture between Idemitsu Queensland Pty Ltd 47.5%, Bligh Coal Limited (a wholly owned subsidiary of Idemitsu) 47.5% and Lucky Goldstar International Australia Pty Ltd 5%.

Mining Titles

ML 70049, EPC 505

Location

The Ensham coal deposit is located approximately 40 km northeast of the central Queensland town of Emerald.

Coal Quality

Coal to be produced initially from the Ensham deposit will be crushed run-of-mine thermal coal. Indicative quality of the product coal is given in the following table.

Table - TYPICAL ANALYSIS OF ENSHAM

	Product Coal
Moisture (ad%)	4.0
Volatile Matter (ad%)	28.5
Fixed Carbon (ad%)	56.5
Ash (ad%)	11.0
Total Sulphur (ad%)	0.6
Specific Energy MJ/Kg (ad)	29.3

Coal production will commence at the northern end of the deposit where the Yongala Opencut will be developed on the Aries 21 and Polluse seams.

Construction is well advanced with the first shipment of coal planned for October 1993.

GERMAN CREEK

Operator

CAPRICORN COAL MANAGEMENT PTY LTD

Private Mail Bag
MIDDLEMOUNT QLD 4746
Phone: (079) 857 200
Fax: (079) 857 926

Company Information

German Creek is owned by the Capricorn Coal Development Joint Venture whose holders are The Shell Company of Australia Ltd 46.75%, Minproc Energy 26.06%, Coal Developments (German Creek) Pty Ltd 14.81% and Ruhrkohle Australia Pty Ltd 12.38%.

German Creek Coal Pty Ltd is responsible for marketing all coal produced by the Joint Venture.

Capricorn Coal Management Pty Limited, a wholly owned subsidiary of Shell Australia Limited, operates the mine on behalf of the Joint Venturers.

Location

The mines are located in Central Queensland 275 km by road from Mackay and 300 km from Rockhampton.

Mine Names

German Creek - opencut
German Creek Central - underground
German Creek East - opencut
German Creek South - underground.

Coal Quality

Coking coal produced from German Creek is of the quality given in the following table.

Table - TYPICAL ANALYSIS OF GERMAN CREEK

	Clean Coal
Total Moisture (as%)	9.0
Volatile Matter (ad%)	20.0-22.0
Ash (ad%)	8.5
Total Sulphur (ad%)	0.8
C.S.N.	8-9

Operations

Total clean coal production from the four operations, which comprise the German Creek mines, is now in excess of four million tonnes per year.

The two underground mines, Central Colliery and Southern Colliery, have been designed as modern longwall operations and are installed with high capacity equipment. Development at Central Colliery uses continuous miners and shuttle cars, while Southern Colliery, also uses a flexible conveyor train.

The opencut operations utilise conventional dragline stripping methods to uncover several seams in the German Creek and German Creek East areas.

All raw coal is transported to the coal handling and preparation plant by truck. The plant utilises dense medium cyclones, spirals and froth flotation equipment to produce the high quality export metallurgical coal.

General

Exports of German Creek coal are shipped through Dalrymple Bay Coal Terminal near Mackay.

The company has established the town of Middlemount, 25 km from the mine, to accommodate over 700 employees and their families. The town has been designed to accommodate a population of around 3 400.

GORDONSTONE**Operator****GORDONSTONE COAL MANAGEMENT PTY LTD**

GPO Box 634
BRISBANE QLD 4001
Phone: (07) 867 8192
Fax: (07) 867 8284

Company Information

Gordonstone Joint Venture comprises - ARCO Coal Australia Inc. 50%, ARCO Resources Ltd 30%, Mitsui Gordonstone Investment Pty Ltd 15% and Lend Lease Resources Pty Ltd 5%.

Gordonstone Coal Management Pty Ltd, (Gordonstone) is a subsidiary of ARCO Coal

Australia Inc. and manages the project on behalf of the Joint Venturers.

Mining Titles

E.P.C.389, M.L.1978.

The Mining Lease covers an area of 5 840 hectares.

Location

Gordonstone is situated within the Bowen Basin of central Queensland and is 365 km by rail to the major coal port at Gladstone. The mine site is approximately 45 km by sealed road from the towns of Emerald and Capella.

Coal Quality

Gordonstone coal is a high volatile, low ash, strongly caking coal ideally suited for metallurgical coke blends.

Typical analyses of coals to target contract specifications are given in the following table.

Table - TYPICAL ANALYSES OF GORDONSTONE

	Coking Coal	Steaming Coal
Total Moisture (a.s.%)	9.0	8.0
Ash (ad%)	6.5-6.8	13.0
Volatile Matter (ad%)	33.0-35.0	31.0
Total Sulphur (ad%)	0.7 max	0.8 max
CSN	7-9	-
Specific Energy (MJ/kg)	-	29.5

Mine and Surface

The mine design criteria which has been adopted recognises the market requirement for a competitively priced, high quality coal product while maintaining an economically viable project. The German Creek seam is extensively worked in the Bowen Basin area of Queensland and its washability characteristics are well known and understood. Beneficiation is carried out by dense medium baths and cyclones and by froth flotation.

Railway and Port

Product coal will be transported from the mine using electric unit trains of 5 400 tonne capacity to the Clinton Coal Facility at Gladstone.

Employment

The mine has a current workforce of approximately 450 employees.

Remarks

Construction of the mine commenced in August 1990 and export shipments commenced in December 1992. Longwall operations began in April 1993.

GREGORY

Operator

BHP AUSTRALIA COAL LIMITED

See Blackwater etc.

Company Information

Gregory is owned by the Gregory Joint Venture comprising - BHP Minerals 55.05%, QCT Resources Limited 27.78%, Australian Mutual Provident Society 8.61%, Pancontinental Mining Limited 5.56%, Mitsubishi Development Pty Ltd 3%.

The Gregory mine is managed by BHP Australia Coal Limited.

Location

The Gregory opencut mine is located 60 km north-east of Emerald and 275 km north-west of the Clinton Coal Terminal at Gladstone.

Coal Quality

Typical washed coal analysis for Gregory mine is given in the following table.

Table - TYPICAL ANALYSIS OF GREGORY

	Clean Coal
Total Moisture (a.s.%)	8.0
Moisture (ad%)	2.0
Volatile Matter (ad%)	32.5
Ash (ad%)	8.2
Sulphur (ad%)	0.65
C.S.N.	9

Operation

Gregory mine has a production capacity of 3.5 million tonnes of coking and thermal coal a year. A single seam, known as the Lilyvale seam, which forms part of the German Creek Formation is currently being mined.

Employees at the mine as at June 30, 1993 totalled 429.

Crinum Underground

Development of the Crinum underground mine 50km north-east of Emerald is progressing on schedule. Construction of mine portals has been completed, and contracts have been let for the construction of two access drifts and a ventilation shaft.

The drifts, one 910 metres long and the other 750 metres long, are due to be completed early in 1994. Underground mining from the Lilyvale coal seam within the Gregory Joint Venture leases is scheduled to commence later in 1994. At full production in several years time, Crinum Mine will have the capacity to contribute up to 2.5 million tonnes of product coal a year to Gregory's output.

Capital Expenditure

Capital Expenditure for the year 1992-93 totalled \$32.7 million (Gregory 4.8m and Crinum 27.9m).

JEEBROPILLY AND NEW HOPE

Operator

NEW HOPE CORPORATION LIMITED

PO Box 47
IPSWICH QLD 4305
Phone: (07) 202 1100
Fax: (07) 202 4315

Company Information

The shareholders of New Hope Corporation Limited are: Washington Soul Pattinson & Co. Ltd 50.2%, Domer Mining Company Pty Ltd 15.3%, Farjoy Pty Ltd 15.3%, Mitsubishi Materials Corporation Ltd 12.8% and Taiheiyo Kouhatsu Inc. 6.4%.

Location

New Hope Corporation Limited operates two underground and two opencut mines in the West Moreton District of south-east Queensland in close proximity to the City of Ipswich.

Coal Quality

The typical coal quality is indicated in the table below.

Table - TYPICAL ANALYSES OF JEEBROPILLY AND NEW HOPE

	Bremer Coal	Tivoli Coal
Total Moisture (a.s.%)	3.7	5.0
Volatile Matter (ad%)	35.0	40.0
Fixed Carbon (ad%)	45.3	41.0
Ash (ad%)	16.0	14.0
Total Sulphur (ad%)	0.5	0.65
Specific Energy (MJ/kg)	27.63	28.05

Operations

The mining operations employ approximately 200 people, and produce 1.4 million tonnes per annum of washed thermal coal for domestic and export markets.

The mine capacities are - Jeebropilly opencut 1.1 million tonnes per annum and New Hope underground 0.3 million tonnes per annum.

General

New Hope Corporation Limited holds a 50% equity in Queensland Bulk Handling Pty Ltd which operates the coal export terminal at Fisherman Islands in the port of Brisbane.

JELLINBAH EAST

Operator

ADVANCE QUEENSLAND RESOURCES & MINING PTY LTD

PO Box 7069
Riverside Centre
BRISBANE QLD 4001
Phone: (07) 221 7799
Fax: (07) 221 7119

Company Information

Jellinbah East is wholly owned by Queensland Coal Mine Management Pty Limited.

Advance Queensland Resources & Mining Pty Ltd is appointed to represent the owner.

Mining Titles

E.P.C.449, M.Ls 2418 & 6992.

Location

Jellinbah East deposit is located about 20 km north-west of Bluff in central Queensland and about 280 km by rail from the port of Gladstone.

Coal Quality

The raw coal is classified as a low volatile bituminous coal of moderate ash content suitable for general industry, blending for power utilities and potential pulverised coal injection use. A moderate ash semi-soft coking coal can also be produced. Typical coal quality is given in the following table.

Table - TYPICAL ANALYSES OF JELLINBAH EAST

	Semi-Soft Coking	Thermal
Total Moisture (a.s. %)	8.0	8.0
Moisture (ad%)	1.5	1.5
Ash (ad%)	8.5	10.0
Volatile Matter (ad%)	15.5	14.5
Fixed Carbon (ad%)	74.5	74.0
Total Sulphur (ad%)	0.5	0.6
Specific Energy MJ/kg	31.8	31.4
C.S.N	3	-

LALEHAM AND SOUTH BLACKWATER

Operator

SOUTH BLACKWATER COAL LIMITED

10th Floor
307 Queen St, BRISBANE QLD 4000
Phone: (07) 229 4544
Fax: (07) 221 3197

Company Information

The South Blackwater mines are owned and operated by South Blackwater Coal Limited, which is a wholly owned subsidiary of QCT Resources Limited, a publically listed company.

