



Western Australian Mineral and Petroleum Statistics Digest **2005**



Department of
Industry and Resources

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The value of Western Australian petroleum and mineral resources in 2005 increased by 37 per cent to reach \$38.9 billion. This record result was achieved through strong overseas demand for Western Australian resources, reflected in increased outputs and rising commodity prices.

Whilst nearly all of the State's minerals and energy industries recorded stronger sales quantities, the overall rise in value of sales for 2005 is mainly attributable to the significant increases in the petroleum and iron ore sectors (37 per cent and 83 per cent respectively). These two industries accounted for around 66 per cent of the total value of \$38.9 billion for 2005.

The results for petroleum, with an increase in sales of \$3.9 billion to reach a record level of \$14.3 billion, firmly entrenched its position as the State's largest resource industry. With increases in output it also raised Western Australia's share of Australia's oil and condensate production from 64 per cent to around 70 per cent.

The next largest industry was iron ore, which sold a record 244 million tonnes valued at \$11.3 billion, up 13 per cent and 83 per cent respectively. With planned mine and port expansions, anticipated price rises in April 2006 and continued strong demand, it is expected that this sector will continue its record breaking run through 2006 and beyond.

Next in order of value to the State came alumina with a sales value of \$3.66 billion (an increase of some 15 per cent over the previous period), followed closely by nickel at \$3.43 billion (up 5 per cent) and Gold \$3.13 billion up 6 per cent.

Base metals performed particularly strongly for the year with new projects coming on stream, to record an increase of 108 per cent or \$455 million worth of sales. Another sector enjoying record sales values was diamonds with \$727 million, up over 75 per cent on the previous year's figures. Salt also joined the ranks of record breakers reaching record outputs and sales values of 11.5 million tonnes for a value of \$222 million.

An average 4 per cent appreciation of the Australian dollar against the US dollar over the 12 months period to end 2005 only marginally influenced the outcomes of strong commodity prices and increased outputs from the Western Australian resources sector. It is expected that the strong demand from our trading partners for the State's resources will continue through 2006.

HIGHLIGHTS IN 2005

Oil prices briefly peaked at US\$70.85/bbl at the end of August 2005 following the devastation of hurricane Katrina and averaged US\$56.22/bbl for 2005. These strong oil prices, together with increased outputs (up 8 per cent) resulted in a 46 per cent increase in the value of crude oil to realise \$6.17 billion worth of sales.

LNG sales volumes rose some 29 per cent with the 4th train commissioned early in the year to realise a record sales value of \$4.32 billion, an increase of 37 per cent. This makes LNG the third most valuable individual commodity in the State after iron ore and crude oil and condensate.

LPG Butane and Propane also enjoyed a healthy output increase of 32 per cent, returning a sales value of \$526 million, up 55 per cent. **Condensate** and **natural gas** were the only two petroleum items to record lower outputs, however strong prices for condensate still resulted in a 28 per cent increase in value to \$2.58 billion. Natural gas was only up marginally by 1 per cent to \$662 million.

Iron ore is now the largest individual sector by value taking the lead from crude oil and condensate, accounting for 29 per cent of the value of resources output for 2005, up from 22 per cent in 2004. On the back of a 71.5 per cent increase in price effective April 2005 and strong demand, particularly from China, iron ore reached a record \$11.3 billion in sales and sold over 244 million tonnes of ore.

Alumina's steady performance over the years continued through 2005 to claim fourth place behind LNG. A modest increase in output of 3 per cent resulted in a record of 11.35 million tonnes shipped and a respectable 15 per cent increase in the value of sales reached \$3.66 billion in sales for the year.

Nickel output increased by nearly 8 per cent, however due to a softening of prices in the December quarter and heavy sales during that period, sales values only increased by 5 per cent to reach a total of \$3.43 billion for the period. None-the-less this was a record for nickel and it accounts for nearly 9 per cent of the total value of resources.

Diamonds saw a resurgence of sales volumes increasing by 42 per cent to 34 million carats which resulted in a record sales value of \$727 million (up 75 per cent from 2004 figures).

Gold output improved marginally during 2005 by nearly 3 per cent to reach 5.44 million ounces (169,092 kg) but remains well below peak output levels achieved in the late 1990s. This sector also slipped into sixth place behind nickel with a value of \$3.13 billion despite strong gold prices which peaked late in the year to levels not seen since the 1980's.

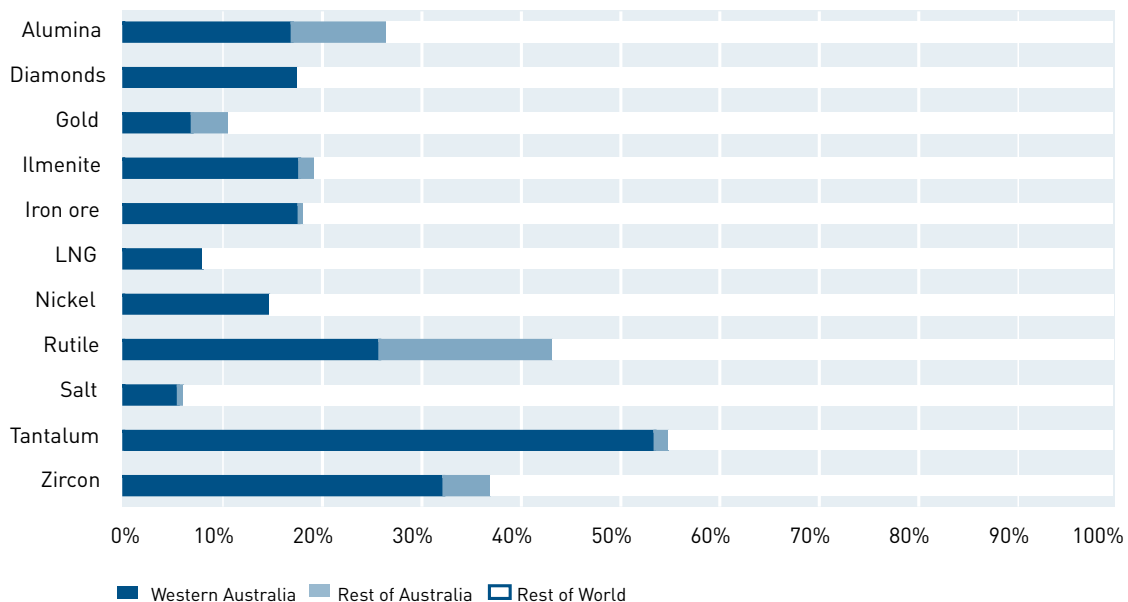


Figure 1 Selected WA Commodities relative to world production ending 2005 by quantity
Source: DoIR, ABARE and USGS

The latest comparable data show that the Western Australian share (by quantity) of the world's output of the following products was: alumina 17%, gold 7%, ilmenite 18%, iron ore 18%, LNG (sea borne trade) 8%, nickel 15%, rutile 26%, salt 5%, tantalum 54%, zircon 32% and 18% of diamonds (mainly industrial grade)

Mineral sands enjoyed a 9 per cent improvement in sales values to record \$817 million. Despite this improvement, the share of mineral sands production in total resources value reduced from 2.6 per cent in 2004 to 2.1 per cent in 2005. Production of synthetic rutile was up by 11 per cent to the detriment of ilmenite sales which fell some 19 per cent. Zircon was the other strong mineral sands performer despite recording a 7 per cent drop in sales quantities it achieved a 14 per cent increase in sales value (\$302 million).

Base Metals also joined the record breakers by achieving \$456 million in sales for the 2005 period. This record was achieved through strong commodity prices together with increased output from nickel producers and the Telfer and Magellan Lead mines coming on stream.

Copper was base metals star performer, increasing in quantity sold by 97 per cent to a record 84 thousand tonnes, while value increased by 120 per cent to \$354 million. **Lead** registered sales quantities of over 28 thousand tonnes for a value of \$25 million whilst **zinc** recorded increases in quantities sold by 15 per cent and sales values by 32 per cent.

