

Latest Coal Situation in Australia

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Introduction

In reaction to the sluggish prices (particularly of steaming coal) are under way among the Australian mining companies. The coal price had recovered by 2001 and, since the beginning of 2002, the continuously rising price of coking coal has remained in sharp contrast to the plunge in the steaming coal price. Such being the situation, it is a matter of considerable importance to review the status of Australian coal production, since Australia accounts for nearly one-third of coal supplies to the world's coal market and a little less than 60% of Japan's coal imports. This paper aims to give an overview of current coal production in Australia based on the latest data.

1. General Description of the Coal Industry

1-1 Coal resources

Table 1-1 shows Australia's black coal reserves by state. "Black coal" is the term given to commercially traded coals, excluding less carbonated coals such as brown coal and lignite.

Table 1-1 Coal Reserves in Australia

(Million tons)

State	Measured coal reserves			Indicated coal reserves
	Subject to underground mining	Subject to opencast mining	Total	
New South Wales	24,340	9,150	33,490 (41.9%)	>54,060
Queensland	22,640	15,650	38,290 (47.9%)	>460
South Australia	2,450	3,100	5,550 (6.9%)	17,650
Western Australia	890	1,160	2,050 (2.6%)	4,180
Tasmania	500	20	520 (0.7%)	-
Total	50,820	29,080	79,900 (100.0%)	>76,350

(Source) Coal Services PTY Ltd. & QDNRM, "2001 Australian Black Coal Statistics"

(QDNRM : Queensland Department of Natural Resources & Mines)

Almost 90% of Australia's coal resources are found in either NSW (New South Wales) or QLD (Queensland). Geological coal reserves amount to over 156.2 billion tons. This represents 8.5% of the world's coal reserves of 1,833.2 billion tons (with bituminous coals and anthracite included).

1-2 Coal supply and demand

Table 1-2 and Fig. 1-1 together show the Australian coal supply-demand records for the last ten years.

Table 1-2 Coal Supply and Demand

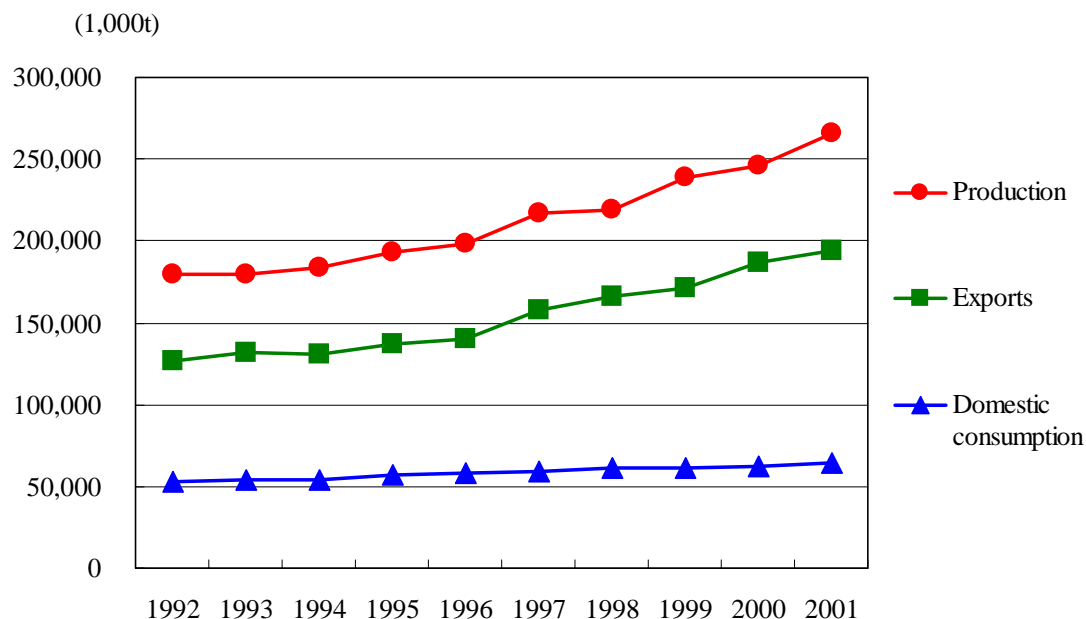
(1,000t)

	Production	Imports	Exports	Domestic consumption
1992	180,023		126,242	52,696
1993	180,078	84	131,752	53,895
1994	183,809	241	131,201	54,169
1995	192,796		136,702	57,194
1996	198,727	158	140,500	58,312
1997	216,879	119	157,335	59,643
1998	219,474	147	166,606	61,656
1999	238,237	114	171,631	61,119
2000	245,519	41	186,753	62,729
2001	265,516	19	194,373	64,837
1992~2001 Annual average growth	4.4%	-	4.9%	2.3%

(Source) Coal Services PTY Ltd. & QDNRM, "2001 Australian Black Coal Statistics"

Since 1992, coal output has increased by 4.4%/year on average and reached 265.52 million tons in 2001. Over the same period, domestic consumption, although up by 2.3%/year on average, grew slower than output, which means that incremental production has been exported. During this period, exports have been rising by 4.9%/year and have outgrown production. Australia imports a minuscule amount of coal not available indigenously (anthracite). Table 1-3 presents coal supply-demand situations by state.

Fig. 1-1 Coal Supply and Demand



(Source) Coal Services PTY Ltd. & QDNRM, “2001 Australian Black Coal Statistics”

Table 1-3 Coal Supply and Demand in 2001 by State

	NSW	Victoria	QLD	South Australia	West Australia	Tasmania	Total
Production	113,116	0	142,792	3,091	6,130	387	265,516
Imports	11	-	-	-	-	8	19
Exports	75,178	-	119,195	-	-	-	194,373
Domestic consumption	31,641	1	22,465	4,219	6,106	405	64,837

(Source) Coal Services PTY Ltd. & QDNRM, “2001 Australian Black Coal Statistics”

1-3 Coal production

Coals are produced in five states: these are NSW, QLD, South Australia, West Australia and Tasmania. Table 1-4 shows the number of mines in operation in each state. The mines currently in operation are concentrated in NSW and QLD in proportion to the

coal reserves there. While the number of mines is decreasing, size and output per mine are increasing.

Table 1-4 Number of Coal Mines in Production

	NSW	QLD	South Australia	West Australia	Tasmania	Total	U/G	O/C
1995.6 end	69	45	1	3	3	121	60	61
12 end	70	45	1	4	3	123	60	63
1996.6 end	72	45	1	4	3	125	64	61
12 end	70	43	1	4	3	121	61	60
1997.6 end	68	44	1	3	3	119	61	58
12 end	69	42	1	3	3	118	58	60
1998.6 end	66	43	1	3	3	116	55	61
12 end	67	43	1	3	3	117	55	62
1999.6 end	64	43	1	3	2	113	55	58
12 end	61	43	1	3	2	110	53	57
2000.6 end	57	43	1	3	2	106	50	56
12 end	57	42	1	3	2	105	49	56
2001.6 end	56	44	1	3	3	107	47	60
12 end	59	42	1	3	3	108	49	59

(Source) Coal Services PTY Ltd. & QDNRM, "2001 Australian Black Coal Statistics"

Table 1-5 and Fig. 1-2 show state-by-state coal production during the last ten years. During the decade, coal output grew most rapidly in QLD, with an average growth rate of 5.8%/year, 1.4 points higher than all-Australia records.

In 2001, with 53.8% coming from QLD and 42.6% from NSW, these two states alone accounted for 96.4% of Australia's coal production. An overwhelming portion of incremental coal production in QLD is attributable to the greater output achieved by open cast mining. In recent years, however, underground mining has expanded remarkably as well. Between 1992 and 2001 it grew at the amazing pace of 15.2%/year on average. In NSW, too, open cast mining-based output increased by 5.5% over the same period, which was higher than the growth of total coal production.

Table 1-6 shows production records in 2000 and 2001 by coal rank. In 2001 NSW produced 84.91 million tons of steaming coal and accounted for 32.0% of Australia's total steaming coal output. QLD, for its part, produced 85.23 million tons of

coking coal, or 32.1% of the country's total coking coal production. In Australia as a whole, steaming coal production was larger than coking coal output by as much as 14.6 points.

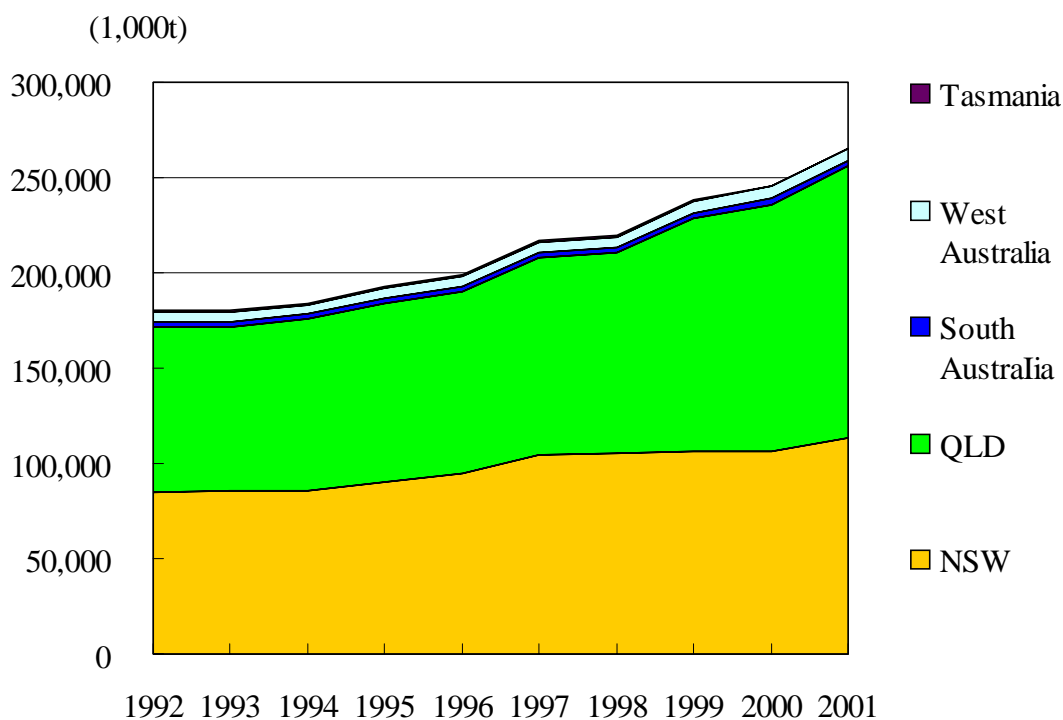
Table 1-5 Coal Production

(1,000t)