Location

The mines are located 225 km west of Rockhampton and 334 km by rail from the loading port of Gladstone.

Coal Quality

The typical analysis of South Blackwater coal is contained in the table below.

Table - TYPICAL ANALYSES OF SOUTH BLACKWATER

	Coking	Thermal / PCI
Moisture (ad%)	1.5 - 2.0	1.5-2.0
Volatile Matter (ad%)	28.4 - 29.5	25.0-26.5
Fixed Carbon (ad%)	62.2 - 63.7	59.5-61.5
Ash (ad%)	6.0 - 6.5	9.5-13.5
Total Sulphur (ad%)	0.45	0.65
C.S.N.	7.5	1.0-2.5
Specific Energy MJ/kg	32.8	29.80-30.56

Operation

The operations have a production capacity currently in excess of two million tonnes per year of product coal. Approximately 60% of production is very low ash hard coking coal and 40% high energy thermal and PCI coals.

Opencut overburden is removed in a conventional strip mining operation by two Bucyrus Erie 1370W draglines, with some pre-stripping by an O & K 120C shovel and Caterpillar 785 rear dump trucks.

Approximately one third of production is from the Laleham No. 1 underground mine where coal is mined by the bord and pillar method using continuous miners and shuttle cars, and utilizing Breaker Line supports.

Following a reduction in output early in 1988, production was gradually returned to the two million tonnes production level in 1989. Studies on the expansion of operations by development of longwall operations and development of new opencut areas are underway.

At June, 1993 employment at South Blackwater was 410.

General

Coking coal is supplied principally to Japan, Turkey, Europe, China, Egypt and Taiwan. Thermal coal is exported principally for power generation in Asia, Netherlands, Fiji, and to the Japanese industrial

market. PCI coal is supplied to the Japanese, Italian and Brazilian steel mills.

MEANDU

Operator

TARONG COAL

GPO BOX 391
BRISBANE QLD 4001
Phone: (07) 223 7200
Fax: (07) 229 5087

Company Information

Meandu is managed by Pacific Coal Pty Limited (a wholly owned subsidiary of CRA Limited) trading as Tarong Coal.

Mine Name

Meandu Opencut.

Location

Meandu is situated south of Kingaroy and about 180 km north-west of Brisbane.

Coal Quality

The specification of Meandu coal after washing is given in the following table.

Table - TYPICAL ANALYSIS OF MEANDU

	Clean Coal
Total Moisture (ad%)	14.0
Ash (ad%)	28.0
Specific Energy MJ/kg	19.38

Remarks

The Meandu mine was developed to supply coal to Tarong Power Station.

A contract with the Queensland Electricity Commission provides for the supply of 66 million tonnes from July 1, 1984.

Deliveries to the power station during 1992-93 were approximately 5.49 million tonnes of coal. A coal preparation plant was commissioned in 1986 to ensure that coal quality meets the contract specifications of the Queensland Electricity Commission.

Coal is transported to the power station by an overland conveyor which is two kilometres in length.

Employee housing has been established in the nearby towns of Yarraman, Nanango and Kingaroy.

Capital Expenditure

Capital expenditure during 1992-93 was \$8.7 million.

MOURA

Operator

BHP AUSTRALIA COAL LIMITED

See Blackwater etc.

Company Information

Moura Mine is owned by BHP Mitsui Coal Pty Ltd which is a consortium comprising - Dampier Coal (Qld) Pty Ltd 80% (a wholly owned subsidiary of BHP) and Mitsui & Co. Ltd 20%.

Moura mine is managed by BHP Australia Coal Limited.

Mine Names

Moura No. 2 - underground .
Moura - opencut.

Location

Moura Mine is located on the south-east flank of the Bowen Basin of Central Queensland, 184 km west of the port of Gladstone.

Coal Quality

The Moura operations produce medium volatile and high volatile coals from several locations. These coals are blended in specific proportions to produce a coking coal for the steel industry. Medium volatile hard coking coal is produced from the underground mine and opencut pits in the north of the mining area.

Opencut coals of lesser coking properties are washed to produce a thermal coal of high energy value. A low ash content variant of this blend is also marketed as non-coking coal for use for briquetting or blast furnace pulverised coal injection purposes.

The specification of Moura coal is given in the following table.

Table - TYPICAL ANALYSES OF MOURA

	Coking	Non-coking	Energy
Total Moisture (a.s.%)	9.5	10.0	10.0
Moisture (ad%)	2.0	2.0	2.5
Volatile Matter (ad%)	27.5	31.5	29.0-32.0
Ash (ad%)	7.8	8.3	10.0
Total Sulphur (ad%)	0.45	0.40	0.4
C.S.N.	8	6.0	-
Specific Energy MJ/kg	-	-	30.1

The minus 125 mm raw coal is delivered to the washplant feed stockpile via a 16 km, 2 000 tph overland conveyor system. Four dump stations/stockpiling installations are located along

this conveyor to receive and crush run of mine coal to a topsize of 125 mm. Processing is via a heavy medium bath, heavy medium and water-only cyclones, and froth flotation. Nominal output is 2.8 to 3 million tonnes per annum.

Operation

The opencut coal mine operation utilises four draglines with another under construction for completion by the end of 1993. The run of mine coal is transported by conveyor from the surface of the mine to the coal preparation plant.

Moura Underground No. 2 is situated in the northern part of the mining lease. Entry is from the high wall of previously strip-mined areas. Continuous miners are used to mine the coal which is transported by conveyor belts to the preparation plant.

Employees at the mine as at June 30, 1993 totalled 654.

General

Coal is railed 184 km to the port of Gladstone and is shipped through both the Barney Point and Clinton coal loading facilities. Barney Point is owned by BHP Mitsui Coal Pty Ltd

The majority of Moura coal is exported to Japan.

Capital Expenditure

Capital expenditure by BHP Mitsui Coal Pty Ltd for the year 1992-93 for the Riverside and Moura mines, port facilities and town development totalled \$16.6 million. In addition, the capital expenditure for the dragline at Moura totalled \$35.1 million, an overall total of \$51.7 million.

NEWLANDS

Operator

NEWLANDS COAL PTY LTD

GPO Box 1443
BRISBANE QLD 4001
Phone: (07) 833 8000
Fax: (07) 832 2430

Company Information

Newlands Coal Pty Ltd is agent for the joint venture manager Mount Isa Mines Limited. Newlands mine is owned by Mount Isa Mines Limited 75% and Agipcoal Australia Pty Ltd 25%, under the NCA Joint Venture.

Mining Titles

M.Ls 4748, 4754 and 4755.

Location

198 km by road west of Mackay. 32 km by road north-west of the service town of Glenden.

Coal Quality

Typical analysis for washed coal product is given in the following table.

Table - TYPICAL ANALYSIS OF NEWLANDS

	Clean Coal
Total Moisture (a.s.%)	8.3
Ash (ad%)	14.5
Volatile Matter (ad%)	26.3
Total Sulphur (ad%)	0.5
Specific Energy MJ/kg	28.48
Ash Fusion Temperature C	+1600
Hardgrove Grindability Index	54

Operation

The mine produces thermal coal at an annual rate of 4.5 million tonnes exclusively for the export market.

The coal is railed to the port of Abbot Point, north of Bowen. The port and rail facilities were constructed by M.I.M. and are dedicated to the Newlands and Collinsville mines.

During 1992-93, 4.7 million tonnes of thermal coal were exported. The product is sold to markets in Japan, South-East Asia and Europe.

Potential exists for the development of underground mines by the mid 1990's.

Employees at the mine as at June 30, 1992 totalled 451.

General

The township of Glenden is located approximately 32 km south of the mine site and accommodates mine personnel and their families.

Capital Expenditure

Capital expenditure for the year 1992-93 amounted to \$0.8m all on mining development and equipment.

NORTH GOONYELLA

Operator

NORTH GOONYELLA COAL MINES LTD

Po Box 10217
BRISBANE QLD 4000
Phone: (07) 229 0200
Fax: (07) 221 2817

Company Information

North Goonyella Joint Venture comprises - White Mining (Qld) Pty Ltd (51%) and Sumisho Coal Development Pty Ltd (49%). Sumisho is a fully owned subsidiary of Sumitomo Corporation of Japan. White Mining Ltd is the manager of the Joint Venture.

Mining Title

M. L. 6949. The mining lease was granted in October 1991 over an area of 3 555 hectares.

Location

North Goonyella is situated within the Bowen Basin of Central Queensland and is a distance of approximately 180 km by road west of Mackay and approximately 210 km by rail to the Dalrymple Bay Coal Terminal.

Coal Quality

Typical analysis for the Goonyella Middle seam or No. 4 Seam is given in the table below.

Table - TYPICAL ANALYSIS OF NO. 4 (MIDDLE SEAM)

	Coking
Sizing (mm)	50 x 0
Total Moisture (as%)	9.0
Moisture (ad%)	1.5
Ash (ad%)	8.5
Volatile Matter (ad%)	23 - 24.5
Fixed Carbon (ad%)	66.5
Total Sulphur (as%)	0.65
Phosphorous	0.04
C.S.N.	8 to 9
Specific Energy MJ/kg	33

The coking coal produced by North Goonyella is a low ash medium volatile low sulphur coal with strong caking properties producing a very high strength coke.

Operations

A 19 km rail spur, a modern coal preparation plant and related facilities are complete. The preparation plant consists of dense media cyclones, spirals and froth flotation circuits, with fully automated on-line quality analysis. Export of 3 mtpa of coal will be through the Dalrymple Bay Coal Terminal south of Mackay where the port is being expanded to accommodate 2 x 200 000 dwt vessels at the berth.

General

Exploration commenced in June 1989. The mining lease was granted in October 1991. The project development commenced in April 1992 with longwall extraction to commence in late 1993.

The Joint Venturers are committed to produce a quality assured product from a long term cost competitive operation.

OAKLEIGH

Operator

OAKLEIGH COLLIERY PTY LTD

PO Box 25

ROSEWOOD QLD 4340

Phone: (074) 64 1600

Fax: (074) 64 2201

Company Information

Oakleigh Colliery Pty Ltd is a private company formed in 1948. The three working company directors own 100% of the issued capital of Oakleigh Colliery.

The company operates both an underground and opencut mine and it supplies coal to the domestic and the export markets.

Location

Oakleigh is situated at Perry's Knob siding 4.5 km north of the town of Rosewood and 60 km west of Brisbane.

Coal Quality

The Rosewood-Walloon coal is used for steam generation. It is described as very high volatile bituminous, per-hydrous and weakly coking. Typical washed coal analysis for the export market is given in the table below.