Salt achieved a record output and sales value for 2005. Volumes increased by 10 per cent to reach 11.5 million tonnes and sales were valued at \$222 million, up 20 per cent. **Cobalt** sales volumes rose nearly 6 per cent however weakening prices saw sales values declining by around 37 per cent to \$166 million. **Manganese** sales volumes remained virtually constant increasing by only 1 per cent to 600 thousand tonnes for a value of \$109 million (up 2 per cent).

The State's resources in order of value for 2005:	
	BILLION
IRON ORE	\$11.29
CRUDE OIL AND CONDENSATE	\$8.74
LNG	\$4.32
ALUMINA	\$3.66
NICKEL	\$3.43
GOLD	\$3.13
OTHERS	\$4.34

EXPORTS

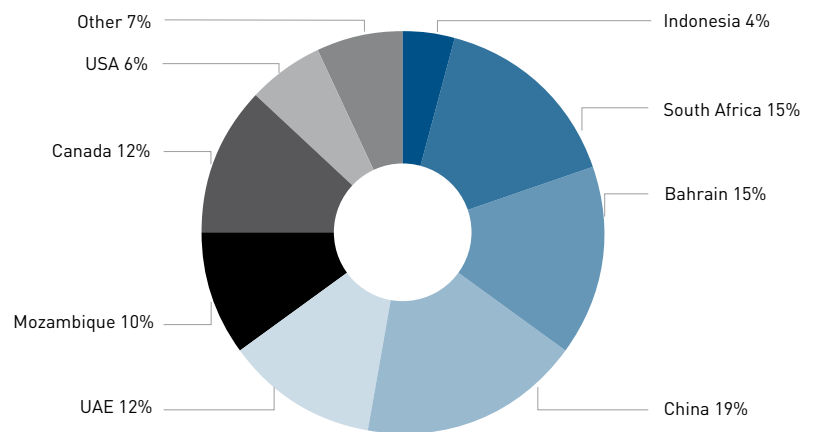


Figure 2 Alumina Exports
Total Value \$3.22 billion Source: DoIR

Gold Export update 2005

The Australian Bureau of Statistics (ABS) released trade data that indicated a significant rise in Western Australian gold exports. However, this apparent increase in gold exports from Western Australia has been due to a restructuring of Australia's gold refining industry.

In October 2002, AGR Matthey was formed. This is a partnership between Johnson Matthey (Aust) in Victoria, WA Mint (The Perth Mint) and the Australian Gold Alliance. As a result of the merger, all Australian gold is now refined in Western Australia. The Victorian refinery still refines silver and jewellery products.

Gold export data published by the ABS from Western Australia must therefore be interpreted with some caution. It includes gold produced in other States and Territories, in addition to production from overseas operations, namely Papua New Guinea and Asia, which is refined and exported from Western Australia. This export figure is therefore larger than Western Australia's own level of gold production.

The ABS estimates that gold exports from Western Australia in 2005 amounted to approximately \$5.8 billion. Approximately 54 per cent or \$3.1 billion was gold produced in Western Australia. The remaining 46 per cent (approximately \$2.7 billion) can be attributed to gold refined and exported from Western Australia but produced from mining operations in other States, Territories and overseas.

Overseas imported gold also includes scrap which is refined in Western Australia and exported.