	NSW			QLD			South Australia		
	U/G	O/C	Sub-total	U/G	O/C	Sub-total	U/G	O/C	Sub-total
1992	44,072	40,935	85,007	8,784	77,504	86,288	-	2,736	2,736
1993	43,213	42,123	85,336	9,496	76,724	86,220	-	2,624	2,624
1994	42,006	43,840	85,846	11,368	78,240	89,608	-	3,065	3,065
1995	44,977	44,989	89,966	11,517	82,236	93,753	-	2,631	2,631
1996	46,997	47,303	94,300	11,364	84,333	95,697	-	2,455	2,455
1997	48,493	56,144	104,637	13,845	89,470	103,315	-	2,757	2,757
1998	46,519	58,705	105,224	13,605	91,634	105,239	-	2,927	2,927
1999	45,142	60,912	106,054	20,093	102,833	122,926	-	2,648	2,648
2000	44,820	61,874	106,694	30,487	98,544	129,031	-	3,139	3,139
2001 (Share)	46,744	66,372	113,116 (42.6%)	31,325	111,467	142,792 (53.8%)	-	3,091	3,091 (1.2%)
1992~2001 Annual average growth	0.7%	5.5%	3.2%	15.2%	4.1%	5.8%	-	1.4%	1.4%
	West Australia			Tasmania			Total		
	U/G	O/C	Sub-total	U/G	O/C	Sub-total	U/G	O/C	Total
1992	751	4,901	5,652	281	59	340	53,888	126,135	180,023
1993	645	4,912	5,557	277	64	341	53,631	126,447	180,078
1994	167	4,753	4,920	268	102	370	53,809	130,000	183,809
1995	-	6,043	6,043	183	220	403	56,677	136,119	192,796
1996	-	5,867	5,867	218	190	408	58,579	140,148	198,727
1997	-	5,768	5,768	286	116	402	62,624	154,255	216,879
1998	-	5,667	5,667	268	149	417	60,392	159,082	219,474
1999	-	6,208	6,208	354	47	401	65,589	172,648	238,237
2000	-	6,329	6,329	338	-12	326	75,645	169,874	245,519
2001 (Share)	-	6,130	6,130 (2.3%)	335	52	387 (0.1%)	78,404	187,112	265,516 (100.0%)
1992~2001 Annual average growth	-	2.5%	0.9%	2.0%	-1.4%	1.4%	4.3%	4.5%	4.4%

(Source) Coal Services PTY Ltd. & QDNRM, "2001 Australian Black Coal Statistics"

Fig. 1-2 Coal Output



(Source) Coal Services PTY Ltd. & QDNRM, “2001 Australian Black Coal Statistics”

Table 1-6 Coal Output by Coal Rank

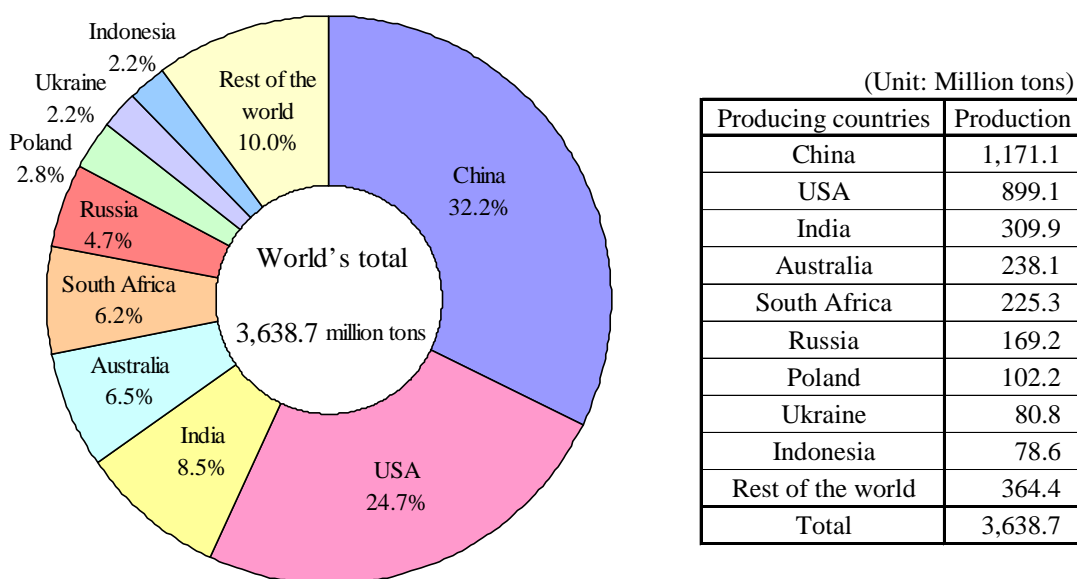
(1,000t)

	NSW			QLD			Rest of Australia			Total		
	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Total
2000	28,178	78,516	106,694	76,286	52,745	129,031	-	9,794	9,794	104,464	141,055	245,519
(Share)	(11.5%)	(32.0%)	(43.5%)	(31.1%)	(21.5%)	(52.6%)		(4.0%)	(4.0%)	(42.5%)	(57.5%)	(100.0%)
2001	28,206	84,910	113,116	85,225	57,567	142,792	-	9,608	9,608	113,431	152,085	265,516
(Share)	(10.6%)	(32.0%)	(42.6%)	(32.1%)	(21.7%)	(53.8%)		(3.6%)	(3.6%)	(42.7%)	(57.3%)	(100.0%)

(Source) Barlow Jonker, “COAL 2002”

In 2000, Australia’s coal output was the world’s fourth largest after China, the United States and India, and accounted for 6.5% of coal production worldwide (Fig. 1-3).

Fig. 1-3 World's Coal Output (Estimate for 2000)



(Source) OECD/IEA, "Coal Information 2001, with 2000 data"

1-4 List of mines in NSW and QLD

As shown in Table 1-4, the mines active in NSW and QLD numbered 59 and 42, respectively, as of late December 2001. Given that coal production in 2001 totaled 113.12 million tons in NSW and 142.79 million tons in QLD, per mine output can be calculated at 1.92 million tons and 3.40 million tons, respectively. The QLD mines are thus larger in size than their NSW counterparts. Figs. 1-4 and 1-5 show where mines producing exportable coal and export terminals are located in NSW and QLD. Appendix Table 1 at the end of this report also contains a list of major mines in NSW and QLD. Of the mines listed, those marked with a number were in operation as of late June 2001.

1-5 Coal exports

While coal production is under way in NSW, QLD, South Australia, West Australia and Tasmania, the production records of these states clearly reveal that only NSW and QLD can afford to export coal.

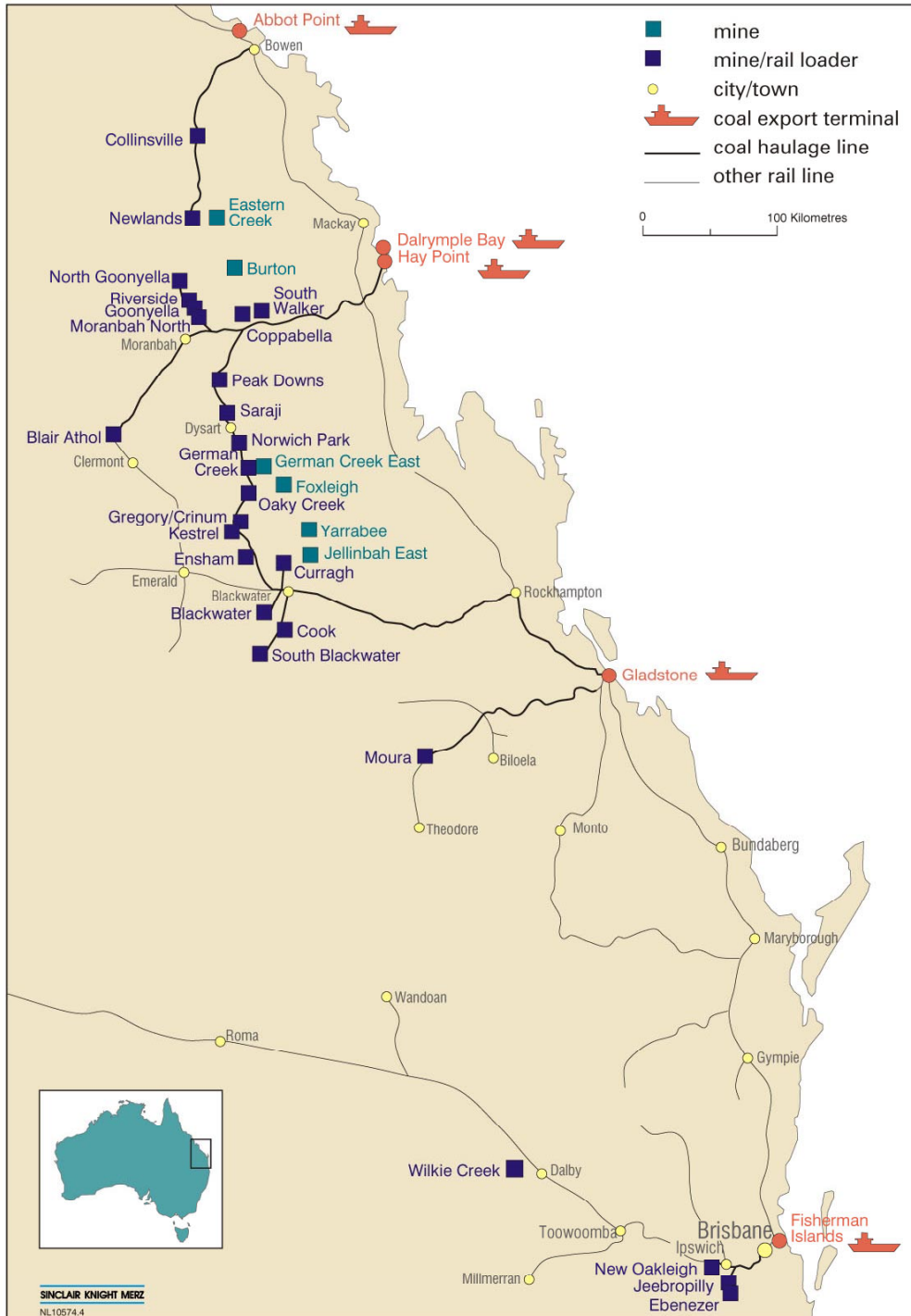
As noted from Table 1-7, Australia's coal exports are growing at an impressive pace. When NSW and QLD are compared, the latter overshadows the former in terms of both average growth and share. However, NSW is stepping up its exports of steaming coal, which exceed QLD records in quantity. QLD for its part is increasing both coking and steaming coal exports, but those of coking coal are rising more conspicuously.