Table - TYPICAL ANALYSIS OF OAKLEIGH

	Clean Coal
Total Moisture (a.s.%)	10.0
Moisture (ad%)	5.0
Volatile Matter (ad%)	38.0
Fixed Carbon (ad%)	39.0
Ash (ad%)	14.0-18.0
Total Sulphur (ad%)	0.5
CSN	1.0
Specific Energy MJ/Kg	27.2

Operations

The underground mine is worked by the bord and pillar method using continuous miners and shuttle cars. The opencut is worked by dump trucks and wheel loaders for both overburden and coal removal. Selective mining is practiced enabling very thin plies of coal to be won. Interburden and overburden are used as backfill within the cut.

The capacity of the preparation plant is presently 300 000 tonnes of saleable coal per annum.

Employees at both mines totalled 64 at June 30, 1993.

General

Export coal from Oakleigh is transported by road to Parkhead coal loading facility, then railed to the shipping facilities at Fisherman Islands terminal, port of Brisbane.

For the year ended June 30 1993, 23% of total production was exported to Japan with balance directed to the domestic market. The domestic market consists of a number of consumers involved in various types of industry.

At present rate of production Oakleigh colliery has sufficient reserves of coal to enable it to supply its consumers well into the next century.

OAKY CREEK

Operator

OAKY CREEK COAL PTY LTD

GPO Box 1433
BRISBANE QLD 4001
Phone: (07) 833 8000
Fax: (07) 832 2430

Company Information

Oaky Creek Coal Pty Ltd, a wholly owned subsidiary of MIM Holdings Limited, operates the Oaky Creek mine on behalf of Mount Isa Mines Limited.

Mining Titles

E.P.C.476, M.Ls1832 and 2004.

Location

Oaky Creek is located 50 km north-east of Capella, which is 366 km by road north-west of Rockhampton.

Coal Quality

The coal is medium volatile coking coal with typical analysis as given in the following table.

Table - TYPICAL ANALYSIS OF OAKY CREEK

	Clean Coal
Total Moisture (a.s.%)	8.0 - 9.5%
Volatile Matter (ad%)	28 - 30%
Ash (ad%)	8.3 - 8.8%
Total Sulphur (ad%)	0.70 - 0.85%
C.S.N.	8 - 8.5
Specific Energy MJ/kg	32.82
Fluidity ddpn	5000-7000

Operation

The mine produces hard coking coal exclusively for the export market. During 1992-93 approximately half the production was by opencut mining and the other half from an underground longwall operation which was commissioned in November, 1990.

In addition, a feasibility study is being made into the possibility of opening a second underground longwall in the northern part of the lease.

The coal is railed to Dalrymple Bay Coal loading facility south of Mackay. M.I.M. is a shareholder in

the facility. Alternatively coal may be railed to Gladstone.

General

The township of Tieri is located 13 km west of the mine site and accommodates personnel and their families.

Capital Expenditure

Capital Expenditure during 1992-93 was \$7.2 million.

RHONDDA

Operator

OCEANIC COAL AUSTRALIA LIMITED

PO Box 505
BOOVAL QLD 4304
Phone: (07) 282 1311
Fax: (07) 282 6695

Company Information

Oceanic Coal Australia Limited is a wholly owned subsidiary of the FAI Insurance Group.

Showa Coal Australia Ltd has a 20% Joint Venture interest in Rhondda's Wattle Glen Opencut and is a 50% Joint Venture partner in the Box Flat/Westfalen collieries.

Location

Rhondda is situated at Blackstone a suburb of Ipswich. Ipswich is approximately 50 km from Brisbane and 55 km from the Port of Brisbane.

Coal Quality

A typical specification of export thermal coal is given in the table below.

Table - TYPICAL ANALYSES OF RHONDDA

	As Received	Air Dried
Total Moisture (%)	9.0	-
Moisture (%)	-	2.5
Volatile Matter (%)	28.9	31.0
Fixed Carbon (%)	47.1	50.5
Ash (%)	14.9	16.0
Total Sulphur (max) (%)	0.4	0.4
Hardgrove Index (%)	-	52.0
Specific Energy MJ/kg	26.17	28.05

Operations

Rhondda has an opencut operation called the Wattle Glen North.

Rhondda produces approximately 500 000 tonnes per year of saleable coal. Approximately 100 000 tonnes are sold to the domestic market and 500 000

tonnes are exported as 16% ash thermal coal to Japan.

Remarks

All coal is washed through a modern 300 tph Dense Medium Cyclone preparation plant.

Mining is undertaken by truck and shovel operation in the opencut.

Rhondda is an operation that has been established since 1900 and has a range of high quality products for customers both in Australia and overseas.

RIVERSIDE

Operator

BHP AUSTRALIA COAL LIMITED

See Blackwater etc.

Company Information

Riverside is owned by BHP Mitsui Coal Pty Ltd which is a consortium comprising - Dampier Coal (Qld) Pty Ltd 80% (a wholly owned subsidiary of BHP) and Mitsui & Co. Ltd 20%.

Riverside mine is managed by BHP Australia Coal Limited.

Mine Name

Riverside Opencut.

Location

The Riverside area is immediately west of and adjacent to the Goonyella mine, 210 km south-west of the Dalrymple Bay port facility.

Coal Quality

Riverside product coal is medium volatile prime coking coal with good plastic properties and blendability characteristics. The specification of Riverside coking coal is given in the table below.

Table - TYPICAL ANALYSIS OF RIVERSIDE

	Clean Coal
Total Moisture (a.s%)	9.5
Moisture (ad%)	1.3
Volatile Matter (ad%)	23.5
Ash (ad%)	9.8
Total Sulphur (ad%)	0.58
C.S.N.	7.5
Specific Energy MJ/kg	32.21

The 1350 raw tph preparation plant washes 50 x 0.5 mm coal via 0.71 metre diameter heavy medium cyclones and minus 0.5 mm material via froth flotation. To optimise recovery of minus 0.5 mm material alternative processing via water only cyclones is available. For ease of maintenance the plant is divided into six modules of equal capacity.

Operation

Conventional opencut strip mining utilising a truck and shovel stripping fleet, plus three draglines each with 49 cubic metre buckets is used to uncover the coal. After drilling and blasting, the exposed coal is loaded by electric shovel or front-end loader into 146 tonne bottom dump trucks for haulage to the dump station. There the coal is crushed to 45 mm by rotary breaker and stacked in one of two 50 000 tonne raw coal stockpiles prior to being fed to the preparation plant.

General

The train loading facility at Riverside has a capacity of 2 500 tonnes per hour and the coal is railed to the port at Dalrymple Bay in unit trains each carrying 6 600 tonnes.

The majority of Riverside coal is sold under long term contract to Japan.

YARRABEE

Operator

YARRABEE COAL COMPANY PTY LTD

PO Box 173

BLACKWATER QLD 4717

Phone: (079) 82 5400

Fax: (079) 82 5793

Company Information

Yarrabee Coal Company Pty Ltd, is a wholly owned subsidiary of Resource Management and Mining Pty Ltd.

Location

The mine is located approximately 40 km north of Blackwater and 280 km from Gladstone.

Coal Quality

Yarrabee coal ranges from semi-anthracite to anthracite. A high energy and carbon content makes it suitable for a wide range of processes including steam raising, briquetting and for use in the carbide cement and ferro-alloy industries and metallurgical and electrode manufacturing and calcination. It is also suitable for blending with high volatile coking coal for use in steel making. The coal is low volatile, sub-hydrous and non-coking.

Several coal qualities can be produced and typical analyses are given in the following table.

Table - TYPICAL ANALYSES OF YARRABEE

	Low Ash	Medium Ash
Moisture (ad%)	1.5	1.5
Volatile Matter (ad%)	9.5	10.0
Fixed Carbon (ad%)	78.0	69.0
Ash (ad%)	10.5	18.0
Total Sulphur (ad%)	0.7	0.7
Specific Energy MJ/kg	31.19	28.47

Operation

The mine is an opencut operation with the capacity to produce 350 000 tonnes per year. The coal is crushed and screened to specification and is sold as unwashed product.

General

Yarrabee coal is produced and exported for cement manufacture, briquetting purposes, domestic heating and a wide range of industrial uses in the Pacific Basin, South East Asia and Europe. The coal is also sold within Australia for a range of industrial uses and home heating. Export coal is shipped generally through the port of Gladstone.



• *Queensland Mines operate around the clock, all year.*

Queensland Coal Statistics

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EXPLANATORY NOTES

Mine

Mine means any registered operation engaged in the production of raw coal. Tailings recovery workings are regarded as separate mines.

Colliery

Colliery means a group of mines which have a common ownership structure and usually share the same beneficiation plant and/or product coal stockpile. A colliery is also a single mine where only one mine constitutes the group.

Raw and Processed Coal

Raw coal as listed in Table 4, is the gross quantity of coal extracted from the mine, while processed coal is the quantity of raw coal from which the saleable coal is derived. This may not be equal to the raw coal mined as most mines keep buffer stocks of raw (ROM) coal.

Number of Mines

Coal was produced from 42 mines during 1992-93. There were 27 opencut, 13 underground and two tailings recovery operations. Production statistics are reported for only 40 mines. Goonyella and Riverside, and German Creek and German Creek East, due to integration of their respective equipment and workforces, do not produce individual mine statistics.

Tailings Recovery

In tables that do not show statistics for individual mines, tailings recovery is included in the opencut figures.

Standard Shifts

Seven hour statistical shifts are calculated to be consistent with national standards. Queensland employees however, work varying shift lengths up to seven days per week.

Export Statistics

The Queensland Coal Board regards the vessel sailing day to be the date of the coal export. Statistics of companies who use different criteria to determine the export date may vary marginally from the information reported in this review.

Change of Mine Ownership

Two mines, Cook and MW Haenke No. 2 changed ownership during the year.

However, statistics for each mine reflect the full years operation (Refer Industry Overview Section for details of change of ownership).