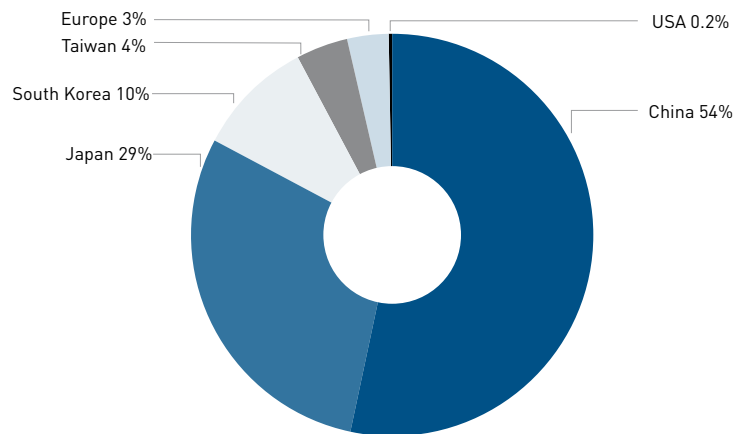


Figure 3 Iron Ore Exports
Total Value \$11.12 billion Source: DoIR

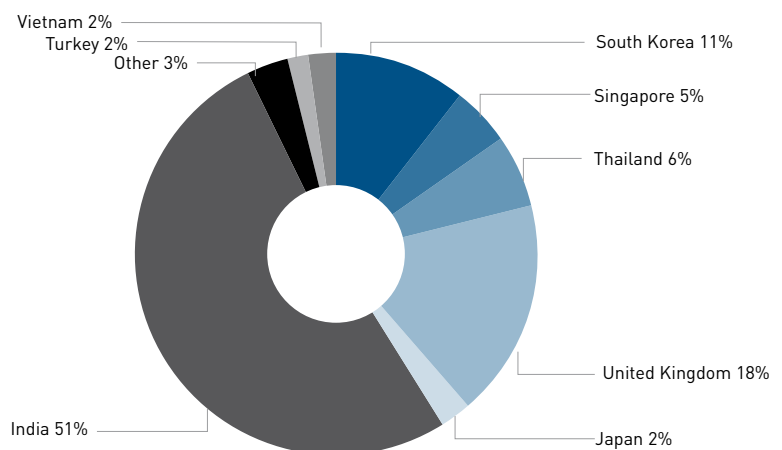


Figure 4 Gold Exports
Total Value \$3.13 billion Source: ABS and DoIR

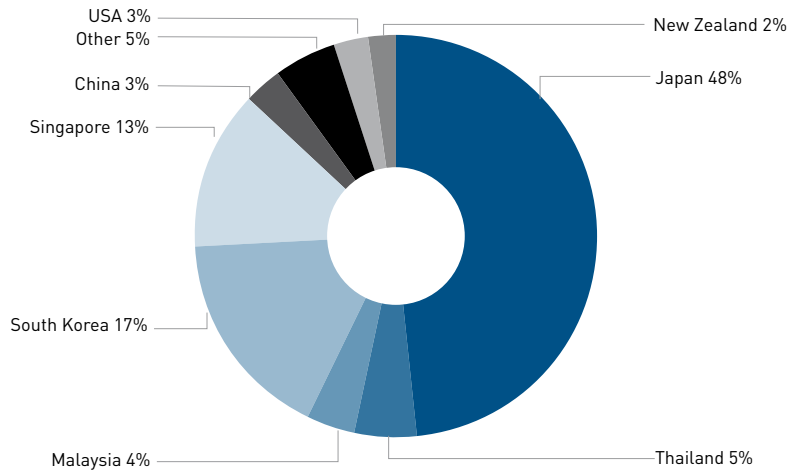


Figure 5 **Petroleum Exports**
Total Value \$9.96 billion Source: DoIR

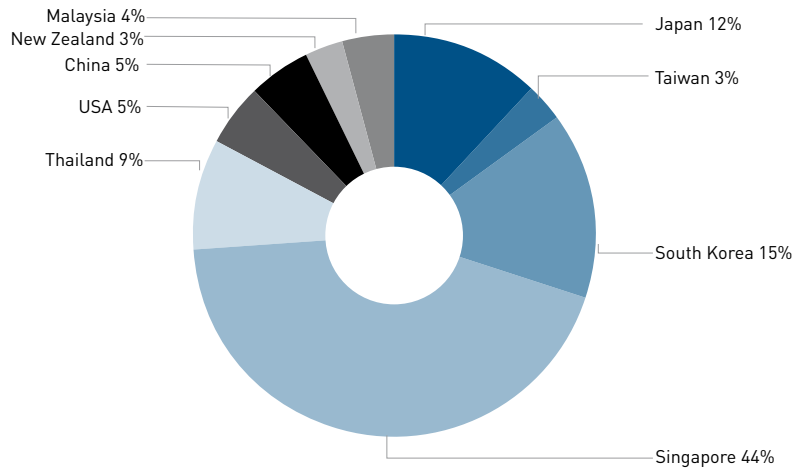


Figure 6 **Condensate Exports**
Total Value \$1.91 billion Source: DoIR

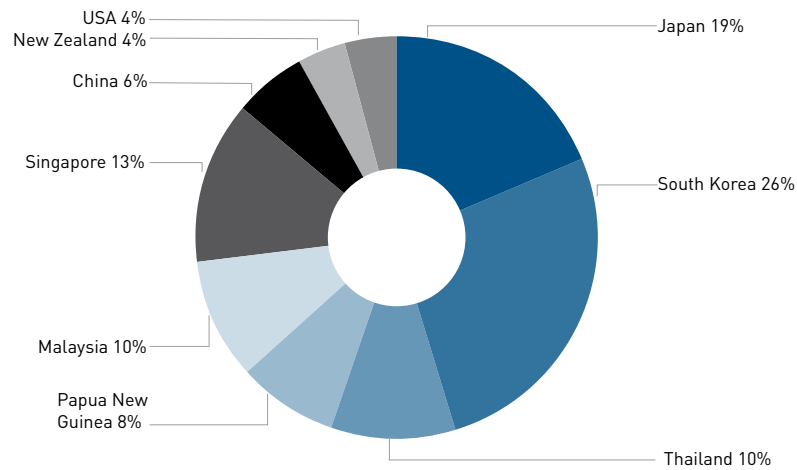


Figure 7 **Crude Oil Exports**
Total Value \$3.20 billion Source: DoIR

PRICES

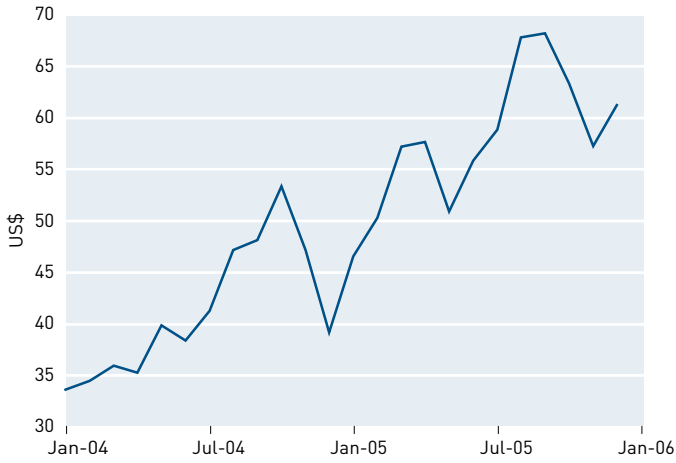


Figure 8 **Tapis Crude Oil Price US\$/bbl** Source: WA Treasury Corporation

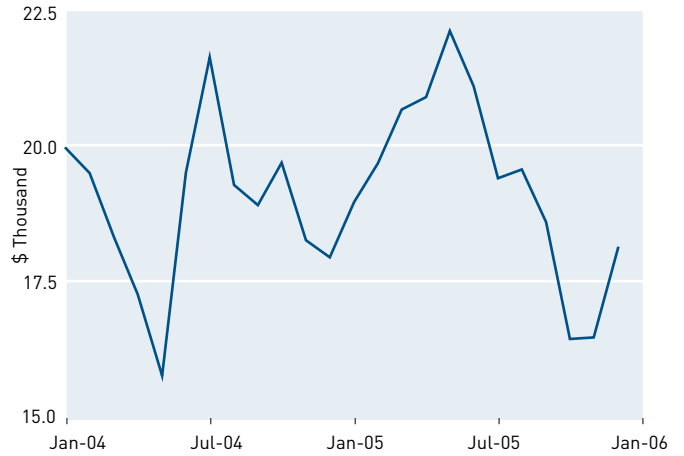


Figure 9 **Nickel Price A\$/tonne** Source: LME Cash, Monthly Average

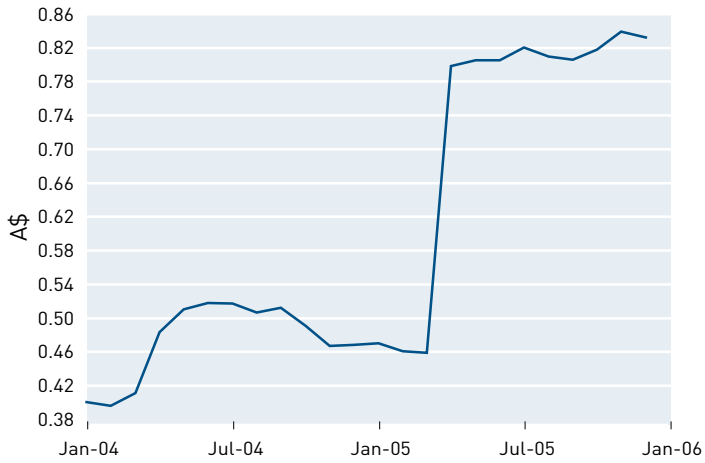


Figure 10 **Iron Ore Price A\$/Fe unit**
Source: TEX Report, High Grade Fine Ore Prices