Fig. 1-4 Mines Producing Exportable Coal and Coal Export Terminals in NSW (2001)



(Source) Homepage held by the Department of Industry, Tourism & Resources

Fig. 1-5 Mines Producing Exportable Coal and Coal Export Terminals in QLD (2001)



(Source) Homepage held by the Department of Industry, Tourism & Resources

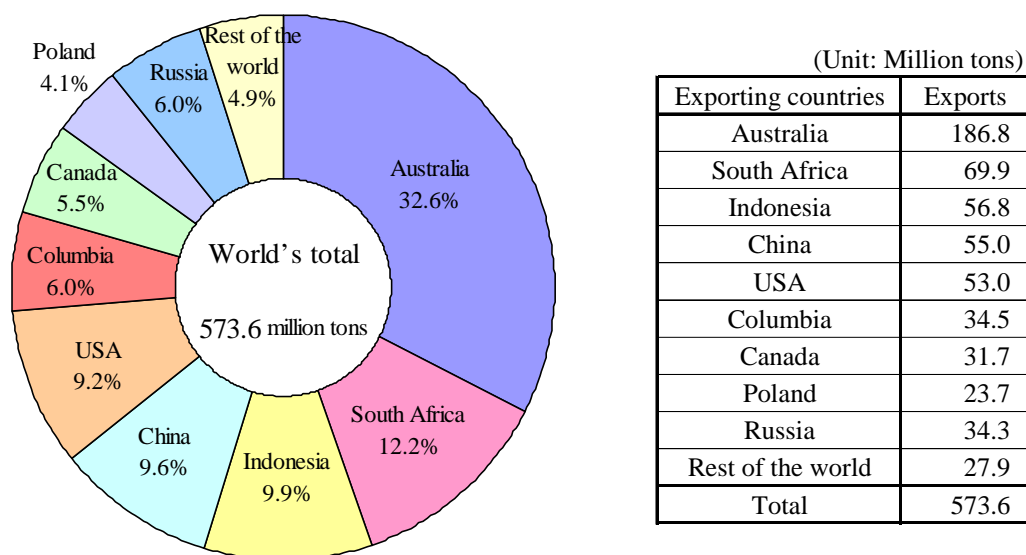
Table 1-7 Coal Exports by State

(1,000t)

	NSW			QLD			Total		
	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Total
1992	21,687	34,340	56,027	46,260	23,955	70,215	67,947	58,295	126,242
1993	23,951	34,589	58,540	50,163	23,049	73,212	74,114	57,638	131,752
1994	22,509	35,375	57,884	49,277	24,040	73,317	71,786	59,415	131,201
1995	22,206	37,589	59,795	52,413	24,494	76,907	74,619	62,083	136,702
1996	24,208	39,833	64,041	52,712	23,747	76,459	76,920	63,580	140,500
1997	24,988	48,627	73,615	58,737	24,983	83,720	83,725	73,610	157,335
1998	22,810	54,476	77,286	60,777	28,543	89,320	83,587	83,019	166,606
1999	23,638	48,456	72,094	68,803	30,734	99,537	92,441	79,190	171,631
2000	23,740	51,772	75,512	75,951	35,290	111,241	99,691	87,062	186,753
2001	21,796	53,382	75,178	84,503	34,692	119,195	106,299	88,074	194,373
(Share)	(11.2%)	(27.5%)	(38.7%)	(43.5%)	(17.8%)	(61.3%)	(54.7%)	(45.3%)	(100.0%)
1992~2001 Annual average growth	0.1%	5.0%	3.3%	6.9%	4.2%	6.1%	5.1%	4.7%	4.9%

(Source) Coal Services PTY Ltd. & QDNRM, “2001 Australian Black Coal Statistics”

Fig. 1-6 World’s Coal Exports (Estimate for 2000)



(Source) OECD/IEA, “Coal Information 2001, with 2000 data”

As shown in Fig. 1-6, Australia’s coal exports in 2000 accounted for 32.6% of coals supplied to the world’s coal export market, thus occupying the world’s first place without any close rival.

Table 1-8 shows coal exports by export terminal. In 2001, the largest coal exports were shipped from Newcastle, a coal terminal in NSW exclusively engaged in exporting coals from the Hunter Valley coalfields. Newcastle is handling 34.3% of coals exported from Australia, followed by Dalrymple Bay, Gladstone and Hay Point, all in QLD and accounting for 20.7%, 18.6% and 15.0%, respectively. Dalrymple Bay recorded the highest growth of handling volume, up by an impressive 9.5%/year on average during the ten-year period from 1992 through 2001, followed by Gladstone (6.8%) and Abbott Point (6.0%). The top three are all located in QLD. Newcastle was in fourth place with a 5.7% growth. Brisbane in QLD includes Fisherman Island (handling 5 million tons a year), a coal terminal capable of accommodating PANAMAX-class vessels (max. 90,000 DWT), but recorded no growth in handling volume. In NSW, the handling volume of Port Kembla is declining due to falling production of exportable coals from the mines south of Sydney.

Table 1-8 Coal Exports by Coal Terminal

	NSW				QLD						Toatal
	Newcastle	Sydney	Port Kembla	Sub-total	Gladstone	Hay Point	Brisbane	Abbott Point	Dalrymple Bay	Sub-total	
1992	40,419	133	15,475	56,027	20,072	22,950	2,923	6,426	17,844	70,215	126,242
1993	44,589	-	13,951	58,540	19,602	24,388	2,961	5,521	20,740	73,212	131,752
1994	45,568	-	12,316	57,884	21,928	23,677	2,918	4,521	20,273	73,317	131,201
1995	49,044	-	10,751	59,795	22,617	23,677	3,044	4,861	22,708	76,907	136,702
1996	51,883	-	12,158	64,041	23,641	23,540	2,450	5,813	21,015	76,459	140,500
1997	61,562	-	12,053	73,615	25,777	23,054	2,274	6,331	26,284	83,720	157,335
1998	68,752	-	8,534	77,286	26,256	24,155	2,485	8,848	27,576	89,320	166,606
1999	64,834	-	7,260	72,094	27,424	26,715	2,214	9,623	33,561	99,537	171,631
2000	67,855	-	7,657	75,512	33,117	27,907	2,091	9,847	38,279	111,241	186,753
2001 (Share)	66,666 (34.3%)	-	8,512 (4.4%)	75,178 (38.7%)	36,198 (18.6%)	29,204 (15.0%)	2,712 (1.4%)	10,844 (5.6%)	40,237 (20.7%)	119,195 (61.3%)	194,373 (100.0%)
1992~2001 Annual average growth	5.7%	-	-6.4%	3.3%	6.8%	2.7%	-0.8%	6.0%	9.5%	6.1%	4.9%

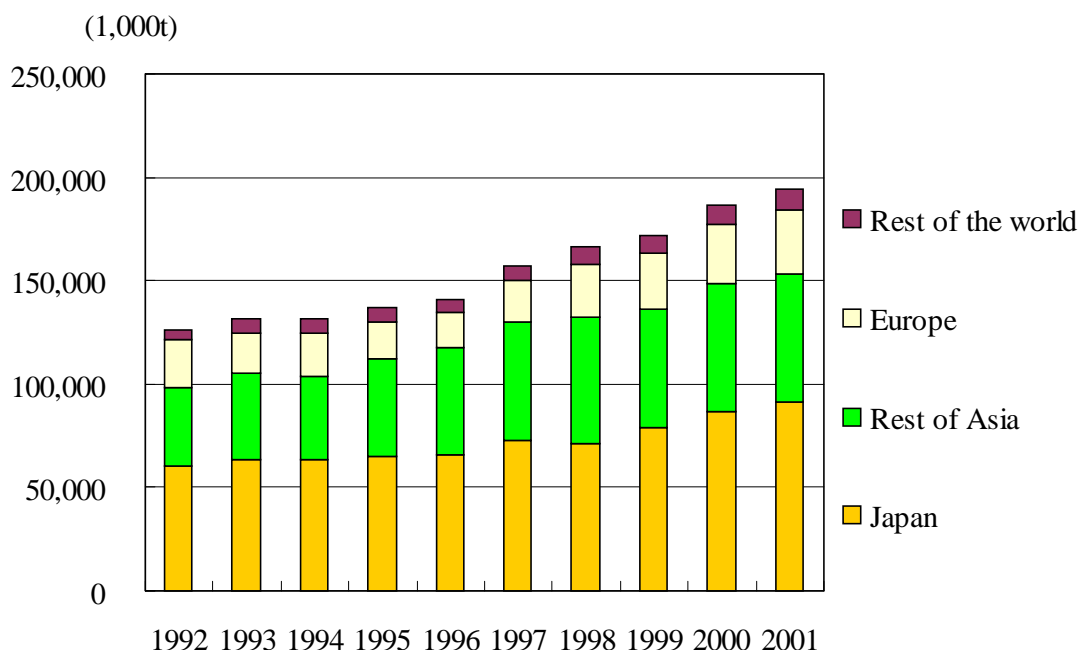
(Source) Coal Services PTY Ltd. & QDNRM, "2001 Australian Black Coal Statistics"

1-6 Coal exports to Japan

Australia's coal exports are expanding at an amazing rate, above all those to Japan and the rest of Asia, as shown in Fig. 1-7 and Table 1-9.