Table 1 - QUEENSLAND COAL INDUSTRY 10 YEAR SUMMARY

	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93
No. of Mines	54	52	49	41	46	39	38	43	43	42
No. of Employees as at 30 June	9 674	10 393	10 676	10 342	9 479	10 028	10 498	10 646	10 950	10 469
SALEABLE PRODUCTION - '000 TONNES										
OPENCUT										
Northern	15 008	20 031	22 426	22 991	21 723	24 611	23 743	25 802	28 201	27 704
Central	17 979	23 221	27 559	29 100	28 646	31 297	30 971	30 325	32 178	32 825
Southern	7 432	7 304	9 963	12 536	12 081	14 199	14 458	15 560	16 054	16 288
TOTAL	40 419	50 556	59 948	64 627	62 450	70 107	69 172	71 687	76 433	76 817
UNDERGROUND										
Northern	642	648	738	611	547	591	639	649	501	578
Central	852	1 208	1 362	2 193	1 824	2 620	4 075	5 105	6 375	6 998
Southern	2 123	1 876	1 949	1 389	998	800	1 045	922	776	908
TOTAL	3 617	3 732	4 049	4 193	3 369	4 011	5 759	6 676	7 652	8 484
STATE TOTAL	44 036	54 288	63 997	68 820	65 819	74 118	74 931	78 363	84 085	85 301
% Change Year to Year	22.96	23.28	17.88	7.54	(4.36)	12.61	1.10	4.58	7.30	1.45
SALEABLE OUTPUT - TONNES										
Per Employee Year Total	4 552	5 224	5 994	6 654	6 944	7 391	7 138	7 371	7 745	7 981
Per Employee Shift										
Opencut Overall	21.27	24.76	28.52	28.44	29.94	32.47	31.00	30.14	31.97	33.69
Underground Face	24.45	25.18	28.32	30.25	29.42	34.61	42.24	42.23	43.12	37.24
Underground Overall	7.05	7.59	7.95	8.67	9.69	11.09	13.90	14.02	15.02	15.52
STATE AVERAGE	18.25	21.43	23.81	24.98	27.05	29.40	28.33	27.42	28.99	30.18
% Change Year to Year	15.65	17.42	11.11	4.91	8.29	8.69	(3.64)	(3.21)	5.73	4.10
DISTRIBUTION - '000 TONNES										
Interstate	15	18	91	421	777	1 068	524	320	363	484
State *										
Northern	1 070	1 146	975	878	924	968	1 001	985	1 027	1 032
Central	6 315	6 211	6 040	5 493	5 134	4 502	4 197	4 391	5 046	5 106
Southern	2 446	3 090	3 956	5 580	6 122	7 536	8 377	8 498	8 816	8 787
State Total	9 831	10 447	10 971	11 951	12 180	13 006	13 575	13 874	14 889	14 925
Overseas										
Japan	19 872	24 595	23 661	22 740	25 763	28 730	30 154	30 086	31 028	32 076
Europe	7 967	12 586	14 716	16 938	15 254	12 222	13 685	12 676	16 044	14 601
Asia	3 692	5 816	9 343	9 383	11 764	13 860	13 774	14 237	16 287	17 616
Others	1 564	2 504	3 078	4 464	5 641	4 215	3 656	4 919	6 297	6 751
Overseas Total	33 095	45 501	50 798	53 525	58 422	59 027	61 269	61 918	69 656	71 044
DISTRIBUTION TOTAL	42 941	55 966	61 860	65 897	71 379	73 101	75 368	76 112	84 908	86 453
% Change Year to Year	22.30	30.33	10.53	6.53	8.32	2.41	3.10	0.99	11.56	1.82

* Figures prior to 1992-93 are based on consumption (burn) rather than distribution. Also, district divisions are based on consumer locations rather than mine locations.

Table 2 - PRODUCTION, DELIVERIES AND STOCKS BY DISTRICT - TONNES

	Stock at July 1, 1992	Saleable Production	Deliveries	Adjustments	Stock at June 30, 1993	Days *
DISTRICT						
OPENCUT						
Northern	2 836 420	27 703 711	28 930 742	289 663	1 899 052	22
Central	2 313 441	32 825 465	33 095 976	162 330	2 205 260	25
Southern	995 570	16 288 017	16 212 890	-78 172	992 525	23
TOTAL	6 145 431	76 817 193	78 239 608	373 821	5 096 837	23
UNDERGROUND						
Northern	8 471	577 627	614 995	32 225	3 328	2
Central	466 459	6 997 739	6 749 231	-189 112	525 855	33
Southern	61 758	908 507	849 147	-1 867	119 251	55
TOTAL	536 688	8 483 873	8 213 373	-158 754	648 434	34
STATE TOTAL	6 682 119	85 301 066	86 452 981	215 067	5 745 271	24

* Based on sales for June quarter, 1993.

Table 3 - OVERBURDEN REMOVED - BANK CUBIC METRES

	1990-91	1991-92	1992-93
DISTRICTS			
OPENCUT			
Northern	230 598 533	259 032 779	273 483 855
Central	245 249 072	262 012 145	294 440 625
Southern	61 543 183	71 872 738	77 606 213
STATE TOTAL	537 390 788	592 917 662	645 530 693

Table 4 - PRODUCTION BY INDIVIDUAL MINES - TONNES

DISTRICTS & MINES	RAW		PROCESSED*		DISCARD		SALEABLE		DISCARD **	
	1991-92	1992-93	1991-92	1992-93	1991-92	1992-93	1991-92	1992-93	91-92	92-93
NORTHERN										
OPENCUT										
Bowen Central No. 3	1 918 228	2 319 126	2 202 050	2 239 629	546 288	601 372	1 655 762	1 638 257	24.81	26.85
Goonyella /Riverside	15 073 851	15 717 268	15 131 605	15 072 258	4 384 080	4 646 456	10 747 525	10 425 802	28.97	30.83
Newlands	5 191 369	5 453 714	5 133 376	5 048 965	525 158	477 956	4 608 218	4 571 009	10.23	9.47
Peak Downs	10 658 134	10 026 597	10 384 584	9 756 240	4 289 484	3 748 124	6 095 100	6 008 116	41.31	38.42
Saraji	7 124 679	7 401 925	7 131 301	7 007 077	2 036 920	1 946 550	5 094 381	5 060 527	28.56	27.78
TOTAL	39 966 261	40 918 630	39 982 916	39 124 169	11 781 930	11 420 458	28 200 986	27 703 711	29.47	29.19
UNDERGROUND										
Bocum	190 661	244 806	198 575	250 845	5 956	7 527	192 619	243 318	3.00	3.00
Bowen No. 2	317 560	344 650	317 560	344 650	9 527	10 341	308 033	334 309	3.00	3.00
TOTAL	508 221	589 456	516 135	595 495	15 483	17 868	500 652	577 627	3.00	3.00
DISTRICT TOTAL	40 474 482	41 508 086	40 499 051	39 719 664	11 797 413	11 438 326	28 701 638	28 281 338	29.13	28.80
CENTRAL										
OPENCUT										
Blackwater	6 009 912	5 756 160	6 093 927	5 775 648	896 436	795 876	5 197 491	4 979 772	14.71	13.78
Blair Athol	7 922 026	8 761 823	7 922 026	8 761 823	-	-	7 922 026	8 761 823	0.00	0.00
Curragh	5 502 410	7 122 779	5 717 472	7 122 779	1 105 098	1 373 338	4 612 374	5 749 441	19.33	19.28
German Creek/ East	1 145 200	671 600	1 145 200	671 600	238 680	150 100	906 520	521 500	20.84	22.35
Gregory	4 329 190	3 393 113	4 221 664	3 400 649	586 910	501 789	3 634 754	2 898 860	13.90	14.76
Jellinbah East	1 024 178	1 304 840	1 024 178	1 304 840	-	-	1 024 178	1 304 840	0.00	0.00
Norwich Park	6 706 260	6 563 590	6 702 137	6 488 275	1 675 692	1 540 056	5 026 445	4 948 219	25.00	23.74
Oaky Creek	2 652 617	2 543 182	2 475 753	2 416 444	659 383	739 924	1 816 370	1 676 520	26.63	30.62
South Blackwater	1 936 018	2 055 573	1 926 212	2 070 617	320 507	316 892	1 605 705	1 753 725	16.64	15.30
Yarrabee	507 404	250 887	431 875	230 765	-	-	431 875	230 765	0.00	0.00
TOTAL	37 735 215	38 423 547	37 660 444	38 243 440	5 482 706	5 417 975	32 177 738	32 825 465	14.56	14.17
UNDERGROUND										
Cook	1 630 314	294 116	1 628 828	293 505	362 620	73 860	1 266 208	219 645	22.26	25.16
German Creek Central	1 686 800	2 254 700	1 686 800	2 254 700	350 820	497 400	1 335 980	1 757 300	20.80	22.06
German Creek Southern	2 346 000	2 563 700	2 346 000	2 563 700	475 500	563 500	1 870 500	2 000 200	20.27	21.98
Gordonstone	168 743	959 075	-	1 073 099	-	232 125	-	840 974	0.00	21.63
Oaky Creek No. 1	1 669 600	1 979 786	1 785 667	2 134 935	446 627	579 125	1 339 040	1 555 810	25.01	27.13
Laleham	673 653	731 265	673 925	735 828	110 693	112 018	563 232	623 810	16.43	15.22
TOTAL	8 175 110	8 782 642	8 121 220	9 055 767	1 746 260	2 058 028	6 374 960	6 997 739	21.50	22.73
DISTRICT TOTAL	45 910 325	47 206 189	45 781 664	47 299 207	7 228 966	7 476 003	38 552 698	39 823 204	15.79	15.81

(Continued)