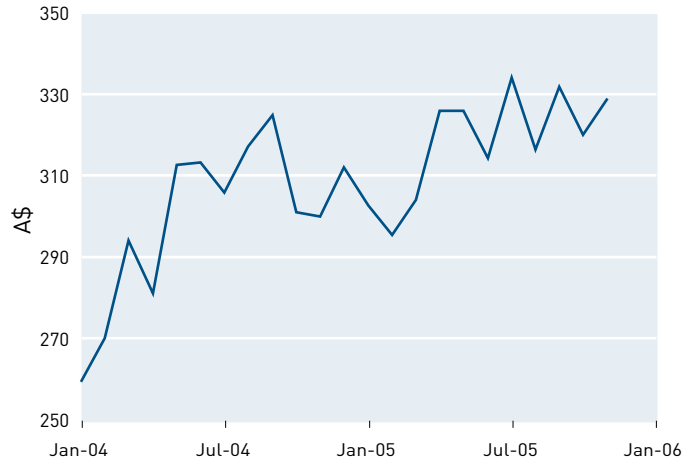


Figure 11 **Alumina Price A\$/tonne** Source: ABS

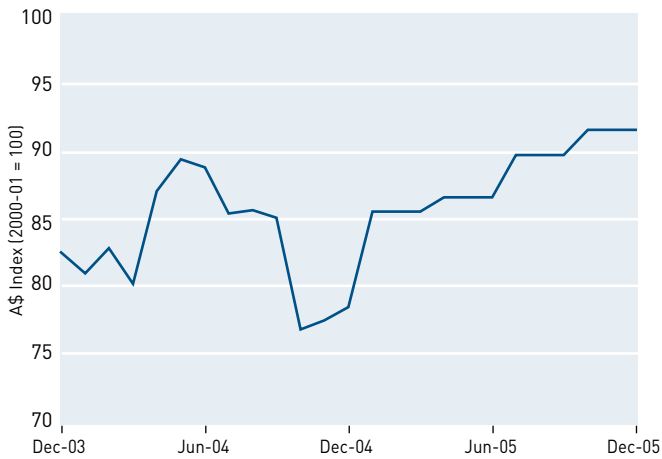


Figure 12 Heavy Mineral Sands Price Index
Source: WA Treasury Corporation

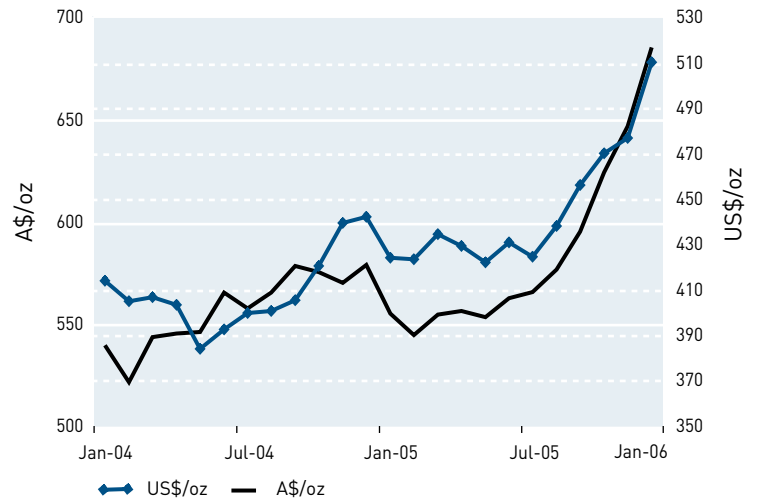


Figure 13 Gold Price Source: Perth Mint and London Fix

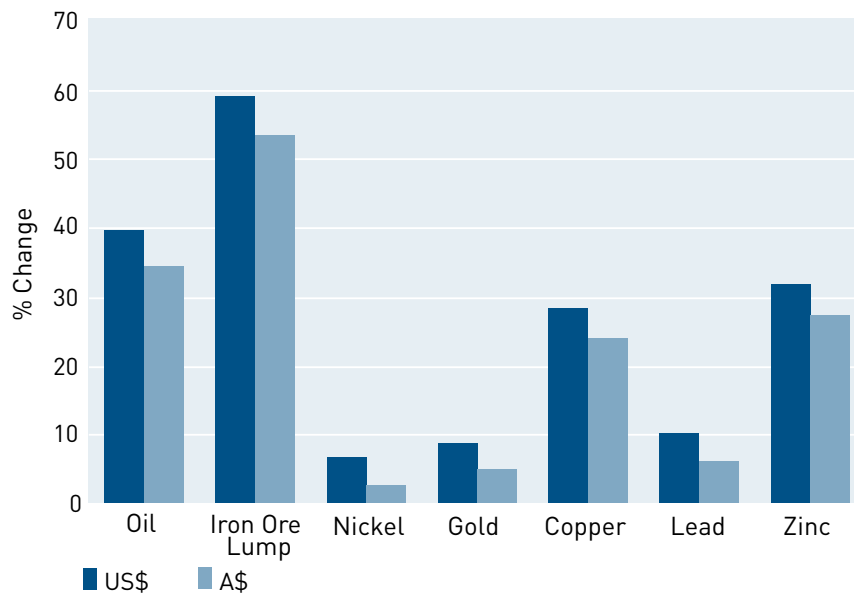


Figure 14 Average Price Comparison 2004 and 2005
Source: LME, Kitco, TEX report, Metal Prices

QUANTITY – WA compared to Australia

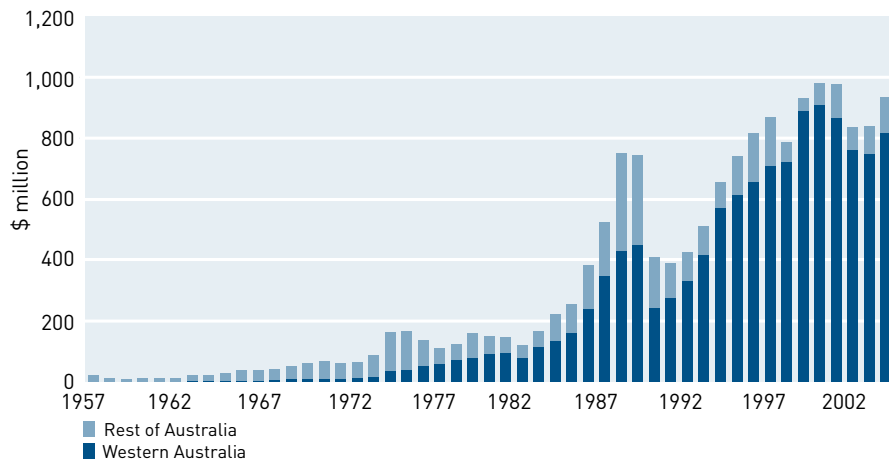


Figure 15 **Heavy Mineral Sands Value of Production**
 Includes Ilmenite, Leucoxene, Upgraded Ilmenite, Rutile, Zircon and Monazite
 Source: DoIR and ABARE