In 2001, Australia's coal exports to Japan amounted to 91.66 million tons, or 47.2% of the whole. This share is the largest ever marked by a single destination, and the volume is far larger than the 61.56 million tons (31.7%) shipped to the rest of Asia.

Fig. 1-7 Coal Exports by Destination



(Source) Coal Services PTY Ltd. & QDNRM, “2001 Australian Black Coal Statistics”

Table 1-9 Coal Exports by Destination

	Japan			Rest of Asia			Europe			Rest of the world			Total		
	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Total
1992	30,054	30,661	60,715	21,475	16,016	37,491	12,173	11,149	23,322	4,245	469	4,714	67,947	58,295	126,242
1993	31,610	31,779	63,389	23,675	18,276	41,951	12,779	6,481	19,260	6,050	1,102	7,152	74,114	57,638	131,752
1994	29,711	33,803	63,514	23,776	16,661	40,437	13,274	7,741	21,015	5,025	1,210	6,235	71,786	59,415	131,201
1995	30,802	34,528	65,330	25,506	21,129	46,635	13,388	4,948	18,336	4,923	1,478	6,401	74,619	62,083	136,702
1996	31,132	34,333	65,465	26,932	25,100	52,032	14,141	2,978	17,119	4,715	1,169	5,884	76,920	63,580	140,500
1997	34,099	38,542	72,641	29,028	28,630	57,658	15,281	4,686	19,967	5,317	1,752	7,069	83,725	73,610	157,335
1998	32,350	39,111	71,461	28,430	32,593	61,023	16,623	8,809	25,432	6,184	2,506	8,690	83,587	83,019	166,606
1999	37,499	41,811	79,310	27,939	28,978	56,917	20,145	7,045	27,190	6,858	1,356	8,214	92,441	79,190	171,631
2000	39,262	47,361	86,623	30,594	31,072	61,666	22,213	6,880	29,093	7,622	1,749	9,371	99,691	87,062	186,753
2001	40,971	50,691	91,662	32,917	28,640	61,557	24,285	6,614	30,899	8,126	2,129	10,255	106,299	88,074	194,373
(Share)	(21.1%)	(26.1%)	(47.2%)	(16.9%)	(14.7%)	(31.7%)	(12.5%)	(3.4%)	(15.9%)	(4.2%)	(1.1%)	(5.3%)	(54.7%)	(45.3%)	(100.0%)
1992~2001 Annual average growth	3.5%	5.7%	4.7%	4.9%	6.7%	5.7%	8.0%	-5.6%	3.2%	7.5%	18.3%	9.0%	5.1%	4.7%	4.9%

(Source) Coal Services PTY Ltd. & QDNRM, “2001 Australian Black Coal Statistics”

Exports to Japan are increasing in terms of both coking and steaming coals, but steaming coal exports are growing faster than those of coking coal. This trend, also

noted in the rest of Asia, is an indication of mounting electricity demand in Asia regionwide.

Table 1-10 shows coal exports to Japan by state and coal rank. This shows that in 2001, by coal rank, steaming coal exports exceeded coking coal exports by 10.6 points. By state, QLD has larger coking coal exports than NSW, while NSW achieves a greater volume of steaming coal exports than QLD.

Table 1-10 Coal Exports to Japan

(1,000t)

	NSW			QLD			Total		
	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Sub-total	Coking coal	Steaming coal	Total
2000	13,994	29,016	43,010	25,268	18,346	43,614	39,262	47,361	86,623
(Share)	(16.2%)	(33.5%)	(49.7%)	(29.2%)	(21.2%)	(50.3%)	(45.3%)	(54.7%)	(100.0%)
2001	11,742	31,460	43,202	29,230	19,231	48,461	40,971	50,691	91,662
(Share)	(12.8%)	(34.3%)	(47.1%)	(31.9%)	(21.0%)	(52.9%)	(44.7%)	(55.3%)	(100.0%)

(Source) Barlow Jonker, "COAL 2002"

1-7 Coal export prices offered to Japan

Table 1-11 and Fig. 1-8 show the contract prices that have been offered to Japanese consumers by coal rank. Up to 2001, the price trends of coking and of steaming coals were identical. In 2002, however, marked differentials between the two began to appear. The rising coking coal price can be attributed to the coking coal balance being tilted toward demand (which means tightening supply).

As shown in Table 1-11 and Fig. 1-8, the steaming coal price (reference price), which peaked in FY1996 but then kept plunging for four consecutive years, picked up to US\$34.50/t (6,700 kcal/kg) in FY2001, up by US\$5.75/t over a year ago. However, in FY2002, the steaming coal market slackened and the price again fell to US\$31.85/t (6,700 kcal/kg), down US\$2.65/t.

On the other hand, as plotted in Fig. 1-8, the coking coal price, which peaked in FY1996 and subsequently slipped for four consecutive years as in the case of steaming coal, stopped falling. In FY2001, hard coking coal was priced at US\$42.75/t (up US\$3.00/t over a year earlier) and semi-soft coking coal at US\$36.75/t (up US\$6.75/t). In FY2002, backed by tightening supply and demand, the price of hard coking coal reached US\$48.35/t (up US\$5.60/t over FY2001), while that of semi-soft coking coal price dropped to US\$32/t – US\$33/t in reflection of the sluggish steaming coal market.

Meanwhile, the hard coking coal prices here are based on the contract prices of Goonyella coals.

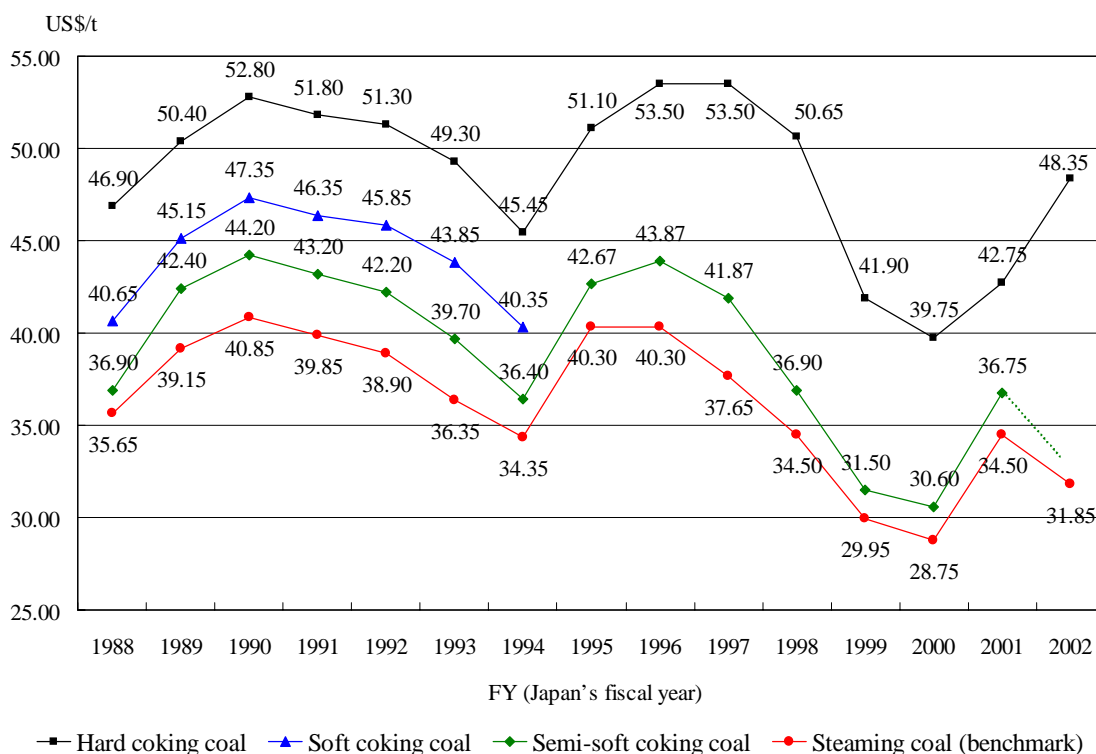
Table 1-11 Contract Prices for Japan-bound Australian Coals

(US\$/t)

Japan's fiscal year	Hard coking coal	Steaming coal	Differentials
1995	51.10	40.30	10.80
1996	53.00 ~ 54.00	40.30	12.70 ~ 13.70
1997	53.00 ~ 54.00	37.65	15.35 ~ 16.35
1998	50.35 ~ 51.30	34.50	15.85 ~ 16.80
1999	39.90 ~ 41.90	29.95	9.95 ~ 11.95
2000	37.45 ~ 40.85	28.75	8.70 ~ 12.10
2001	40.45 ~ 43.85	34.50	5.95 ~ 9.35
2002	46.10 ~ 50.00	31.85	14.25 ~ 18.15

(Source) Barlow Jonker, "COAL 2002"

Fig. 1-8 FOB Prices for Japan-bound Coals (Benchmark, Reference Prices)



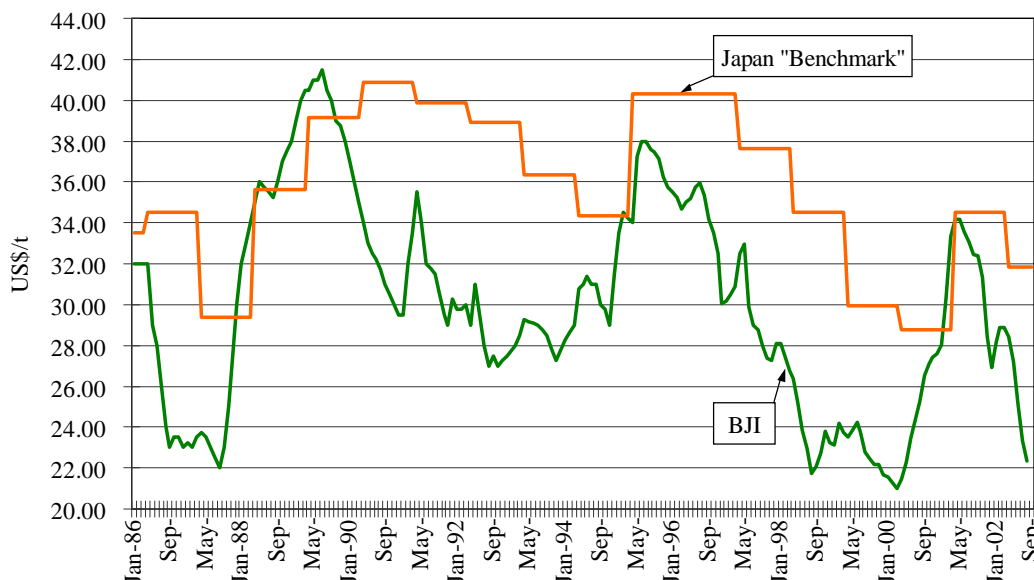
(Source) Barlow Jonker, "COAL 2002" and TEX Report, and others

As shown in Table 1-12, the steaming coal spot price (FOB) slumped during the last week of August 2002 to US\$22.30/t, down sharply by US\$9.55/t from the FY2002 benchmark price standing at US\$31.85/t. This slump may be regarded as a phenomenon caused by a collapsing supply-demand balance resulting from Australia’s overstocks of exportable steaming coals. However, given the stock adjustment now in progress, together with the expected growth of spot procurements by Japan and others for power production, a reverse in the steaming coal market price is likely.