Table 4 - PRODUCTION BY INDIVIDUAL MINES - TONNES

DISTRICTS & MINES	RAW		PROCESSED*		DISCARD		SALEABLE		DISCARD **	
	1991-92	1992-93	1991-92	1992-93	1991-92	1992-93	1991-92	1992-93	91-92	92-93
SOUTHERN										
OPENCUT										
Boundary Hill	1 479 948	1 494 174	1 479 948	1 494 174	-	-	1 479 948	1 494 174	0.00	0.00
Callide	2 675 175	2 796 352	2 675 175	2 796 352	-	-	2 675 175	2 796 352	0.00	0.00
Ebenezer	2 211 985	2 915 646	2 311 825	2 802 942	1 008 516	1 094 137	1 303 309	1 708 805	43.62	39.04
Jeebropilly	1 835 938	1 964 086	1 835 938	1 964 086	878 704	856 304	957 234	1 107 782	47.86	43.60
Meandu	7 096 770	6 828 570	6 667 847	6 614 040	1 332 125	1 297 794	5 335 722	5 316 246	19.98	19.62
Moura	3 591 109	3 580 833	3 563 579	3 586 850	577 322	636 739	2 986 257	2 950 111	16.20	17.75
New Hope No. 358	188 050	193 740	188 050	193 740	132 880	137 554	55 170	56 186	70.66	71.00
New Whitwood	770 268	156 172	844 913	152 933	617 430	66 449	227 483	86 484	73.08	43.45
Oakleigh	184 357	145 914	168 687	143 438	43 413	46 098	125 274	97 340	25.74	32.14
Wattle Glen North	760 689	820 489	761 261	818 203	362 939	394 013	398 322	424 190	47.68	48.16
TOTAL	20 794 289	20 895 976	20 497 223	20 566 758	4 953 329	4 529 088	15 543 894	16 037 670	24.17	22.02
TAILINGS RECOVERY										
Aberdare Rec	-	-	84 494	5 716	-	-	84 494	5 716	0.00	0.00
Moura Rec	-	-	426 310	244 631	-	-	426 310	244 631	0.00	0.00
TOTAL	-	-	510 804	250 347	-	-	510 804	250 347	0.00	0.00
UNDERGROUND										
Burgowan	25 188	21 896	25 188	21 896	4 720	3 917	20 468	17 979	18.74	17.89
M.W. Haenke No. 2	201 380	209 001	205 122	209 167	90 032	83 304	115 090	125 863	43.89	39.83
Moura No. 2	548 438	632 108	531 791	631 285	90 779	139 213	441 012	492 072	17.07	22.05
Oakleigh No. 3	136 073	242 816	136 073	242 816	66 821	118 018	69 252	124 798	49.11	48.60
New Hope W. Leases No. 1	92 491	-	92 491	-	54 329	-	38 162	-	58.74	0.00
New Hope W. Leases No. 2	140 024	218 585	140 024	218 585	48 000	70 790	92 024	147 795	34.28	32.39
TOTAL	1 143 594	1 324 406	1 130 689	1 323 749	354 681	415 242	776 008	908 507	31.37	31.37
DISTRICT TOTAL	21 937 883	22 220 382	22 138 716	22 140 854	5 308 010	4 944 330	16 830 706	17 196 524	23.98	22.33
STATE										
Opencut	98 495 765	100 238 153	98 140 583	97 934 367	22 217 965	21 367 521	75 922 618	76 566 846	22.64	21.82
Tailings Recovery	-	-	510 804	250 347	-	-	510 804	250 347	0.00	0.00
Underground	9 826 925	10 696 504	9 768 044	10 975 011	2 116 424	2 491 138	7 651 620	8 483 873	21.67	22.70
STATE TOTAL	108 322 690	110 934 657	108 419 431	109 159 725	24 334 389	23 858 659	84 085 042	85 301 066	22.44	21.86

* Includes raw coal sold without undergoing any beneficiation.

** Percentage of reject from processed coal.

Table 5 - PRODUCTION OF SALEABLE COAL BY INDIVIDUAL MINES - TONNES

	1988-89	1989-90	1990-91	1991-92	1992-93
DISTRICTS & MINES					
NORTHERN					
OPENCUT					
Bowen Central No. 3	1 611 253	1 390 497	1 452 380	1 655 762	1 638 257
Goonyella/Riverside	8 819 177	7 872 459	9 128 823	10 747 525	10 425 802
Newlands	4 079 461	4 158 940	4 722 556	4 608 218	4 571 009
Peak Downs	5 609 988	5 556 658	5 431 684	6 095 100	6 008 116
Saraji	4 491 528	4 764 836	5 066 318	5 094 381	5 060 527
TOTAL	24 611 407	23 743 390	25 801 761	28 200 986	27 703 711
UNDERGROUND					
Bocum	158 296	259 655	276 207	192 619	243 318
Bowen No. 2	433 114	379 472	373 236	308 033	334 309
TOTAL	591 410	639 127	649 443	500 652	577 627
DISTRICT TOTAL	25 202 817	24 382 517	26 451 204	28 701 638	28 281 338
CENTRAL					
OPENCUT					
Blackwater	5 584 348	4 785 676	4 614 835	5 197 491	4 979 772
Blair Athol	7 129 219	7 814 459	7 565 320	7 922 026	8 761 823
Curragh	5 323 755	4 918 863	5 043 998	4 612 374	5 749 441
German Creek/East	2 048 702	1 148 129	1 217 170	906 520	521 500
Gregory	3 549 504	3 409 998	3 581 552	3 634 754	2 898 860
Jellinbah East	-	380 692	789 864	1 024 178	1 304 840
Norwich Park	4 168 744	4 179 370	3 526 621	5 026 445	4 948 219
Oaky Creek	2 490 015	2 358 525	2 129 213	1 816 370	1 676 520
South Blackwater	880 954	1 723 634	1 636 021	1 605 705	1 753 725
Yarrabee	121 661	251 069	220 223	431 875	230 765
TOTAL	31 296 902	30 970 415	30 324 817	32 177 738	32 825 465
UNDERGROUND					
Cook	1 200 375	1 336 348	990 991	1 266 208	219 645
German Creek Central	992 760	1 241 234	1 209 500	1 335 980	1 757 300
German Creek Southern	160 297	1 044 168	1 436 330	1 870 500	2 000 200
Gordonstone	-	-	-	-	840 974
Oaky Creek No. 1	-	117 070	1 103 667	1 339 040	1 555 810
Laleham	266 753	336 002	364 325	563 232	623 810
TOTAL	2 620 185	4 074 822	5 104 813	6 374 960	6 997 739
DISTRICT TOTAL	33 917 087	35 045 237	35 429 630	38 552 698	39 823 204

(Continued)

Table 5 - PRODUCTION OF SALEABLE COAL BY INDIVIDUAL MINES - TONNES

	1988-89	1989-90	1990-91	1991-92	1992-93
DISTRICTS & MINES					
SOUTHERN					
OPENCUT					
Boundary Hill	1 385 894	1 412 961	1 415 349	1 479 948	1 494 174
Box Flat No. 2	152 193	24 750	-	-	-
Callide	2 055 666	2 673 418	2 573 868	2 675 175	2 796 352
Ebenezer	473 624	829 570	1 011 648	1 303 309	1 708 805
Jeebropilly	1 044 355	1 007 556	833 502	957 234	1 107 782
Meandu	4 855 090	4 733 912	5 141 188	5 335 722	5 316 246
Moura	2 964 085	2 553 359	2 905 845	2 986 257	2 950 111
New Hope No. 358	117 917	107 041	49 628	55 170	56 186
New Whitwood	593 217	550 989	476 068	227 483	86 484
Oakleigh	146 760	164 458	125 654	125 274	97 340
Wattle Glen North	410 104	400 083	488 690	398 322	424 190
TOTAL	14 198 905	14 458 097	15 021 440	15 543 894	16 037 670
TAILINGS RECOVERY					
Aberdare Reclaiming	-	-	118 758	84 494	5 716
Moura Reclaiming	-	-	403 195	426 310	244 631
Westfalen Reclaiming	-	-	16 664	-	-
TOTAL	-	-	538 617	510 804	250 347
UNDERGROUND					
Burgowan No. 12	17 111	17 300	13 079	20 468	17 979
M. W. Haenke No. 2	141 990	193 575	134 650	115 090	125 863
Moura No. 2	294 348	587 229	518 576	441 012	492 072
New Hope Nos 4A, 6 & 7	21 822	-	-	-	-
New Hope Western Leases No. 1	84 934	68 086	96 816	38 162	-
New Hope Western Leases No. 2	144 207	103 931	91 710	92 024	147 795
Oakleigh No. 3	95 215	74 767	67 471	69 252	124 798
TOTAL	799 627	1 044 888	922 302	776 008	908 507
DISTRICT TOTAL	14 998 532	15 502 985	16 482 359	16 830 706	17 196 524
STATE					
Opencut	70 107 214	69 171 902	71 148 018	75 922 618	76 566 846
Tailings Recovery	-	-	538 617	510 804	250 347
Underground	4 011 222	5 758 837	6 676 558	7 651 620	8 483 873
STATE TOTAL	74 118 436	74 930 739	78 363 193	84 085 042	85 301 066

Table 6 - PRODUCTION OF SALEABLE COAL BY DISTRICT PER MONTH - TONNES

MONTH	Northern		Central		Southern		Total	
	1991-92	1992-93	1991-92	1992-93	1991-92	1992-93	1991-92	1992-93
July	2 503 973	2 563 152	3 101 130	3 493 697	1 561 784	1 399 758	7 166 887	7 456 607
August	2 657 964	2 733 075	3 237 376	3 339 348	1 566 760	1 627 973	7 462 100	7 700 396
September	2 013 302	2 382 898	2 991 149	3 383 394	1 295 438	1 256 167	6 299 889	7 022 459
October	2 203 173	2 417 042	3 436 565	3 565 537	1 422 662	1 502 559	7 062 400	7 485 138
November	2 188 484	1 770 848	3 240 988	3 408 794	1 408 834	1 545 057	6 838 306	6 724 699
December	2 258 681	2 208 647	2 748 642	3 241 773	1 194 209	1 394 441	6 201 532	6 844 861
January	2 481 068	2 171 725	3 143 508	3 381 814	1 378 206	1 482 317	7 002 782	7 035 856
February	2 340 037	2 361 505	3 193 056	3 149 103	1 321 032	1 537 764	6 854 125	7 048 372
March	2 259 544	2 382 558	3 601 873	3 915 943	1 505 006	1 521 707	7 366 423	7 820 208
April	2 428 364	2 417 457	3 101 226	2 786 074	1 350 808	1 236 721	6 880 398	6 440 252
May	2 933 043	2 730 170	3 605 479	3 110 239	1 455 819	1 285 873	7 994 341	7 126 282
June	2 434 005	2 142 261	3 151 706	3 047 488	1 370 148	1 406 187	6 955 859	6 595 936
STATE TOTAL	28 701 638	28 281 338	38 552 698	39 823 204	16 830 706	17 196 524	84 085 042	85 301 066

Table 7 - PRODUCTION OF SALEABLE COAL BY DISTRICT AND TYPE - TONNES

DISTRICT	Coking		Thermal		Total	
	1991-92	1992-93	1991-92	1992-93	1991-92	1992-93
OPENCUT						
Northern	23 078 268	22 672 427	5 122 718	5 031 284	28 200 986	27 703 711
Central	17 300 099	16 487 305	14 877 639	16 338 160	32 177 738	32 825 465
Southern	2 083 532	1 775 244	13 971 166	14 512 773	16 054 698	16 288 017
TOTAL	42 461 899	40 934 976	33 971 523	35 882 217	76 433 422	76 817 193
UNDERGROUND						
Northern	-	-	500 652	577 627	500 652	577 627
Central	5 602 196	6 458 664	772 764	539 075	6 374 960	6 997 739
Southern	430 947	476 064	345 061	432 443	776 008	908 507
TOTAL	6 033 143	6 934 728	1 618 477	1 549 145	7 651 620	8 483 873
STATE TOTAL	48 495 042	47 869 704	35 590 000	37 431 362	84 085 042	85 301 066