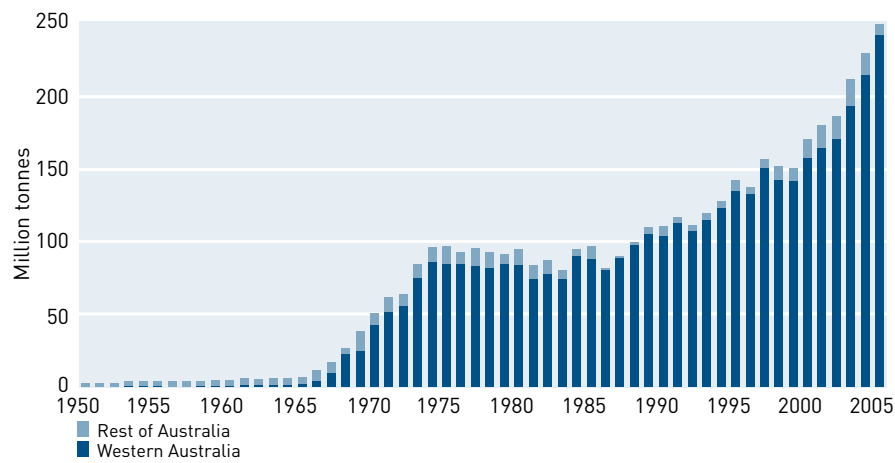


Figure 16 **Iron Ore Quantity** Source: DoIR and ABARE

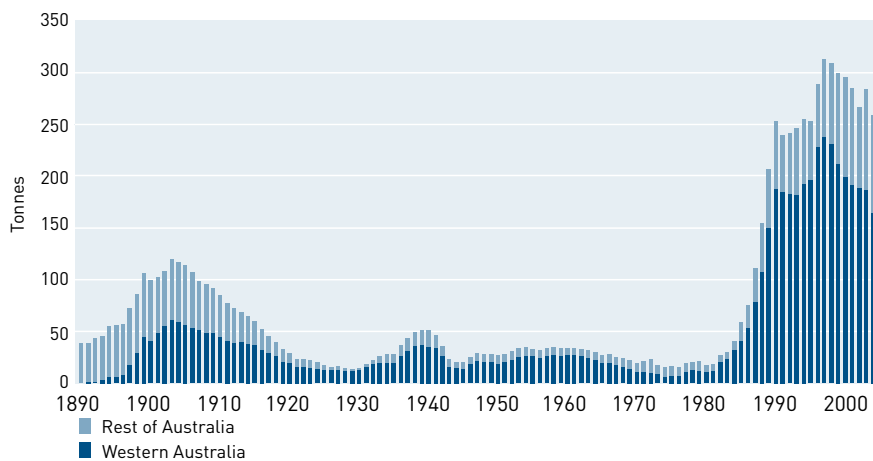


Figure 17 **Gold Production** Source: DoIR and ABARE

QUANTITY – WA compared to Australia

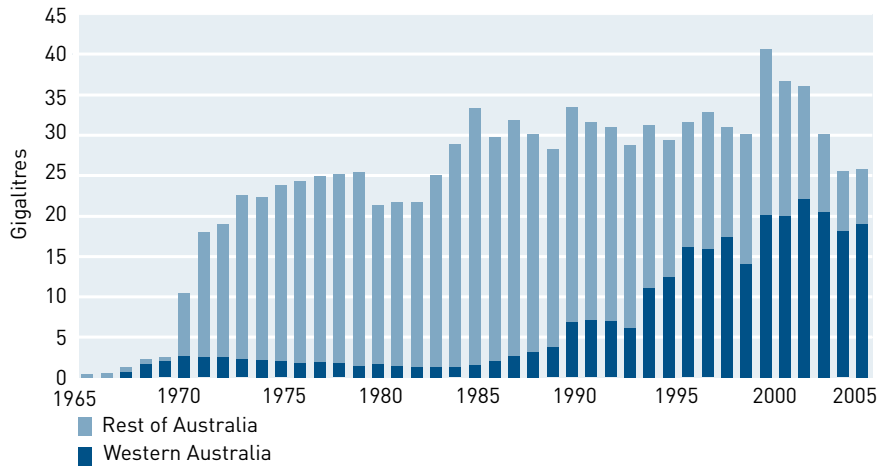


Figure 18 Crude Oil and Condensate Quantity Source: DoIR and ABARE

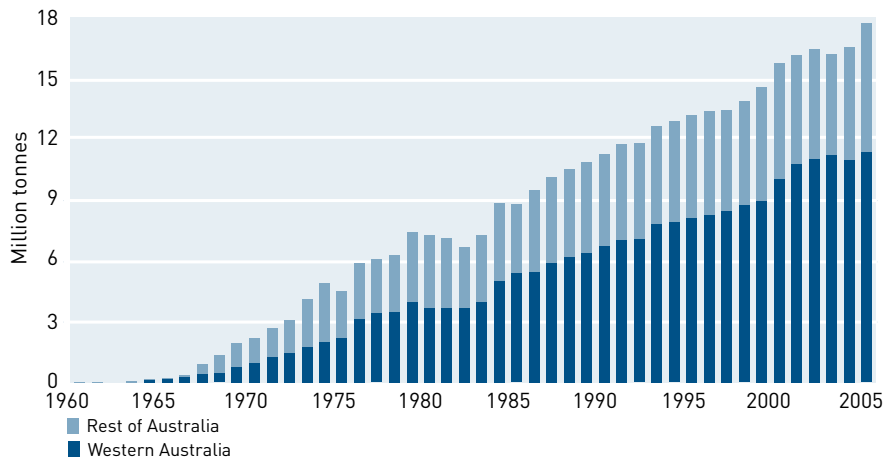


Figure 19 Alumina Quantity Source: DoIR and ABARE

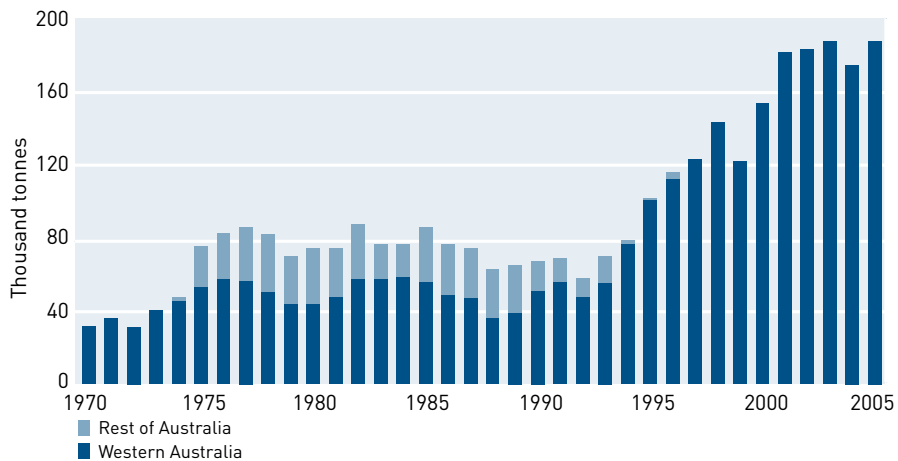


Figure 20 Nickel Quantity Source: DoIR and ABARE

QUANTITY AND VALUE BY QUARTER

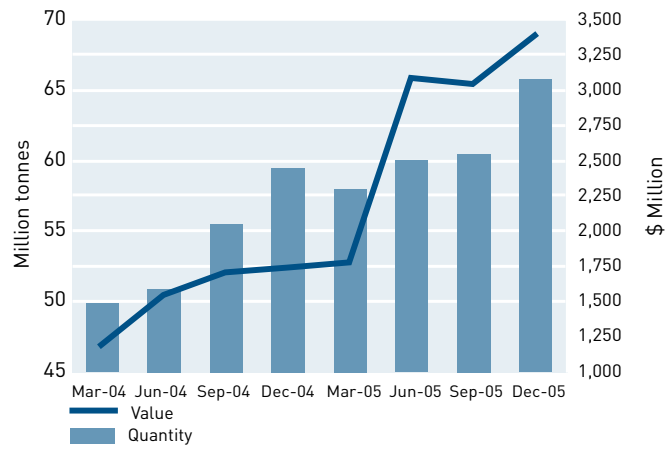


Figure 21 Iron Ore Quantity and Value by Quarter
Source: DoIR

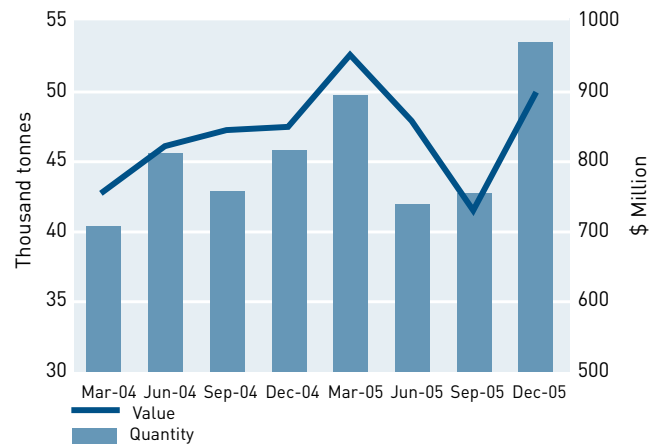


Figure 22 Nickel Quantity and Value by Quarter
Source: DoIR

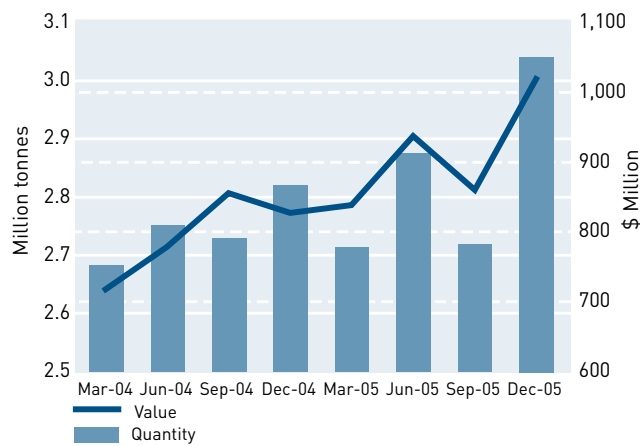


Figure 23 Alumina Quantity and Value by Quarter
Source: DoIR

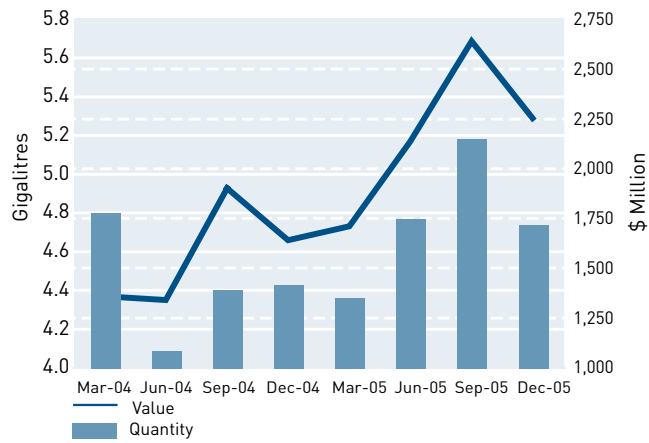


Figure 24 Crude Oil and Condensate Quantity and Value by Quarter Source: DoIR

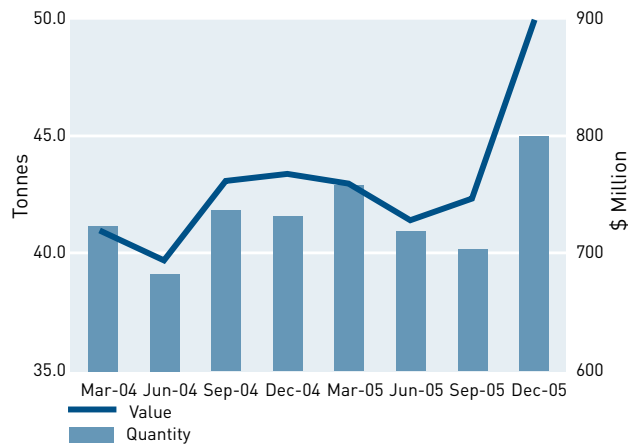


Figure 25 Gold Quantity and Value by Quarter Source: DoIR

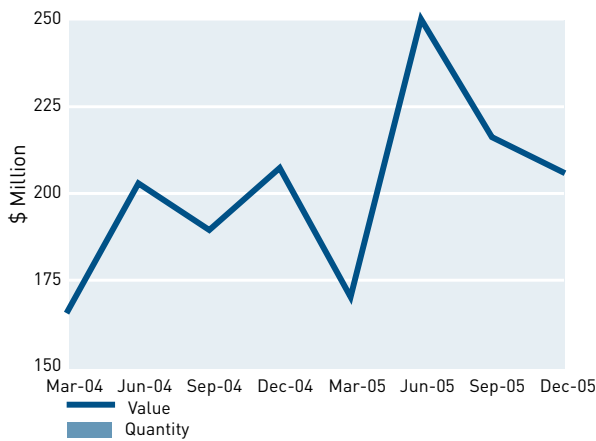


Figure 26 Heavy Mineral Sands Quantity and Value by Quarter Source: DoIR

Table 1 Quantity and Value of Minerals and Petroleum

COMMODITY	UNIT	2004		2005	
		QUANTITY	VALUE	QUANTITY	VALUE
ALUMINA	t	10,988,386	3,178,952,435	11,353,963	3,655,839,040
BASE METALS					
Copper Metal	t	42,677 (r)	160,942,905 (r)	83,953	354,174,249
Lead Metal	t	1,174	313,649	28,111	25,342,612
Zinc Metal	t	51,783 (r)	57,779,077 (r)	59,510	76,374,081
TOTAL BASE METALS			219,035,631 (r)		455,890,942
CHROMITE	t	110,273 (r)	33,998,909 (r)	70,334	26,339,529
CLAYS					
Attapulgite	t	10,142	1,059,130	9,784	1,021,743
Clay Shale	t	16,786	134,284	24,677	207,218
Fire Clay	t	54,973	825,675	463	12,553
Kaolin	t	227 (r)	25,330 (r)	160	17,840
Saponite	t	1,057	91,698	1,169	88,693
TOTAL CLAYS			2,136,117 (r)		1,348,047
COAL	t	6,312,011	281,912,097	6,406,041	283,263,524
CONSTRUCTION MATERIALS					
Aggregate	t	422,261	3,643,762	519,555	9,878,023
Gravel	t	224,205 (r)	992,118 (r)	101,151	645,290
Rock	t	288,475	1,777,206	582,663	4,342,400
Sand	t	2,515,244 (r)	13,000,711 (r)	2,984,624	16,306,682
Sandstone	t	0	0	0	0
TOTAL CONSTRUCTION MATERIALS			19,413,797 (r)		31,172,395
DIAMONDS	ct	24,225,123 (r)	414,805,930 (r)	34,306,879	727,435,661
DIMENSION STONE					
Black Granite	t	0	0	0	0
Granite	t	2,923 (r)	569,590 (r)	1,879	80,034
Jasper	t	0	0	0	0
Marble	t	1,060	444,902	1,823	985,164
Other	t	0	0	0	0
TOTAL DIMENSION STONE			1,014,492 (r)		1,065,198
GEM & SEMI-PRECIOUS STONES	kg	365,269 (r)	254,478 (r)	141,863	128,947
GOLD	kg	164,422 (r)	2,940,975,203 (r)	169,092	3,130,190,897
GYPSUM	t	1,570,312 (r)	26,497,700 (r)	1,412,198	23,043,173
HEAVY MINERAL SANDS					
Garnet	t	125,404 (r)	n/a (r)	246,128	n/a