Table 1-12 Contract Prices of Japan-bound Australian Coals (Barlow Jonker Index)

July 2002		August 2002	
2002/7/4	US\$23.50FOBT	2002/8/1	US\$22.90FOBT
2002/7/11	US\$23.40FOBT	2002/8/8	US\$22.00FOBT
2002/7/18	US\$23.20FOBT	2002/8/15	US\$22.20FOBT
2002/7/25	US\$23.20FOBT	2002/8/22	US\$22.30FOBT
		2002/8/29	US\$22.30FOBT

Fig. 1-9 FOB Prices of Japan-bound Steaming Coals (Spot and Reference Prices)



(Note) Japan “Benchmark” – Benchmark price of Japan-bound steaming coals (reference price)
 BJI – Barlow Jonker Index, that is, the spot price index aggregated and published by Barlow Jonker of steaming coals shipped from Newcastle Terminal.

(Source) Barlow Jonker, “COAL 2002”, “Australian Coal Report”

2. Reorganization of the Australian Coal Industry (Consolidation by Coal Majors)

Table 2-1 shows Australia's coal exports (2000 and 2001) by producer. The top ten coal producers virtually monopolized the exports, with their combined share accounting for more than 80%. In particular, a consolidation by the top four producers can be noted. The combined share of these four, standing at 56% in 2000, had risen to 69% by 2001.

Table 2-1 Australian Coal Exports Recorded by Top Ten Companies

(1,000t)

	2000			2001		
	Company	Exports	Share	Company	Exports	Share
1	BHP Coal	41,175	22.0%	BHP Billiton	49,590	25.5%
2	Rio Tinto	27,778	14.9%	Rio Tinto	42,018	21.6%
3	Glencore Coal Australia	18,186	9.7%	Enex Resources (Xstrata)	22,465	11.6%
4	MIM Holdings	17,570	9.4%	MIM Holdings	19,869	10.2%
5	Peabody Resources	13,488	7.2%	Anglo Coal Australia	15,759	8.1%
6	Anglo Coal Australia	7,559	4.0%	IDEMITSU KOSAN	6,316	3.2%
7	Exxon Coal & Minerals	7,510	4.0%	RAG Australia Coal	6,018	3.1%
8	Shell Coal Australia	7,178	3.8%	Australian Premium Coal	3,791	2.0%
9	IDEMITSU KOSAN	6,829	3.7%	Jellinbah Resources	3,471	1.8%
10	Billiton Coal Australia	4,845	2.6%	Wesfarmers Coal	2,958	1.5%
	10 companies total	152,118	81.5%	10 companies total	172,255	88.6%
	Australia's total exports	186,754	100.0%	Australia's total exports	194,374	100.0%

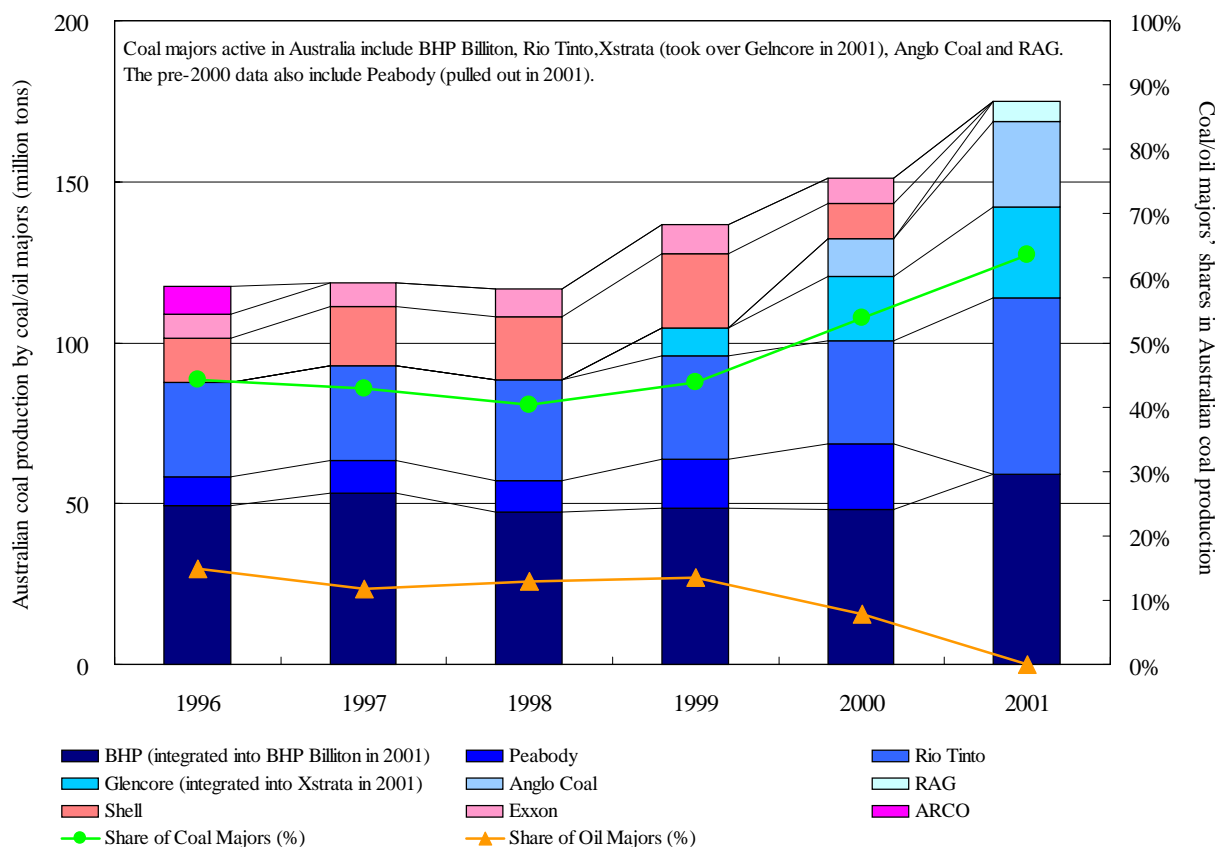
(Source) Barlow Jonker, "COAL 2002"

Since the beginning of 2001, dynamic moves toward industry-wide reorganization have been under way, including BHP-Billiton management integration. Among the giant coal companies, those producing Australian coals in 2001 are BHP Billiton, Rio Tinto, Xstrata (which took over Glencore's Australian coal resources in 2001), Anglo Coal and RAG. These companies together now account for 63.5% of Australian coal production. As shown in Fig. 2-1, as if mirroring the oil majors' pullouts from coal production, consolidation by the coal majors has been a reality since 1999.

The latest developments in Australia, typically mine integration/closures and reorganization of management capital, have given birth to giant mines having annual capacities of over 10 million tons each. As of 2000, there was only one mine capable of producing 10 million tons/year or more. This was the Blair Athol Mine (QLD) operated by Rio Tinto. By 2001, BHP Billiton's Goonyella/Riverside Mine (QLD) had a capacity

in excess of 10 million tons a year, while in NSW, Rio Tinto started up Hunter Valley Operations with a capability of producing more than 11 million tons/year by merging Howick and Lemington Mines with the Hunter Valley Mine. By 2003, Rio Tinto also plans to integrate two mines in NSW — Mount Thorley and Warkworth — into an over-11-million-ton-a year operation. Also, in NSW, BHP Billiton is planning in the fourth quarter of 2003 to start operating the Mt. Arthur North Mine, a large-scale steaming coal development project with a scheduled annual capacity of 12.10 million tons.

Fig. 2-1 Australian Coal Production by Coal/Oil Majors



(Source) Barlow Jonker, "COAL 2002"

3. Japan's Coal Interests in Australia (Mine-by-Mine Capital Investments)

While general data on Japan's capital investments, imports, etc. can be collected from published information, the actual state of interests such as equity-based operatorship and selling rights can only be comprehended through specific examination. (In some cases, depending on contracts with local firms, only small amounts of such

information are made available.) Generally speaking, the selling rights are rarely limited by capital investments, which means that even those who having only limited equities can gain selling rights. However, if the operatorship is interpreted as a management right, it requires due equity to be retained by a Japanese firm if it hopes to develop operations in the way it wants. The members of the board of directors of any local coal company in Australia should be selected in proportion to their equities.

Table 3-1, which was prepared from the details of Japanese firms' participation in Australian coal development projects (mines in operation) as described in "Coal Yearbook 2001," shows data such as their equities and imports.

4. Royalty Revision in QLD

The state government of the Australian state of QLD changed the target of its royalties from conventional FOR to an FOB basis (although the rate remained unchanged at 7%). This royalty revision, originally scheduled to take effect in October 2001, is to be introduced in January 2002 after all.

It is reported that as a result of the revision, shippers are to be taxed by A\$0.7/t more than previously, which means a tax increase of about A\$80 million industry-wide (Australian Coal Report dated August 11, 2001).