Table 8 - AVERAGE YEARLY OUTPUT OF RAW COAL PER EMPLOYEE - TONNES

	1989-90	1990-91	1991-92	1992-93
DISTRICTS				
OPENCUT				
Northern	9 599	9 854	11 393	11 533
Central	10 191	9 993	10 684	11 219
Southern	11 782	11 320	11 162	11 387
AVERAGE	10 245	10 199	11 063	11 380
UNDERGROUND				
Northern	3 112	3 938	3 604	4 271
Central	5 401	5 693	5 531	6 291
Southern	3 714	3 695	3 315	3 828
AVERAGE	4 655	5 066	5 004	5 690
STATE AVERAGE	9 378	9 375	9 968	10 379
% Change Year to Year	(13.57)	(0.03)	6.33	4.13

Table 9- AVERAGE YEARLY OUTPUT OF SALEABLE COAL PER EMPLOYEE - TONNES

	1989-90	1990-91	1991-92	1992-93
DISTRICTS				
OPENCUT				
Northern	6 651	7 100	8 039	7 808
Central	8 722	8 610	9 110	9 584
Southern	8 684	8 801	8 618	8 876
AVERAGE	7 873	7 973	8 585	8 721
UNDERGROUND				
Northern	3 001	3 820	3 551	4 186
Central	3 735	4 439	4 313	5 013
Southern	2 561	2 383	2 249	2 626
AVERAGE	3 364	3 911	3 896	4 513
STATE AVERAGE	7 138	7 371	7 738	7 981
% Change Year to Year	(3.42)	3.26	4.98	3.14

Table 10 - AVERAGE OUTPUT SALEABLE COAL PER 7 HOUR EMPLOYEE SHIFT - TONNES

	1988-89	1989-90	1990-91	1991-92	1992-93
DISTRICTS					
OPENCUT					
Northern Overall	28.60	26.47	27.13	31.03	30.78
Central Overall	35.46	34.05	31.79	33.29	36.46
Southern Overall	34.13	34.04	32.75	31.14	33.97
TOTAL OPENCUT	32.47	31.00	30.14	31.97	33.69
UNDERGROUND					
Northern					
Face	40.10	45.84	46.25	36.68	39.19
Overall	11.37	12.13	14.34	13.30	15.33
Central					
Face	35.73	41.08	41.23	43.26	36.12
Overall	13.06	15.83	15.72	16.81	16.82
Southern					
Face	28.77	45.06	45.56	47.20	46.89
Overall	7.34	10.04	8.67	8.38	9.77
TOTAL FACE	34.61	42.24	42.23	43.12	37.24
TOTAL OVERALL	11.09	13.90	14.02	15.02	15.52
STATE TOTAL	29.40	28.33	27.42	28.99	30.18
% Change Year to Year	8.69	(3.64)	(3.21)	5.73	4.10

Table 11 - NUMBER OF EMPLOYEES AS AT JUNE 30

	1989	1990	1991	1992	1993
DISTRICTS					
OPENCUT					
General					
Northern	2 722	2 776	2 912	2 838	2 802
Central	2 644	2 663	2 696	2 658	2 529
Southern	1 318	1 380	1 369	1 505	1 413
TOTAL	6 684	6 819	6 977	7 001	6 744
Administrative and Clerical					
Northern	672	794	678	669	707
Central	942	888	825	843	816
Southern	274	285	384	405	397
TOTAL	1 888	1 967	1 887	1 917	1 920

(Continued)

Table 11 - NUMBER OF EMPLOYEES AS AT JUNE 30

	1989	1990	1991	1992	1993
DISTRICTS					
OPENCUT-ALL CATEGORIES					
Northern	3 394	3 570	3 590	3 507	3 509
Central	3 586	3 551	3 521	3 501	3 345
Southern	1 592	1 665	1 753	1 910	1 810
TOTAL	8 572	8 786	8 864	8 918	8 664
UNDERGROUND					
Coal Face					
Northern	49	49	53	55	58
Central	292	419	497	728	551
Southern	101	96	66	66	98
TOTAL	442	564	616	849	707
Elsewhere Below Ground					
Northern	105	101	45	42	36
Central	250	363	440	403	447
Southern	154	168	150	147	120
TOTAL	509	632	635	592	603
Above Ground					
Northern	37	34	23	21	24
Central	89	79	62	70	70
Southern	92	91	79	79	74
TOTAL	218	204	164	170	168
Administrative and Clerical					
Northern	30	29	21	20	16
Central	204	230	293	351	267
Southern	53	53	53	50	44
TOTAL	287	312	367	421	327
UNDERGROUND-ALL CATEGORIES					
Northern	221	213	142	138	134
Central	835	1091	1 292	1 552	1 335
Southern	400	408	348	342	336
TOTAL	1 456	1 712	1 782	2 032	1 805
ALL MINES					
Northern	3 615	3 783	3 732	3 645	3 643
Central	4 421	4 642	4 813	5 053	4 680
Southern	1 992	2 073	2 101	2 252	2 146
STATE TOTAL	10 028	10 498	10 646	10 950	10 469

Table 12 - AVERAGE NUMBER OF EMPLOYEES DURING YEAR

	1989-90	1990-91	1991-92	1992-93
DISTRICTS				
OPENCUT				
Northern	3 485	3 634	3 508	3 548
Central	3 517	3 522	3 532	3 425
Southern	1 584	1 768	1 863	1 835
TOTAL	8 586	8 924	8 903	8 808
UNDERGROUND				
Northern	220	170	141	138
Central	958	1 150	1 478	1 396
Southern	398	387	345	346
TOTAL	1 576	1 707	1 964	1 880
OPENCUT AND UNDERGROUND				
Northern	3 705	3 804	3 649	3 686
Central	4 475	4 672	5 010	4 821
Southern	1 982	2 155	2 208	2 181
STATE AVERAGE	10 162	10 631	10 867	10 688

Table 13 - STANDARD EMPLOYEE SHIFTS WORKED AND LOST

		Employee Shifts Possible				REASONS FOR LOSS									
		Employee Shifts Worked				Employee Shifts Lost									
		Industrial Disputes													
												Sickness			
		Compensation													
Absenteeism															
				Other											
%	%	%	%			%	%	%							
DISTRICTS															
OPENCUT MINES															
Northern															
1990-91	1 010 336	950 985	94.13	59 351	5.87	12 436	1.23	33 032	3.27	4 061	0.40	9 777	0.97	45	0.00
1991-92	966 330	908 854	94.05	57 476	5.95	13 075	1.35	29 152	3.02	4 663	0.48	10 234	1.06	352	0.04
1992-93	956 562	899 974	94.08	56 588	5.92	14 160	1.48	25 238	2.64	3 054	0.32	14 014	1.47	122	0.01
Central															
1990-91	1 007 582	954 079	94.69	53 503	5.31	11 982	1.19	30 400	3.02	3 500	0.35	7 060	0.70	561	0.06
1991-92	1 014 866	966 660	95.25	48 206	4.75	10 550	1.04	27 341	2.69	4 563	0.45	5 274	0.52	478	0.05
1992-93	947 590	900 403	95.02	47 187	4.98	10 179	1.07	25 205	2.66	4 946	0.52	6 815	0.72	42	0.00
Southern															
1990-91	500 143	476 680	95.31	23 463	4.69	4 393	0.88	12 062	2.41	2 788	0.56	3 124	0.62	1 096	0.22
1991-92	543 728	515 599	94.83	28 129	5.17	5 456	1.00	13 695	2.52	2 816	0.52	3 131	0.58	3 031	0.56
1992-93	507 621	479 454	94.45	28 167	5.55	5 728	1.13	14 083	2.77	2 990	0.59	4 315	0.85	1 051	0.21
OPENCUT TOTAL															
1990-91	2 518 061	2 381 744	94.59	136 317	5.41	28 811	1.14	75 494	3.00	10 349	0.41	19 961	0.79	1 702	0.07
1991-92	2 524 924	2 391 113	94.70	133 811	5.30	29 081	1.15	70 188	2.78	12 042	0.48	18 639	0.74	3 861	0.15
1992-93	2 411 773	2 279 831	94.53	131 942	5.47	30 067	1.25	64 526	2.68	10 990	0.46	25 144	1.04	1 215	0.05
UNDERGROUND MINES															
Northern															
1990-91	49 661	45 289	91.20	4 372	8.80	327	0.66	1 970	3.97	462	0.93	1 604	3.23	9	0.02
1991-92	42 761	37 632	88.01	5 129	11.99	1 508	3.53	1 918	4.49	513	1.20	1 060	2.48	130	0.30
1992-93	41 757	37 691	90.26	4 066	9.74	1 349	3.23	1 631	3.91	345	0.83	735	1.76	6	0.01
Central															
1990-91	346 157	324 664	93.79	21 493	6.21	5 675	1.64	11 840	3.42	2 244	0.65	1 705	0.49	29	0.01
1991-92	403 737	379 143	93.91	24 594	6.09	8 389	2.08	11 393	2.82	2 689	0.67	2 094	0.52	29	0.01
1992-93	439 759	415 991	94.60	23 768	5.40	6 243	1.42	10 163	2.31	3 265	0.74	4 063	0.92	34	0.01
Southern															
1990-91	113 413	106 409	93.82	7 004	6.18	991	0.87	2 578	2.27	2 832	2.50	534	0.47	69	0.06
1991-92	99 234	92 574	93.29	6 660	6.71	1 150	1.16	2 033	2.05	2 809	2.83	635	0.64	33	0.03
1992-93	99 237	92 976	93.69	6 261	6.31	768	0.77	2 786	2.81	2 011	2.03	687	0.69	9	0.01
UNDERGROUND TOTAL															
1990-91	509 231	476 362	93.55	32 869	6.45	6 993	1.37	16 388	3.22	5 538	1.09	3 843	0.75	107	0.02
1991-92	545 732	509 349	93.33	36 383	6.67	11 047	2.02	15 344	2.81	6 011	1.10	3 789	0.69	192	0.04
1992-93	580 753	546 658	94.13	34 095	5.87	8 360	1.44	14 580	2.51	5 621	0.97	5 485	0.94	49	0.01
STATE TOTAL															
1990-91	3 027 292	2 858 106	94.41	169 186	5.59	35 804	1.18	91 882	3.04	15 887	0.52	23 804	0.79	1 809	0.06
1991-92	3 070 656	2 900 462	94.46	170 194	5.54	40 128	1.31	85 532	2.79	18 053	0.59	22 428	0.73	4 053	0.13
1992-93	2 992 526	2 826 489	94.45	166 037	5.55	38 427	1.28	79 106	2.64	16 611	0.56	30 629	1.02	1 264	0.04