Ilmenite	t	761,071 (r)	87,943,791 (r)	614,200	68,213,181
Upgraded Ilmenite (a)	t	611,445 (r)	305,943,650 (r)	677,219	364,736,393
Leucoxene	t	66,344 (r)	20,487,781 (r)	75,480	22,371,298
Mineral Sands Concentrate	t	25,786	276,495	26,953	567,384
Rutile	t	112,934 (r)	69,018,511 (r)	94,269	59,107,710
Staurolite	t	2,915 (r)	333,580 (r)	3,921	460,759
Zircon	t	414,070 (r)	265,073,229 (r)	387,045	301,850,703
TOTAL HEAVY MINERAL SANDS			749,077,037 (r)		817,307,428
INDUSTRIAL PEGMATITE MINERALS					
Feldspar	t	23,974	1,288,881	7,983	1,164,642

Table 1 Quantity And Value Of Minerals And Petroleum

COMMODITY	UNIT	2004		2005	
		QUANTITY	VALUE	QUANTITY	VALUE
IRON ORE					
Domestic	t	5,459,251	(r) 144,082,107	(r) 4,071,143	167,649,234
Exported	t	210,389,941	(r) 6,029,075,029	(r) 240,402,294	11,123,937,122
TOTAL IRON ORE		215,849,192	(r) 6,173,157,136	(r) 244,473,437	11,291,586,356
LIMESAND-LIMESTONE-DOLOMITE					
Dolomite	t	11,897	(r) 235,299	(r) 3,880	83,685
Limesand-Limestone	t	3,906,127	(r) 33,985,186	(r) 3,419,323	39,455,684
TOTAL LIMESAND-LIMESTONE-DOLOMITE			34,220,485	(r)	39,539,369
MANGANESE ORE	t	593,680	(r) 106,483,102	(r) 599,994	109,016,321
NICKEL INDUSTRY					
Cobalt By-Product	t	1,373	(r) 76,478,995	(r) 1,596	59,651,179
Cobalt Metal	t	2,588	162,239,004	(r) 2,193	88,054,825
Cobalt Sulphide	t	441	23,199,362	713	18,078,872
TOTAL COBALT			261,917,361	(r)	165,784,876
Nickel Concentrate	t	79,827	(r) 1,491,394,638	(r) 97,474	1,828,905,069
Nickel Metal	t	94,873	(r) 1,769,813,184	(r) 90,550	1,603,907,497
Palladium By-Product	kg	846	6,849,997	603	4,280,093
Platinum By-Product	kg	196	3,717,783	58	1,740,018
TOTAL NICKEL INDUSTRY			3,533,692,963	(r)	3,604,617,553
PETROLEUM					
Condensate	kl	5,938,402	2,011,142,060	(r) 5,884,414	2,576,848,318
Crude Oil	kl	12,246,912	(r) 4,211,559,064	(r) 13,184,154	6,165,594,124
LNG	Btu 10 ⁶	454,123,757	3,150,809,630	584,696,681	4,320,268,382
LPG - Butane	t	398,836	189,283,501	520,599	289,796,059
LPG - Propane	t	322,852	151,134,456	432,727	236,641,308
Natural Gas	000m ³	7,713,691	(r) 655,458,232	(r) 7,406,249	661,610,646
TOTAL PETROLEUM			10,369,386,943	(r)	14,250,758,837
PIGMENTS					
Red Oxide	t	2,575	703,040	2,173	444,829
SALT	t	10,395,385	(r) 185,079,599	(r) 11,475,130	222,005,388
SILICA-SILICA SAND					
Silica	t	105,433	1,054,337	105,552	1,055,532
Silica Sand	t	596,062	5,741,230	857,333	6,085,103
TOTAL SILICA-SILICA SAND			6,795,567		7,140,635
SILVER	kg	2,030,637	(r) 24,473,270	(r) 126,699	35,854,939
SPONGOLITE	t	9,503	(r) 1,496,897	8,593	983,771
TALC	t	133,915	11,754,883	122,364	10,747,901
TIN-TANTALUM-LITHIUM					
Spodumene	t	118,451	n/a	173,635	n/a
Tantalite	t	985	(r) n/a	1,043	n/a
Tin Metal	t	426	(r) 4,523,392	(r) 427	3,810,800
TOTAL TIN-TANTALUM-LITHIUM			175,837,768	(r)	184,373,200
VANADIUM	t	220	2,985,927	(r) 0	0
TOTAL VALUE			28,495,430,288	(r)	38,911,258,522