5. Current Australian Coal-related Topics

While Australia is the world's fourth largest coal producer after China, the United States and India, the country actually has much greater predominance in the coal trade. During the 1980s, Australia became the world's largest exporter, primarily because Australian coals were seen as a reliable source to meet the growing demand for coal in Asia. Australian coals have also contributed greatly to Japan's coal imports (accounting for 57.9% of the country's total coal imports in 2001). In the days ahead, Australian coals are likely to enjoy strong demand not only from Asia but globally.

All the major coal exporters with the exception of Australia are currently subject to some uncertainties, as outlined below.

- China: Domestic demand is so volatile and strong that a combination of shrinking exports and mounting imports is feared.
- Indonesia: On top of political instability and delays in construction of a transport infrastructure, sharp growth in domestic demand is projected.
- U.S.A: Due to the strength of the dollar in comparison to rival local currencies, US coals have poor export competitiveness.

Table 3-1 Details of Japanese Firms' Participation in Australian Coal Development Projects (Mines in Operation)

Mines in operation	Capital investment		FY2000 Japan's import-contracts (1,000t)	Share of Japan's imports in production	Production records: salable coals Australia: AFY 99-00	
	Japanese firms' equities	Japan's equities			O/C (1,000t)	U/G (1,000t)
Australia: NSW						
1 Hunter Valley	Ube Kosan 8.20%, Mitsubishi Corp. 8.20% Nissho Iwai Corp. 5.69%, Joban Kosan 1.27%	23.4%	Semi-soft coking Steaming coal	1,730 1,190	55.1%	5,296
2 Baal Bone	Sumitomo Corp. 5%	5.0%	Steaming coal	1,150	69.1%	1,186
3 Warkworth	Mitsubishi Corp. 22.75% Nippon Steel Corp. 7.50%	36.3%	Semi-soft coking Steaming coal	500 1,220	29.4%	5,857
4 Ulan	Mitsubishi Corp. 49%	49.0%	Steaming coal	1,500	30.4%	2,093
5 Wallarah	Nissho Iwai Corp. 20%	20.0%	Steaming coal	750	45.5%	1,647
6 Chain Valley	Nissho Iwai Corp. 20%	20.0%	Steaming coal	-	-	194
7 Muswellbrook	Idemitsu Kosan 100%	100.0%	Steaming coal	580	45.4%	1,277
8 Bayswater	Nisseki Mitsubishi 8.7%, Nippon Steel Corp. 6.4% Nittetsu Corp. 1.6%	16.7%	Semi-soft coking Steaming coal	790 273	25.3%	4,207
9 Bengalla	Mitsui & Co. 10.0%	10.0%				Operation started April '99.
10 Liddell	Mitsui Matsushima 32.5%	32.5%	Semi-soft coking	70	3.4%	2,062
11 Camberwell	Toyota Tsusho Corp. 40%, Mitsubishi Material 10%	50.0%	Semi-soft coking Steaming coal	905 350	70.3%	1,785
12 Bulga/South Bulga	Nippon Steel Corp. 10%, Tomen Corp. 23.06% Nisseki Mitsubishi 21.21%, Kawatetsu Corp. 2.57%	56.8%	Semi-soft coking Steaming coal	790 1,050	27.0%	3,722
13 Stratford	Itochu Corp. 10%	10.0%	Semi-soft coking	1,140	68.7%	1,659
14 Cumnock	Itochu Corp. 10%	10.0%	Semi-soft coking	950	51.7%	1,838
15 Dartbrook	Marubeni Corp. 15%, Showa Shell 3%	18.0%	Steaming coal	500	17.2%	2,901
16 Duralie	Kawatetsu Corp. 10%	10.0%				Production scale O/C 500,000 – 600,000 tons
17 Teralba West Wallsend	Marubeni Corp. 14+3%, Kokan Kogyo 3%	20.0%	Semi-soft coking Steaming coal	1,000 1,200	61.1%	1,319 2,284
18 Drayton	Mitsui & Co. 3.8%, Mitsui Mining 3.0%	6.8%	Steaming coal	1,170	23.8%	4,908
Australia: QLD						
19 Blackwater	Mitsubishi Corp. 15.53%	15.5%	Semi-soft coking	1,820	27.3%	6,656
20 Goonyella	Mitsubishi Corp. 15.53%	15.5%	Hard coking coal	1,320	13.8%	9,585
21 Peak Downs	Mitsubishi Corp. 15.53%	15.5%	Hard coking coal	880	13.3%	6,626
22 Saraji	Mitsubishi Corp. 15.53%	15.5%	Hard coking coal	1,210	27.4%	4,422
23 Norwich Park	Mitsubishi Corp. 15.53%	15.5%	Semi-soft coking coal	670	16.5%	4,052
24 Riverside	Mitsui & Co. 20%	20.0%	Hard coking coal	880	9.2%	Included Goonyella
25 Gregory	Mitsubishi Corp. 3.49%	3.5%	Hard coking coal Semi-soft coking	1,210 380	53.7%	2,962
26 Collinsville	Itochu Corp. 25%	25.0%	Semi-soft coking	400	14.6%	2,734
27 German Creek East	Marubeni Corp. 9.39%	9.4%				Production scale O/C 1,000,000 tons
28 Oaky Creek	Sumitomo Corp. 15%, Itochu Corp. 10%	25.0%	Semi-soft coking Hard coking coal	770 900	22.8%	357
29 Cook	Tokyo Boeki 5%	5.0%	Hard coking coal	150	33.4%	449
30 Kestrel	Mitsui & Co. 20%	20.0%	Hard coking coal Semi-soft coking	900 730	54.7%	2,981
31 North Goonyella	Sumitomo Corp. 100%	100.0%	Semi-soft coking Hard coking coal	330 500	34.0%	2,444
32 Jellinbah East	Marubeni Corp. 15%, Nissho Iwai Corp. 15%	30.0%	Semi-soft coking	1,550	69.0%	2,246
33 Moura	Mitsui & Co. 45%	45.0%	Semi-soft coking Steaming coal	1,240 715	42.5%	4,604
34 South Walker Creek	Mitsui & Co. 20%	20.0%	Semi-anthracite	1,150	44.1%	2,605
35 Moranbah North	Nippon Steel Corp. 5.00%, Tomen Corp. 3.75% Nittetsu Corp. 1.25%, Sumikin Bussan 1.00%	12.0%	Hard coking coal Semi-soft coking	1,300 550	57.6%	3,211
36 Coppabella	Nissho Iwai Corp. 7.5%, Marubeni Corp. 7.5%	20.0%	Semi-anthracite	1,000	39.2%	2,554
37 Foxleigh	Itochu Corp. 10%	10.0%	Semi-anthracite	450	110.1%	409
38 Hail Creek	Marubeni Corp. 5.3333%, Sumitomo Corp. 2.667%	8.0%	Hard coking coal	1,200 - 1,500	22 - 27%	Production scale O/C 5,500,000 tons
39 Blair Athol	EPDC 9.9513%, JCD 3.4167%	13.4%	Steaming coal	6,500	61.8%	10,523
40 Newlands	Itochu Corp. 25%	25.0%	Steaming coal	300	6.3%	4,784
41 Jeebropilly/New Hope	Mitsubishi Material 9.863%, Taiheiyou Kohatsu 1.760%	11.6%	Steaming coal	150	83.5%	180
42 Ensham	Idemitsu Kosan 47.5+37.5% EPDC 10.0%	95.0%	Semi-soft coking Steaming coal	50 2,000	58.7%	3,492
43 Ebenezer	Idemitsu Kosan 100%	100.0%	Steaming coal	-	-	1,300

(Source) TEX Report Co., Ltd., "Coal Yearbook 2001"

- Canada: Coal rank is limited to coking coal.
- South Africa: Problems result from political instability and long transport distances.

By contrast, Australia is considered to enjoy overall favorable conditions in terms of coal resource availability, coal quality and transport infrastructure. Given the uncertainties affecting its rivals, Australia can be highly regarded as the most reliable coal exporting country for Japan. Despite this, however, even Australian coals are subject to a few uncertainties which need to be resolved at the present time.

While U.S. coals are being forced into a desperate situation due to the strength of the dollar, Australian coals have enjoyed the advantages of the weak Australian dollar for over twenty years. As seen from the fact that the strong yen deprived Japanese coals of their international competitiveness, the impact of the exchange rate can be formidable. During the last two decades, the Australian dollar has remained generally weak except in two years, 1987 and 1994, when the Australian currency appreciated. In those two years, Australian coal companies suffered shrinking sales revenues in terms of Australian dollars, resulting in a large number of mine closures and other negative impacts. The Australian dollar, after reaching a record low in 2001, reversed its course and again became strong in 2002. Although the risks of currency uncertainties can be covered with financial tools to hedge against exchange fluctuations, not only are the effects of such measures limited, but they also carry risks of their own.

To overcome these uncertainties, the best course to be followed by the Australian coal industry is to increase coal productivity by stepping up its rationalization efforts as a top priority. Australian coal producers already succeeded in achieving the world's top-class coal productivity, as did their U.S. counterparts. However, in view of the mining and siting conditions of Australian coals, there is still room to push up productivity to a much higher level than exists at present. In fact, even the mines of QLD, which are the most productive among Australian mines reputed for their high productivity, are smaller in size and lower in productivity than the U.S. Western mines.