Table 14 - AVERAGE EXPORT PRICE (FOB) PER TONNE - A\$

	1988-89	1989-90	1990-91	1991-92	1992-93
ACTUAL PRICE					
Coking	53.57	61.90	63.25	62.71	66.64
Thermal	41.59	47.88	49.52	48.05	49.08
ALL COALS	49.74	57.12	58.57	57.49	61.15
CPI ADJUSTED PRICE (1992 - 93 dollars) *					
Coking	61.39	66.67	65.08	63.34	66.64
Thermal	47.66	51.57	50.96	45.58	49.08
ALL COALS	57.00	61.52	60.27	58.06	61.15

Table 15 - TOTAL VALUE OF EXPORTS PER YEAR - A\$

	1988-89	1989-90	1990-91	1991-92	1992-93
ACTUAL VALUE					
Coking	2 149 543 261	2 498 790 523	2 581 822 952	2 813 151 632	3 254 436 389
Thermal	786 328 886	1 001 217 823	1 044 945 783	1 191 430 240	1 089 909 445
ALL COALS	2 935 872 147	3 500 008 346	3 626 768 735	4 004 581 872	4 344 345 834
CPI ADJUSTED VALUE (1992 - 93 dollars) *					
Coking	2 463 376 577	2 691 197 393	2 656 695 818	2 841 283 148	3 254 436 389
Thermal	901 132 903	10 783 050 895	1 075 249 211	1 203 344 542	1 089 909 445
ALL COALS	3 364 509 480	3 769 508 989	3 731 945 028	4 044 627 691	4 344 345 834

* CPI index 1988-89 1.146, 1989-90 1.077, 1990-91 1.029, 1991-92 1.010, 1992-93 1.000.

Source: ABS weighted average of eight capital cities - all groups.

Table 16 - EXPORTS BY COLLIERIES TO OVERSEAS COUNTRIES 1992-93 - Part 1

C - COKING COAL										
COLLIERIES		Japan	Korea	Taiwan	India	Brazil	France	Netherlands	UK	Hong Kong
Blackwater	C	1 583 253		260 725		686 348				
	T							376 888		117 247
Blair Athol	C									
	T	4 725 774	215 193	461 028	35 194			142 983		1 281 929
Collinsville	C	976 377			166 124					
	T	6 029	5 600				26 417		21 509	
Cook	C	17 407	87 939		59 037					
	T	77 269						63 735		
Curragh	C	1 806 560			19 518	249 803	268 821	94 885		
	T	216 754					114 692			
Ebenezer	C									
	T	1 276 220								
German Creek	C	1 260 105	960 807	424 987	338 553	665 232				
	T									
Goonyella/ Riverside	C	4 585 854	1 298 328	407 726	1 355 388	76 655	151 840		660 722	
	T	60 105								
Gordonstone	C	413 553		15 468			31 914		26 543	
	T	70 463								
Gregory	C	737 807		193 630	164 965		478 095			
	T	1 222 920								
Jeebropilly	C									
	T	714 125								
Jellinbah East	C	704 096				154 901				
	T	181 402					124 519			
Moura	C	1 999 416	194 114							
	T	921 051	77 597					342 330		127 593
New Haenke	C									
	T	2 521								
New Hope	C									
	T	268 780								
New Whitwood	C									
	T	122 635								
Newlands	C									
	T	1 229 831	705 022	644 611			103 017	469 535	369 982	562 903
Norwich Park	C	137 476	659 471	313 152	22 014	517 421	871 505		560 422	
	T	1 352 962								
Oakleigh	C									
	T	43 695								
Oaky Creek	C	1 428 135	615 407	161 504	491 414	289 172				
	T									
Peak Downs	C	1 637 888	1 791 189		823 357	420 008	428 894			
	T									
Rhondda	C									
	T	333 690								
Saraji	C	1 304 740		330 756	28 672			451 525	701 241	
	T									
South Blackwater	C	601 298		311 919		35 304				
	T	32 590	105 985					410 626		
Yarrabee	C									
	T	23 341					130 080			
TOTAL COKING		19 193 965	5 607 255	2 419 867	3 469 042	3 094 844	2 231 069	546 410	1 948 928	-
TOTAL THERMAL		12 882 157	1 109 397	1 105 639	35 194	-	498 725	1 806 097	391 491	2 089 672
TOTAL C & T		32 076 122	6 716 652	3 525 506	3 504 236	3 094 844	2 729 794	2 352 507	2 340 419	2 089 672

T - THERMAL COAL

Italy	Turkey	Belgium	Spain	Denmark	Romania	Pakistan	Iran	Germany		COLLIERIES
193 348	115 044				36 280	338 439		60 908	C	Blackwater
				859 962					T	Blair Athol
		8 114							C	Collinsville
	2 509								T	Cook
	507 618	10 642				308 000		66 000	C	Curragh
									T	Ebenezer
	147 169	172 234					146 176		C	German Creek
108 758	191 390	668 350	357 390		48 599		291 321		T	Goonyella/ Riverside
		7 071							C	Gordonstone
	37 576				33 677				T	Gregory
									C	Jeebropilly
		110 593							T	Jellinbah East
						57 561		94 306	C	Moura
									T	New Haenke
									C	New Hope
									T	New Whitwood
		120 136							C	Newlands
	37 296	38 746 61 934			172 509			260 511	C	Norwich Park
									T	Oakleigh
		170 862					70 008		C	Oaky Creek
376 088	259 200	260 066	280 722		131 417				T	Peak Downs
									C	Rhondda
905 282	264 000		360 259		305 631				T	Saraji
208 226	200 192	18 459							C	South Blackwater
		19 539							T	Yarrabee
1 791 702	1 761 994	1 457 023	998 371	-	728 113	704 000	507 505	326 511		TOTAL COKING
-	-	209 723	-	859 962	-	-	-	155 214		TOTAL THERMAL
1 791 702	1 761 994	1 666 746	998 371	859 962	728 113	704 000	507 505	481 725		TOTAL C & T

Table 16 - EXPORTS BY COLLIERIES TO OVERSEAS COUNTRIES 1992-93 - Part 2

C - COKING COAL										
COLLIERIES		Chile	Philippines	Sweden	Egypt	Malaysia	Algeria	China	Portugal	United States
Blackwater	C T	194 129			88 992					
Blair Athol	C T	70 461				316 971		35 694		
Collinsville	C T		8 057							
Cook	C T									
Curragh	C T								30 025	
Ebenezer	C T									
German Creek	C T									
Goonyella/ Riverside	C T	215 952		158 858	117 148				125 362	
Gordonstone	C T									
Gregory	C T									
Jeebropilly	C T									86 908
Jellinbah East	C T									
Moura	C T				4 605					
New Haenke	C T									
New Hope	C T									
New Whitwood	C T									
Newlands	C T		438 465							
Norwich Park	C T									
Oakleigh	C T									
Oaky Creek	C T						172 709	127 866		
Peak Downs	C T				41 174		115 995			
Rhondda	C T									
Saraji	C T			307 427						
South Blackwater	C T				211 628			79 111	29 974	
Yarrabee	C T									
TOTAL COKING		410 081	-	466 285	463 547	-	288 704	206 977	185 361	-
TOTAL THERMAL		70 461	446 522	-	-	316 971	-	35 694	-	86 908
TOTAL C & T		480 542	446 522	466 285	463 547	316 971	288 704	242 671	185 361	86 908

T - THERMAL COAL

Thailand	Argentina	New Caledonia	Fiji	C & T TOTALS		COLLIERY TOTALS	% OF TOTAL EXPORTS	COLLIERIES
				3 496 558	C			
				555 043	T	4 051 601	5.70	Blackwater
69 273				8 214 462	C	8 214 462	11.56	Blair Athol
				1 142 501	C			
				75 726	T	1 218 227	1.71	Collinsville
				166 892	C			
				141 004	T	307 896	0.43	Cook
				3 361 872	C			
				331 446	T	3 693 318	5.20	Curragh
				1 276 220	C			
				4 115 263	T	1 276 220	1.80	Ebenezer
				4 115 263	C			
				10 850 883	T	4 115 263	5.79	German Creek
	31 242	20 442		80 547	C	10 931 430	15.39	Goonyella/ Riverside
				494 549	C			
				70 463	T	565 012	0.80	Gordonstone
				1 645 750	C			
				1 222 920	T	2 868 670	4.04	Gregory
				801 033	C			
				969 590	T	801 033	1.13	Jeebropilly
				305 921	C			
				2 255 696	T	1 275 511	1.80	Jellinbah East
				1 562 877	C			
				2 521	T	3 818 573	5.37	Moura
				268 780	C			
				122 635	T	2 521	0.01	New Haenke
				4 643 502	C			
				3 590 523	T	268 780	0.38	New Hope
				1 414 896	C			
				43 695	T	122 635	0.17	New Whitwood
				3 527 077	C			
				6 565 998	T	4 643 502	6.54	Newlands
				172 960	C			
				48 838 796	T	4 643 502	6.54	Newlands
				1 696 111	C			
				564 676	T	5 005 419	7.05	Norwich Park
				172 960	C			
				48 838 796	T	43 695	0.06	Oakleigh
				172 960	C			
				48 838 796	T	3 527 077	4.96	Oaky Creek
				172 960	C			
				48 838 796	T	6 565 998	9.24	Peak Downs
				172 960	C			
				48 838 796	T	333 690	0.47	Rhondda
				172 960	C			
				48 838 796	T	4 959 533	6.98	Saraji
				172 960	C			
				48 838 796	T	2 260 787	3.18	South Blackwater
				172 960	C			
				48 838 796	T	172 960	0.24	Yarrabee
-	31 242	-	-	48 838 796		n/a	68.74	TOTAL COKING
69 273	-	20 442	15 475	22 205 017		n/a	31.26	TOTAL THERMAL
69 273	31 242	20 442	15 475	71 043 813		n/a	100.00	TOTAL C & T