Table 2 Quantity and Value of Selected Major Commodities

	Unit	1996		1997		1998		1999	
		Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M
ALUMINA	Mt	8.25	1,967.81	8.48	2,084.71	8.75	2,429.70	8.93	2,311.38
BASE METALS									
Copper Metal	kt	23.07	51.28	28.32	62.46	28.24	57.13	26.23	46.25
Lead Metal	kt	17.08	9.90	23.20	9.91	39.52	15.09	55.28	17.23
Zinc Metal	kt	106.86	71.28	117.20	118.10	149.33	127.85	222.54	219.59
TOTAL BASE METALS			132.46		190.47		200.07		283.07
COAL	Mt	5.81	268.38	5.69	260.53	5.61	249.35	6.23	268.02
COBALT	kt	0.94	63.52	1.27	84.58	1.22	58.77	1.01	37.68
DIAMONDS	M ct	47.43	442.01	40.42	421.19	52.27	642.39	51.64	640.06
GOLD	t	221.18	3,528.64	238.34	3,414.61	231.38	3,477.73	211.76	2,939.98
HEAVY MINERAL SANDS									
Ilmenite	Mt	1.08	114.29	1.23	133.59	1.29	150.85	1.24	152.95
Rutile	kt	110.65	79.17	111.78	78.53	96.93	76.45	113.40	82.26
Upgraded Ilmenite (Synthetic Rutile)	kt	522.00	258.23	581.00	292.86	529.48	289.79	522.93	288.01
Zircon	kt	372.70	197.54	292.79	160.34	277.35	154.37	322.94	139.14
Other HMS			25.26		22.86		26.13		26.13
TOTAL HEAVY MINERAL SANDS			674.49		688.18		697.59		688.49
IRON ORE	Mt	133.65	2,924.48	151.72	3,633.34	143.75	4,103.92	143.01	3,517.17
MANGANESE ORE	kt	296.81	32.67	176.99	22.15	79.43	8.13	108.16	13.20
NICKEL METAL	kt	108.38	1,033.88	122.99	1,136.00	143.08	1,039.12	121.89	1,084.96
PETROLEUM									
Condensate	Gl	4.97	773.72	6.44	1,103.31	6.41	887.06	5.57	1,013.30
Crude oil	Gl	11.26	1,958.82	9.54	1,719.80	10.98	1,497.55	8.49	1,559.29
LNG	Btu 10 ¹²	377.82	1,789.40	377.11	2,037.60	387.96	2,044.37	387.38	1,934.44
LPG - Butane	kt	158.96	37.44	320.43	93.17	384.54	86.31	390.08	116.55
LPG - Propane	kt	150.84	36.93	253.82	73.83	263.82	55.87	260.44	81.77
Natural Gas	Gm ³	6.62	494.68	7.33	571.51	6.33	527.96	6.60	569.33
TOTAL PETROLEUM			5,090.99		5,599.22		5,099.12		5,274.68
SALT	Mt	7.21	143.61	8.12	172.12	8.48	210.17	9.02	212.74
OTHER			144.19		101.69		206.14		192.81
TOTAL			16,447.13		17,808.79		18,422.20		17,464.24

2000		2001		2002		2003		2004		2005	
Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M
10.00	3,187.47	10.75	3,766.55	11.00	3,339.25	11.23	3,140.48	10.99	3,178.95	11.35	3,655.84
34.04	82.61	50.24	120.71	64.29	145.49	58.78	145.09	42.68	160.94	84.00	354.17
73.08	25.76	91.38	44.90	70.40	32.69	56.49	24.32	1.17	0.31	28.11	25.34
257.72	290.11	210.84	208.72	218.80	173.06	174.55	139.73	51.78	57.78	59.51	76.37
	398.48		374.33		351.24		309.15		219.03		455.88
6.20	257.84	6.20	258.21	6.26	266.40	6.03	266.41	6.31	281.91	6.41	283.26
3.59	157.66	4.26	146.27	4.70	118.95	5.17	145.04	4.55	262.18	4.50	165.78
42.30	713.68	21.68	499.53	34.37	650.34	35.48	661.86	24.23	414.81	34.31	727.44
199.50	3,078.65	192.20	3,236.20	188.86	3,460.87	187.50	3,364.96	164.42	2,940.98	169.09	3,130.19
1.30	185.47	0.83	137.32	0.85	131.26	0.86	110.46	0.76	87.94	0.61	68.21
122.15	100.58	112.93	99.01	125.41	102.66	123.63	80.28	112.93	69.02	94.27	59.11
617.53	377.50	646.46	418.66	586.99	353.67	556.25	310.35	611.45	305.94	677.22	364.74
347.93	172.11	353.17	230.00	369.92	246.74	420.55	242.10	414.07	265.07	387.05	301.85
	27.27		24.23		21.54		17.60		21.11		23.40
	862.93		909.22		855.87		760.79		749.08		817.31
158.87	4,365.19	162.25	5,245.93	171.77	5,064.62	194.75	5,061.06	215.85	6,173.16	244.47	11,291.59
259.53	33.61	498.60	76.09	578.39	75.63	587.84	65.18	593.68	106.48	600.00	109.02
153.51	2,243.28	181.17	2,074.48	183.00	2,242.55	190.21	2,680.24	174.70	3,261.21	188.02	3,432.81
6.20	1,946.37	6.02	1,787.91	6.88	1,928.58	6.39	1,765.46	5.94	2,011.14	5.88	2,576.85
13.74	4,472.42	14.06	4,246.65	15.29	4,502.72	14.12	4,034.63	12.25	4,211.56	13.18	6,165.59
385.61	2,986.97	389.57	3,482.87	394.11	2,791.22	408.27	2,874.61	454.12	3,150.81	584.70	4,320.27
450.57	225.36	475.25	217.54	458.15	197.56	425.20	182.83	398.84	189.28	520.60	289.80
364.53	183.36	385.83	185.08	357.41	165.88	319.97	142.72	322.85	151.13	432.73	236.64
6.93	607.64	7.67	642.08	7.75	650.20	8.11	690.45	7.71	655.46	7.41	661.61
	10,422.12		10,562.13		10,236.16		9,690.71		10,369.39		14,250.76
7.71	197.32	8.58	249.24	9.17	250.53	9.75	197.01	10.40	185.08	11.48	222.00
	297.01		379.55		389.16		343.04		353.17		369.38
	26,215.24		27,777.73		27,301.57		26,685.93		28,495.43		38,911.26

Table 3 Calendar Year 2005 Quantity and Value by Local Government Area

COMMODITY	LOCAL GOVERNMENT AUTHORITY	QUANTITY (TONNES)	CONTENT	VALUE	REF (p33)
ALUMINA	Murray	5,719,977		1,872,438,119	
	Warooka	2,360,049		772,421,914	
	Boddington	3,273,937		1,010,979,007	
TOTAL ALUMINA		11,353,963		3,655,839,040	(c), (d)
BASE METALS			Cu tonnes		
Copper By-Product	Coolgardie		1,415	6,496,429	
	Dundas		630	2,888,527	
	Halls Creek		3,131	15,665,780	
	Kalgoorlie-Boulder		587	2,592,301	
	Leonora		271	1,064,622	
	Ravensthorpe		64	234,863	
	Roebourne		1,737	8,225,946	
	Wiluna		633	2,724,781	
	Total			8,468	39,893,249
			Cu tonnes		
Copper Concentrates	East Pilbara		39,700	161,736,447	
	Yalgoo		18,966	68,320,664	
	Total		58,666	230,057,111	(a)
			Cu tonnes		
Copper Cathode	East Pilbara		16,818	84,223,889	(a)
	Total Copper		83,953	354,174,249	(a), (b)
			Pb tonnes		
Lead	Wiluna		23,765	23,380,035	
	Yalgoo		4,346	1,962,577	
	Total		28,111	25,342,612	(a)
			Zn tonnes		
Zinc	Yalgoo		59,510	76,374,081	(a)
TOTAL BASE METALS				455,890,942	(a), (b)
			Cr ₂ O ₃ tonnes		
CHROMITE	Meekatharra	58,589	70,334	26,339,529	(a)
CLAY					
Attapulgit	Mullewa	9,784		1,021,743	
Clay Shale	Collie	24,677		207,218	
Fire Clay	Broome	463		12,553	
Kaolin	Bridgetown-Greenbushes	160		17,840	
Saponite	Coorow	1,169		88,693	
TOTAL CLAY		36,252		1,348,047	(e)
COAL	Collie	6,406,041		283,263,524	(f)
CONSTRUCTION MATERIALS					
Aggregate	Ashburton	5,858		29,289	
	Broome	74,770		2,090,225	
	Coolgardie	13,536		446,651	
	East Pilbara	96,802		1,918,704	
	Port Hedland Town	141,612		3,564,064	
	Roebourne	102,171		1,405,055	
	Wyndham-East Kimberley	84,807		424,036	
	Total		519,555		9,878,023
Gravel	Ashburton	2,649		29,500	
	Broome	20		98	
	Coolgardie	8,608		43,066	
	Derby-West Kimberley	4,000		29,087	
	Halls Creek	11,942		37,474	
	Kalamunda	39,500		220,116	
	Kalgoorlie-Boulder	4,630		23,150	
	Roebourne	12,645		138,950	
	Wyndham-East Kimberley	17,157		123,849	
Total		101,151		645,290	