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Appendix Table 1 A List of Major Mines in Australia (1/3)

Name of mine	Operator	Production (1,000t)		Location	Mining method	Produced coal	Export terminal	Domestic transport (km)		Remarks
		1999/00	2000/01					Railway	Others	
NSW (mines producing exportable coals)										
OMDALE	ADVANCE COAL	-	-	BURRAGORANG	UG Longwall	Medium volatile matter steaming coal	PORT KEMBLA	63	48	Closed
1 BELLAMBI WEST	ALLIED COAL	1,051	799	SOUTH COAST	UG Longwall	Low volatile matter coking/steaming coals	PORT KEMBLA	-	20	Former South Bull Mine closed January 2002.
2 DARTBROOK	ANGLO COAL	2,901	2,965	MUSWELLBROOK	UG Longwall	High volatile matter steaming coal	NEWCASTLE	140	-	
3 DRAYTON	ANGLO COAL	4,908	5,084	SINGLETON	O/C	HVC steaming coal	NEWCASTLE	118	-	
4 TAHMOOR	AUSTRAL COAL PIL	1,230	1,397	BURRAGORANG	UG Longwall	MVC coking coal (incl. Semi-soft coking coal)	PORT KEMBLA	185	-	
5 WEST CLIFF	BHP BILLITON	1,219	1,702	SOUTH COAST	UG Longwall	LVC coking coal	PORT KEMBLA	-	40	
6 BAYSWATER / MOUNT ARTHUR	BHP BILLITON	4,207	4,543	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	100	23	Mt. ARTHUR Mine on stream from 2002 onward.
7 BLOOMFIELD	BLOOMFIELD COLL	721	788	NEWCASTLE	O/C	HVC coking/steaming coals	NEWCASTLE	22	6	
8 RIX'S CREEK	BLOOMFIELD COLL	1,229	1,126	NEWCASTLE	O/C	HVC coking/steaming coals	NEWCASTLE	90	-	Closed March 2000.
9 CAMBERWELL	BRIMSTONE COAL	80	-	SOUTH COAST	O/C	HVC coking/steaming coals	PORT KEMBLA	185	60	
10 CHARBON O/C	CAMBERWELL COAL	1,785	1,866	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	89	-	Reopened November 2000.
11 CHARBON U/G	CENTENNIAL COAL Co.	591	213	WEST	O/C	HVC steaming coal	PORT KEMBLA	246	-	
12 CLARENCE	CENTENNIAL COAL Co.	1,004	1,210	WEST	UG Bord & Pillar	MVC steaming coal	PORT KEMBLA	223	-	Part of output sold to domestic markets.
13 STRATFORD	CENTENNIAL COAL Co.	-	-	SINGLETON	UG Bord & Pillar	HVC coking/steaming coals	NEWCASTLE	302	2	Closed May 1998.
14 DONALDSON	CIM RESOURCES	1,659	2,377	GLOUCESTER	O/C	HVC coking/steaming coals	NEWCASTLE	130	-	Incl. steaming coal for domestic use.
15 MUSWELLBROOK	DONALDSON COAL	1,277	1,702	NEWCASTLE	O/C	HVC coking/steaming coals	NEWCASTLE	36	-	Steaming coal exports/domestic marketing started February 2001.
16 MOONEE	IDEMTSU KOSAN Co.	1,216	1,212	NEWCASTLE	O/C	HVC steaming coal	NEWCASTLE	127	-	Closed 2002.
WALLARAH	LAKE COAL	430	-	NEWCASTLE	UG Longwall	HVC steaming coal	NEWCASTLE	-	95	Installation/repairs started May 2000.
17 GLENNIES CREEK	LAKE COAL	56	177	SINGLETON	UG Bord & Pillar	HVC steaming coal	NEWCASTLE	90	-	L/W mining started September 2002.
GUNNEDAH	NAMOI MINING	255	-	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	320	8	Closed June 2000.
18 GUNNEDAH No.2	NAMOI MINING	264	37	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	320	8	Closed September 2000.
19 WHITEHAVEN	NAMOI MINING	387	387	GUNNEDAH	O/C	HVC steaming coal	NEWCASTLE	320	30	Production started October 2000.
20 NARDELL	NARDELL COAL	-	-	SINGLETON	UG Bord & Pillar	HVC coking/steaming coals	NEWCASTLE	100	-	Development started February 2001 for both exports and domestic use.
21 HUNTER VALLEY	HOWICK	3,459	4,907	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	107	-	
22 MOUNT THORLEY	HOWICK	5,296	11,062	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	105	7.5	Integrated into HUNTER VALLEY OPERATIONS.
23 VICKERY O/C	LEMMINGTON	3,682	4,175	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	84	17	
24 MTROPOLITAN	LEMMINGTON	4,175	4,466	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	84	0.25	
25 SOUTH HLAND	LEMMINGTON	5,857	6,671	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	370	-	Closed May 1998.
26 WAMBO	LEMMINGTON	446	1,137	SOUTH COAST	UG Longwall	HVC coking/steaming coals	PORT KEMBLA	41	-	Closed April 2000.
27 BULGA (SAXONVALE)	LEMMINGTON	248	-	SOUTH COAST	UG Bord & Pillar	LVC coking coal (incl. Semi-soft coking coal)	PORT KEMBLA	-	20	Closed 2000.
28 SOUTH BULGA	LEMMINGTON	722	476	NEWCASTLE	UG Longwall	MVC steaming coal	NEWCASTLE	65	-	Temporarily out of operation during January - April 2001.
29 CUMMOCK No.1	LEMMINGTON	1,931	2,227	SINGLETON	UG Longwall	HVC coking/steaming coals	NEWCASTLE	84	20	WOLLEFEM Mines to be closed by 2002.
30 MOUNT OWEN	LEMMINGTON	12	-	SINGLETON	O/C	HVC steaming coal	NEWCASTLE	84	20	Reopened January 2002.
31 LIDDELL O/C	LEMMINGTON	3,722	4,357	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	92	-	
32 BAL BONE	LEMMINGTON	3,102	4,211	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	92	-	
33 WEST WALLSEND No.2	LEMMINGTON	1,838	1,448	SINGLETON	UG Longwall	HVC coking/steaming coals	NEWCASTLE	105	-	
34 ULAN	LEMMINGTON	-	-	SINGLETON	O/C	HVC steaming coal	NEWCASTLE	105	-	Closed July 1998.
35 ULAN No.2	LEMMINGTON	3,059	3,830	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	102	-	
36 UNITED	LEMMINGTON	2,062	2,541	SINGLETON	O/C	HVC coking/steaming coals	NEWCASTLE	105	-	
37 NEW WALLSEND 2	LEMMINGTON	1,664	2,548	WEST	UG Longwall	MVC steaming coal	PORT KEMBLA	279	-	Incl. O/C-mining coal output during 1999 - 2000.
		2,284	2,784	NEWCASTLE	UG Bord & Pillar	High-sulfur/HVC steaming coal	NEWCASTLE	56	30	Closed February 1999.
		2,093	2,221	NEWCASTLE	UG Longwall	HVC coking/steaming coals	NEWCASTLE	16	-	
		2,840	3,755	WEST	O/C	HVC steaming coal	NEWCASTLE	22	-	Closed May 2001.
		1,172	964	SINGLETON	UG Bord & Pillar	HVC coking/steaming coals	NEWCASTLE	275	-	Steaming coal for both exports and domestic use.
		855	952	NEWCASTLE	UG Longwall	HVC coking/steaming coals	NEWCASTLE	84	25	L/W mining started around mid 2002.
								16	4	MINIWALL mining resumed 1999.

(Source) Batlow Jonker, "COAL 2002"

Appendix Table 1 A List of Major Mines in Australia (2/3)

Name of mine	Operator	Production (1,000t)		Location	Mining method	Produced coal	Export terminal	Domestic transport (km)		Remarks
		1999/00	2000/01					Railway	Others	
NSW (mines producing coals for domestic use)										
KANDOS No.3	AUST CEMENT HOLDINGS	69	67	67 WEST	UG Bord & Pillar	LVC coking coal	-	-	-	Closed March 2001.
38 APPIN	BHP BILLITON	1,628	2,121	2,512 SOUTH COAST	UG Longwall	LVC coking coal	-	-	-	Closed March 2001.
CORDEAUX	BHP BILLITON	1,022	823	544 SOUTH COAST	UG Longwall	LVC coking coal	-	-	-	Supplied to BHPB steelworks in PORT KEMBLA. Closure slated for December 2002.
39 ELOUERA	BHP BILLITON	1,807	1,721	1,930 SOUTH COAST	UG Longwall	LVC coking coal	-	-	-	
40 TOWER AIRLY	BHP BILLITON	2,175	1,409	1,076 SOUTH COAST	UG Longwall	LVC coking coal	-	-	-	
	CENTENNIAL COAL Co.	49	-	- WEST	O/C - U/G (Future)	HVC steaming coal	-	-	-	
41 BERRIMA	CENTENNIAL COAL Co.	201	174	210 SOUTH COAST	UG Bord & Pillar	High ash/MVC steaming coal	-	-	-	Whole output supplied to BCSC CEMENT. Closed in December 1999.
BLUE MOUNTAINS	CENTENNIAL COAL Co.	171	50	- WEST	UG Bord & Pillar	High ash/HVC steaming coal	-	-	-	
42 IVANKHOE	CENTENNIAL COAL Co.	172	241	229 WEST	UG Bord & Pillar	High ash/HVC steaming coal	-	-	-	
43 SPRINGVALE	CENTENNIAL COAL Co.	1,464	1,812	1,883 WEST	UG	MVC steaming coal	-	-	-	2.20 mil. t/y supplied to Mt. Piper power plant.
WESTERN MAIN	CENTENNIAL COAL Co.	172	-	WEST	O/C	MVC steaming coal	-	-	-	Construction/repairs under way. Closed 1998.
44 INVINCIBLE	COALPAC P/L	66	424	201 WEST	UG Bord & Pillar	HVC steaming coal	-	-	-	
CANYON	COALPAC P/L	-	-	- WEST	UG Bord & Pillar	HVC steaming coal	-	-	-	
45 CHAIN VALLEY	LAKE COAL	98	194	259 NEWCASTLE	UG Bord & Pillar	HVC steaming coal	-	-	-	Steaming coal production started 2000 for domestic use.
46 CULLEN VALLEY	LITHGOW COAL	-	-	558 WEST	O/C	Steaming coal	-	-	-	
47 ENHANCE PLACE	NIMAKA	81	84	74 WEST	O/C	Steaming coal	-	-	-	
AWABA STATE	POWERCOAL P/L	219	160	- NEWCASTLE	UG Bord & Pillar	High ash/HVC steaming coal	-	-	-	Closed March 2000/reopening slated for the 1st quarter of 2001.
48 MUNNORAH STATE	POWERCOAL P/L	665	732	698 NEWCASTLE	UG Bord & Pillar	High ash/HVC steaming coal	-	-	-	1.10 mil. t/y to Murrumbidgee power plant.
49 NEWSTAN	POWERCOAL P/L	2,032	2,110	1,682 NEWCASTLE	UG Longwall	High ash/HVC steaming coal	-	-	-	1.80 mil. t/y to Eraring power plant.
ENDEAVOUR	POWERCOAL P/L	349	220	- NEWCASTLE	UG Bord & Pillar	High ash/HVC steaming coal	-	-	-	Closed December 1999.
50 WYEE STATE	POWERCOAL P/L	927	1,175	1,146 NEWCASTLE	UG Longwall	High ash/HVC steaming coal	-	-	-	1.50 mil. t/y to Vales Point power plant/closure slated for 2000.
51 ANGUS PLACE	POWERCOAL P/L	2,321	2,100	1,905 WEST	UG Longwall	High ash/HVC steaming coal	-	-	-	2.20 mil. t/y to Mt. Piper power plant.
52 COORANBONG	POWERCOAL P/L	1,480	1,375	1,267 NEWCASTLE	UG Longwall	High ash/HVC steaming coal	-	-	-	1.44 mil. t/y to Eraring power plant.
53 MYUNA	POWERCOAL P/L	1,203	1,231	1,293 NEWCASTLE	UG Bord & Pillar	High ash/HVC steaming coal	-	-	-	1.44 mil. t/y to Eraring power plant.
54 RAVENSWORTH / NARAMA	XSTRATA	5,628	6,038	3,641 SINGLETON	O/C	High ash/HVC steaming coal	-	-	-	Supplied to Liddell/Bayswater power plants.
55 RAVENSWORTH EAST	XSTRATA	-	891	891 SINGLETON	O/C	High ash/HVC steaming coal	-	-	-	Production started October 2000 (former Swamp Creek Mine)
56 WESTSIDE	XSTRATA	630	634	709 NEWCASTLE	O/C	High ash/HVC steaming coal	-	-	-	Supplied to Eraring power plant.