Table 17 - EXPORTS BY COUNTRY - TONNES

COUNTRIES	1988-89	1989-90	1990-91	1991-92	1992-93
Algeria	459 760	291 650	444 580	462 224	288 704
Argentina	466 093	284 806	255 556	251 494	31 242
Belgium *	648 343	1 054 799	035 311	1 335 186	1 666 746
Brazil	1 359 965	1 320 358	525 625	2 121 488	3 094 844
Bulgaria	-	-	39 594	-	-
Chile	274 265	229 593	345 720	414 417	480 542
China	140 398	443 046	369 050	302 702	242 671
Denmark	1 292 143	1 255 404	1 158 937	1 417 083	859 962
Egypt	369 857	322 634	369 711	505 422	463 547
Fiji	5 325	16 831	20 149	16 382	15 475
France	2 162 873	2 012 290	1 567 257	3 094 873	2 729 794
Germany	-	57 304	132 029	523 139	481 725
Greece	-	-	-	110 646	-
Hong Kong	1 884 292	1 590 751	1 774 228	2 451 037	2 089 672
India	4 258 604	4 319 907	4 790 632	5 530 035	3 504 236
Indonesia	593 690	-	-	62 589	-
Iran	127 975	158 005	348 788	719 813	507 505
Ireland	-	132 842	-	-	-
Israel	-	131 909	146 978	147 017	-
Italy	1 352 918	1 180 453	905 755	1 887 279	1 791 702
Japan	28 729 967	30 153 943	30 085 908	31 028 224	32 076 122
Korea	3 252 167	3 150 879	3 788 375	4 776 609	6 716 652
Malaysia	128 295	256 050	192 035	253 374	316 971
Mexico	-	-	-	65 908	-
Netherlands *	2 111 050	2 204 220	3 530 073	2 666 722	2 352 507
New Caledonia	-	19 937	19 963	19 969	20 442
Pakistan	-	538 650	478 018	528 000	704 000
Philippines	195 822	458 655	197 488	-	446 522
Portugal	-	-	-	-	185 361
Romania	1 581 399	2 227 791	488 061	527 879	728 113
South Africa	-	-	63 526	-	-
Spain	862 653	767 296	651 562	1 155 468	998 371
Sweden	785 109	734 228	464 851	508 609	466 285
Switzerland	-	28 884	-	-	-
Taiwan	3 260 976	3 016 411	2 647 129	2 382 769	3 525 506
Thailand	145 339	-	-	-	69 273
Turkey	836 188	692 138	1 271 171	1 546 106	1 761 994
United Kingdom	1 425 755	2 029 737	2 742 469	2 816 492	2 340 419
U.S.A. (Hawaii)	-	-	21 586	26 855	86 908
Yugoslavia	315 922	187 962	45 601	-	-
TOTAL	59 027 143	61 269 363	61 917 716	69 655 810	71 043 813

* Point of Distribution.

Table 18 - EXPORTS BY COLLIERIES - TONNES

	1988-89	1989-90	1990-91	1991-92	1992-93
COLLIERIES					
Blackwater	3 797 574	3 735 549	3 742 758	3 953 086	4 051 601
Blair Athol	6 741 601	7 525 843	7 131 543	8 938 997	8 214 462
Collinsville	1 025 509	1 258 568	1 194 782	1 072 741	1 218 227
Cook	938 400	1 253 220	1 083 965	1 208 749	307 896
Curragh	3 647 865	3 224 848	3 055 075	2 940 369	3 693 318
Ebenezer	414 463	561 386	953 215	1 168 269	1 276 220
German Creek	3 138 733	3 258 736	3 845 553	3 788 396	4 115 263
Goonyella/Riverside	9 173 125	7 879 844	8 591 702	10 221 558	10 931 430
Gordonstone	-	-	-	-	565 012
Gregory	3 436 379	3 366 059	3 121 988	3 419 484	2 868 670
Jeebropilly	766 195	793 331	742 661	856 692	801 033
Jellinbah East	-	309 334	753 897	950 816	1 275 511
Moura	2 928 754	3 393 596	3 705 664	3 891 487	3 818 573
New Haenke	-	-	-	-	2 521
New Hope	260 751	248 378	159 833	289 009	268 780
New Whitwood	564 993	502 156	369 094	558 909	122 635
Newlands	3 972 180	4 267 233	4 355 045	4 853 377	4 643 502
Norwich Park	3 905 124	3 979 726	3 397 913	4 568 849	5 005 419
Oakleigh	81 368	36 098	15 764	28 967	43 695
Oaky Creek	2 456 444	2 506 389	3 391 424	3 499 583	3 527 077
Peak Downs	5 563 782	5 854 711	5 090 180	5 903 837	6 565 998
Rhondda	458 128	322 546	431 920	566 035	333 690
Saraji	4 423 570	4 727 683	4 725 387	4 737 249	4 959 533
South Blackwater	1 105 925	2 003 481	1 801 440	1 856 295	2 260 787
Yarrabee	226 280	260 648	256 913	383 056	172 960
STATE TOTAL	59 027 143	61 269 363	61 917 716	69 655 810	71 043 813

Table 19 - EXPORTS BY TYPE - '000 TONNES

	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93
COAL TYPES										
Coking	29 622	34 382	34 226	34 324	39 367	40 123	40 362	40 818	44 859	48 839
Thermal	3 473	11 122	16 566	19 201	19 055	18 904	20 907	21 100	24 797	22 205
TOTAL	33 095	45 504	50 792	53 525	58 422	59 027	61 269	61 918	69 656	71 044
% Change Year to Year	25.34	37.50	11.62	5.38	9.15	1.04	3.80	1.06	12.50	1.99

Table 20 - EXPORTS BY PORTS - TONNES

	1988-89	1989-90	1990-91	1991-92	1992-93
PORTS					
Abbot Point	4 997 689	5 525 801	5 549 827	5 926 118	5 861 729
Brisbane	2 545 898	2 463 895	2 672 487	3 467 881	2 848 574
Dalrymple Bay	15 458 835	15 597 109	16 446 202	18 364 771	18 151 941
Gladstone	16 081 177	17 546 735	18 195 249	19 580 410	19 925 537
Hay Point	19 943 544	20 135 823	19 053 951	22 316 630	24 256 032
STATE TOTAL	59 027 143	61 269 363	61 917 716	69 655 810	71 043 813

Table 21 - INTERSTATE DISTRIBUTION BY COLLIERIES - TONNES

	1988-89	1989-90	1990-91	1991-92	1992-93
COLLIERIES					
Blackwater	222 203	-	-	-	-
Blair Athol	-	-	-	-	55
Goonyella/Riverside	-	42 285	-	-	64 540
Gregory	100 924	-	-	-	-
Jeebropilly	70 540	88 209	70 878	77 742	68 801
Moura	108 997	-	-	-	-
Norwich Park	378 463	350 752	210 277	254 081	136 703
Oakleigh	7 653	48 439	37 910	31 065	16 339
Oaky Creek	21 387	-	-	-	-
Peak Downs	15 533	-	-	-	-
Rhondda	2 964	6	-	-	-
Saraji	131 587	-	-	-	166 938
Yarrabee	11 001	776	774	480	30 623
STATE TOTAL	1 071 252	530 467	319 839	363 368	483 999

Table 22 - STATE DISTRIBUTION BY DISTRICTS AND CONSUMER GROUPS - '000 TONNES

CONSUMER GROUP	1990-91				1991-92				1992-93			
	NORTHERN				NORTHERN				NORTHERN			
	CENTRAL				CENTRAL				CENTRAL			
	SOUTHERN				SOUTHERN				SOUTHERN			
	TOTAL				TOTAL				TOTAL			
Basic Non-Ferrous Metals	391	1 183	-	1 574	418	1 257	-	1 675	420	1 272	-	1 692
Beverages and Malt	-	-	14	14	1	-	12	13	1	-	14	15
Cement and Concrete Products	45	110	69	224	53	112	50	215	55	111	60	226
Chemical, Petroleum and Coal Products	81	-	-	81	79	-	-	79	67	-	-	67
Clay Products and Refractories	-	3	14	17	-	3	14	17	-	4	13	17
Electricity	433	2 907	8 177	11 517	442	3 474	8 501	12 417	453	3 514	8 467	12 434
Fruit and Vegetable Products	-	-	14	14	-	-	13	13	-	-	15	15
Health	-	-	31	31	-	-	31	31	-	-	26	26
Margarine, Oils and Fats	-	-	12	12	-	-	13	13	-	-	14	14
Meat Products	8	6	46	60	8	7	48	63	8	6	53	67
Milk Products	-	-	5	5	-	-	5	5	-	-	6	6
Non-Metallic Mineral Products	9	2	1	12	10	1	4	15	11	1	3	15
Other	-	-	1	1	1	-	2	3	-	-	2	2
Paper, Paper Products, Printing and Publishing	-	-	75	75	-	-	79	79	-	-	65	65
Sugar	18	-	25	43	15	-	28	43	17	-	32	49
Tobacco Products	-	-	2	2	-	-	2	2	-	-	1	1
Transport Equipment	-	-	1	1	-	-	1	1	-	-	1	1
Water Transport	-	180	-	180	-	192	-	192	-	198	-	198
Wood, Wood Products and Furniture	-	-	11	11	-	-	13	13	-	-	15	15
STATE TOTAL	985	4 391	8 498	13 874	1 027	5 046	8 816	14 889	1 032	5 106	8 787	14 925

Figures prior to 1992-93 are based on consumption (burn) rather than distribution. Also, district divisions are based on consumer locations rather than mine locations.

Table 23 - STATE DISTRIBUTION BY COLLIERIES - TONNES

	1988-89	1989-90	1990-91	1991-92	1992-93
COLLIERIES					
Blackwater	1 444 902	965 893	1 060 148	1 356 156	1 200 042
Blair Athol	32 550	36 316	59 112	67 752	50 075
Boundary Hill	1 403 276	1 455 393	1 403 731	1 458 110	1 488 841
Burgowan	14 736	14 706	16 662	22 368	18 020
Callide	1 973 739	2 613 690	2 603 520	2 635 657	2 783 393
Collinsville	1 005 765	928 986	910 671	965 400	995 569
Cook	118 236	108 165	108 507	106 294	17 282
Curragh	1 520 872	1 669 393	1 827 167	1 773 792	2 261 317
Ebenezer	1 016	80 969	15 800	163	394 142
German Creek	-	4 954	3 096	-	-
Goonyella/Riverside	2 338	2 755	-	-	-
Jeebropilly	97 677	82 194	83 633	90 965	121 084
Jellinbah East	-	7 452	-	-	-
Meandu	4 759 896	4 733 912	5 141 188	5 335 722	5 316 246
New Hope	70 908	2 866	352	338	430
New Whitwood	38 206	2 704	-	-	-
Newlands	-	-	-	1 660	-
Norwich Park	274	175	-	-	-
Oakleigh	150 142	148 801	149 684	154 102	132 850
Oaky Creek	536	1 743	-	-	-
Peak Downs	3 516	-	-	-	-
Rhondda *	265 459	256 820	106 069	71 996	54 744
Saraji	-	1 934	-	0	-
South Blackwater	-	560	-	10 635	85 945
Yarrabee	5 826	6 084	3 791	3 570	5 189
STATE TOTAL	12 909 870	13 126 465	13 493 131	14 054 730	14 925 169

* Parts of Rhondda's domestic operations were sold during 1992-93.