(Source) Batlow Jonker, "COAL 2002"

Appendix Table 1 A List of Major Mines in Australia (3/3)

Name of mine	Operator	Production (1,000t)		Location	Mining method	Produced coal	Export terminal	Domestic transport (km) Railway/ Others	Remarks
		1999/00	2000/01						
QLD									
1 WILKIE CREEK	ALLIED OLD COALFIELDS	432	505	765 SOUTH	O/C	HVC steaming coal	FISHERMAN ISLANDS (BRISBANE)	280	Annual capacity 750,000 tons; exportable steaming coals by rank 2.50 mil. t/y to Stanwell power plant.
2 BOUNDARY HILL	ANGLO COAL	2,716	7,447	7,635 SOUTH	O/C	Steaming coal for domestic use		-	Shipped to Callide power plant, OCL (cement) and OAL (aluminium).
CALLIDE	ANGLO COAL	4,461		SOUTH	O/C	Steaming coal for domestic use		-	
3 MORANBAH NORTH	ANGLO COAL	1,904	3,212	3,803 NORTH	U/G	MVC coking coal	DALRYMPLE BAY	180	
4 GERMAN CREEK EAST	ANGLO COAL	485	598	697 CENTRAL	O/C	LVC coking coal	DALRYMPLE BAY	284	
5 GERMAN CREEK CENTRAL	ANGLO COAL	1,538	1,801	1,707 CENTRAL	U/G	LVC coking coal	DALRYMPLE BAY	284	
6 GERMAN CREEK SOUTHERN	ANGLO COAL	2,372	2,695	2,404 CENTRAL	U/G	LVC coking coal	DALRYMPLE BAY	284	
7 MOURA	ANGLO COAL	3,677	4,604	5,511 SOUTH	O/C	MVC coking/steaming coals	GLADSTONE, BARNEY POINT	184	
8 COPPABELLA	AUST. PREMIUM COALS	686	2,554	3,538 NORTH	O/C	LVC PCI	DALRYMPLE BAY	140	
9 BLACKWATER	BHP BILLITON	6,083	6,956	8,177 CENTRAL	O/C	MVC coking/steaming coals	GLADSTONE, RG TANNA TERMINAL	325	
10 GREGORY	BHP BILLITON	4,260	2,962	1,671 CENTRAL	O/C	HVC coking coal	GLADSTONE, RG TANNA TERMINAL	380	Transferred to CRINUM by 1999.
11 CRINUM	BHP BILLITON	9,744	9,585	3,920 CENTRAL	U/G	HVC coking coal	GLADSTONE, RG TANNA TERMINAL	380	On stream in 2000.
12 GOONYELLA / RIVERSIDE	BHP BILLITON	3,411	4,052	3,534 CENTRAL	O/C	LVC coking coal	HAY POINT	198	
13 NORWICH PARK	BHP BILLITON	6,125	6,626	5,886 NORTH	O/C	LVC coking coal	HAY POINT	256	
14 PEAK DOWNS	BHP BILLITON	4,967	4,422	3,997 NORTH	O/C	LVC coking coal	HAY POINT	191	
15 SARAJI	BHP BILLITON	2,083	2,605	3,150 NORTH	O/C	LVC coking coal	HAY POINT	212	
16 SOUTH WALKER CREEK	BHP BILLITON	2,497	2,225	2,092 CENTRAL	O/C	LVC PCI	HAY POINT	132	
17 SOUTH BLACKWATER	BHP BILLITON	677	803	463 CENTRAL	U/G	MVC coking/steaming coals	GLADSTONE, RG TANNA TERMINAL	343	Closed 2001.
18 LALEHAM No.1	BHP BILLITON	2,144	929	1,599 CENTRAL	U/G	MVC coking/steaming coals	GLADSTONE, RG TANNA TERMINAL	343	LW mining
19 KENMARE	BHP BILLITON	519	449	407 CENTRAL	U/G	MVC coking/steaming coals	GLADSTONE, RG TANNA TERMINAL	318	Present production capacity at 500,000 t/y.
20 COOK	CENTENNIAL COAL Co.	1,746	1,300	2,413 CENTRAL	O/C	HVC steaming coal	FISHERMAN ISLANDS (BRISBANE)	284	
21 FOXLEIGH	FOXLEIGH MINING	3,932	3,492	5,838 CENTRAL	O/C	HVC steaming coal	FISHERMAN ISLANDS (BRISBANE)	45	480,000 t/y to Swanbank power plant.
22 ERNEZER	IDEMTSU KOSAN Co.	2,246	2,555	3,075 CENTRAL	O/C	HVC steaming coal	GLADSTONE, RG TANNA TERMINAL	340	Steaming coal exports
23 ENSHAM	IDEMTSU KOSAN Co.	1,146	1,416	492 CENTRAL	O/C	Semi-anthracite	GLADSTONE, RG TANNA TERMINAL	280	
24 JELLINEBAH	JELLINEBAH RESOURCES	3,837	2,734	4,135 NORTH	U/G	Coking coal	GLADSTONE, RG TANNA TERMINAL	268	LW mining
25 ALLIANCE	MIM HOLDINGS LTD	7,065	4,784	3,700 NORTH	O/C	MVC coking coal	DALRYMPLE BAY	106	
26 COLLINSVILLE	MIM HOLDINGS LTD	2,363	3,113	3,113 NORTH	O/C	MVC steaming coal	ABBOT POINT	177	Steaming coal exports
27 NEWLANDS O/C	MIM HOLDINGS LTD	782	357	- CENTRAL	O/C	MVC steaming coal	ABBOT POINT	177	On stream in 2000; steaming coal exports
28 NEWLANDS U/G	MIM HOLDINGS LTD	2,637	3,460	3,343 CENTRAL	U/G	MVC coking coal	DALRYMPLE BAY	268	
29 OAKY CREEK	MIM HOLDINGS LTD	965	2,087	4,169 CENTRAL	U/G	MVC coking coal	DALRYMPLE BAY	268	Steaming coal exports
29 OAKY CREEK No.1	MIM HOLDINGS LTD	1,467	382	- SOUTH	O/C	HVC steaming coal	DALRYMPLE BAY	65	LW mining
30 OAKY CREEK NORTH	NEW HOPE Co.	1,161	1,523	SOUTH	O/C	HVC steaming coal	FISHERMAN ISLANDS (BRISBANE)	65	
JEEBROPILLY	NEW HOPE Co.	-	-	SOUTH	U/G	HVC steaming coal	FISHERMAN ISLANDS (BRISBANE)	60	Blended with other Ipswich coals.
31 SEVEN MILE	NEW HOPE Co.	150	156	170 SOUTH	U/G	HVC steaming coal	FISHERMAN ISLANDS (BRISBANE)	60	Closed
NEW HILL	NEW HOPE Co.	239	177	330 SOUTH	U/G	HVC steaming coal	FISHERMAN ISLANDS (BRISBANE)	60	On stream in 1996.
32 NEW HOPE	NEW HOPE Co.	-	-	SOUTH	U/G	Closed	FISHERMAN ISLANDS (BRISBANE)	169	
33 NEW HOPE	NEW HOPE Co.	3,418	4,387	4,573 NORTH	O/C	MVC coking/steaming coals	HAY POINT	210	
OAKLEIGH No.3 & 5	NEW HOPE Co.	1,241	2,444	1,733 NORTH	U/G	MVC coking coal	DALRYMPLE BAY	280	
34 BURTON	RAG	10,889	10,523	11,932 CENTRAL	O/C	MVC steaming coal	DALRYMPLE BAY	365	Capacity expansion under way to 6.00 mil. t/y.
35 NORTH GOONYELLA	RAG	223	2,981	3,275 CENTRAL	U/G	MVC coking/steaming coals	GLADSTONE, RG TANNA TERMINAL	-	Supplied exclusively to Tarong power plant.
36 BLAIR ATHOL	RIO TINTO	5,175	4,806	5,219 SOUTH	O/C	Steaming coal for domestic use	GLADSTONE, RG TANNA TERMINAL	315	
37 KESTREL	RIO TINTO	4,064	4,552	5,132 CENTRAL	O/C	LVC coking coal/steaming coal for domestic use	GLADSTONE, RG TANNA TERMINAL	280	
38 MEANDU	RIO TINTO	613	751	785 CENTRAL	O/C	Semi-anthracite	GLADSTONE, RG TANNA TERMINAL	280	
39 CURRAGH	WESFARMERS								
40 YARRABEE	YARRABEE COAL P/L								

(Source) Batlow Jonker, "COAL 2002"