Table 3 Calendar Year 2005 Quantity and Value by Local Government Area

COMMODITY	LOCAL GOVERNMENT AUTHORITY	QUANTITY (TONNES)	CONTENT	VALUE	REF (p33)
Rock	Broome	1,469		43,953	
	Derby-West Kimberley	158		6,320	
	East Pilbara	189,262		925,246	
	Exmouth	84		840	
	Kalgoorlie-Boulder	385,842		3,252,832	
	Port Hedland Town	5,719		112,561	
	Wyndham-East Kimberley	129		648	
	Total		582,663		4,342,400
Sand	Ashburton	7,898		82,274	
	Broome	27,045		182,429	
	Carnarvon	560		19,600	
	Cockburn	321,389		1,285,556	
	Coolgardie	136,660		951,847	
	Coorow	7,246		34,108	
	Dandaragan	399		1,995	
	Derby-West Kimberley	14,573		98,685	
	East Pilbara	17,374		415,252	
	Esperance	3,844		19,219	
	Halls Creek	2,099		10,496	
	Kalgoorlie-Boulder	1,674		9,360	
	Kwinana	623,499		3,117,494	
	Meekatharra	37,371		185,922	
	Menzies	21,045		254,577	
	Northam	160,256		677,296	
	Port Hedland Town	136,987		1,585,366	
	Roebourne	131,742		709,939	
	Wanneroo	1,327,442		6,637,670	
	Wyndham-East Kimberley	3,436		17,172	
Yilgarn	2,085		10,425		
Total		2,984,624		16,306,682	
TOTAL CONSTRUCTION MATERIAL		4,187,993		31,172,395	(e)
			carats		
DIAMONDS	Derby-West Kimberley	159,793		37,252,379	
	Wyndham-East Kimberley	34,147,086		690,183,282	
TOTAL DIAMONDS		34,306,879		727,435,661	
DIMENSION STONE					
Granite	Roebourne	386		50,180	
	Dundas	1,493		29,854	
	Total	1,879		80,034	
Marble	Ashburton	1,823		985,164	
TOTAL DIMENSION STONE		3,701		1,065,198	(e)
GEM & SEMI-PRECIOUS STONES					
			kg		
Agate	Marble Bar	5,000		3,000	
Amethyst	Upper Gascoyne	37		239	
Chalcedony/Mookaite	Carnarvon	4,570		2,285	
Chrysoprase	Kalgoorlie-Boulder	25,795		33,565	
Jasper	East Pilbara	1,064		851	
	Meekatharra	8,248		5,701	
Total		9,311		6,552	
Rose Quartz	Upper Gascoyne	123		493	
Quartzite	Cue	300		135	
Magnesite	Kalgoorlie-Boulder	1,480		10,730	
	Marble Bar	2,000		2,000	
Total		3,903		13,358	
Tourmaline	Upper Gascoyne	37		689	
	Yalgoo	8		170	
Total		46		859	
Variscite	Carnarvon	93,200		69,088	
TOTAL GEM & SEMI-PRECIOUS STONE		141,863		128,947	

Table 3 Calendar Year 2005 Quantity and Value by Local Government Area

COMMODITY	LOCAL GOVERNMENT AUTHORITY	QUANTITY (TONNES)	CONTENT	VALUE	REF (p33)
			Au kg		
GOLD	Ashburton Shire		1,254	24,596,279	
	Coolgardie		20,788	387,002,200	
	Cue		629	12,513,327	
	Dundas		2,752	51,803,121	
	East Pilbara		12,240	232,593,393	
	Kalgoorlie-Boulder		44,972	843,584,196	
	Laverton		13,671	218,488,458	
	Leonora		34,355	642,665,851	
	Meekatharra		7,980	149,270,276	
	Menzies		1,232	22,569,739	
	Mt Magnet		5,926	110,352,656	
	Sandstone		1,731	34,048,642	
	Wiluna		14,489	272,893,470	
	Yalgoo		595	11,303,204	
	Yilgarn		6,077	113,320,019	
	Sundry Producers		402	3,186,066	
TOTAL GOLD			169,092	3,130,190,897	(e)
GYPSUM	Carnarvon	1,151,687		19,163,976	
	Corrigin	1,603		22,442	
	Dalwallinu	85,659		1,214,999	
	Dandaragan	53,163		1,360,713	
	Dundas	17,172		145,806	
	Esperance	4,346		43,230	
	Irwin	1,757		41,783	
	Kent	8,108		113,518	
	Koorda	220		4,400	
	Lake Grace	25,634		318,981	
	Nungarin	16,546		212,253	
	Perenjori	3,364		37,004	
	Ravensthorpe	18,322		110,526	
	Wyalkatchem	19,596		193,478	
	Yilgarn	5,020		60,065	
TOTAL GYPSUM		1,412,198		23,043,173	
HEAVY MINERAL SANDS					
Garnet Sand	Northampton	246,128		n/a	
Ilmenite	Bunbury City	157,891		17,460,259	
	Capel	228,652		23,774,061	
	Carnamah	82,271		8,794,919	
	Dandaragan	22,308		3,093,462	
	Dardanup	108,767		13,890,476	
	Northampton	14,311		1,200,004	
	Total	614,200		68,213,181	
			TiO ₂ tonnes		
Synthetic Rutile	Capel	232,884	214,253	125,145,680	
	Carnamah	229,508	211,148	123,814,220	
	Dandaragan	214,827	197,641	115,776,493	
	Total	677,219	623,042	364,736,393	
Leucoxene	Bunbury City	3,781		2,390,469	
	Capel	46,164		11,293,870	
	Dandaragan	22,528		7,188,938	
	Dardanup	3,007		1,498,021	
	Total	75,480		22,371,298	
Mineral Sands Concentrate	Bunbury City	26,953		567,384	
Rutile	Bunbury City	236		227,326	
	Carnamah	69,560		42,754,792	
	Dandaragan	24,473		16,125,592	
	Total	94,269		59,107,710	

Table 3 Calendar Year 2005 Quantity and Value by Local Government Area

COMMODITY	LOCAL GOVERNMENT AUTHORITY	QUANTITY (TONNES)	CONTENT	VALUE	REF (p33)
Staurolite	Dandaragan	3,921		460,759	
			ZrO ₂		
Zircon	Bunbury City	21,046	13,680	20,399,043	
	Dardanup	15,154	9,850	12,890,088	
	Carnamah	201,688	131,097	157,866,620	
	Capel	68,164	44,307	52,856,667	
	Dandaragan	80,993	52,645	57,838,285	
	Total	387,045	251,579	301,850,703	
TOTAL HEAVY MINERAL SANDS		2,534,534		841,886,039	(a)
INDUSTRIAL PEGMATITE MINERALS					
Feldspar	East Pilbara	7,037		1,150,999	
	Mukinbudin	946		13,644	
	Total	7,983		1,164,642	(e)
IRON ORE					
Domestic Ore	Ashburton	61,588		612,934	
	Derby-West Kimberley	127,990		6,969,298	
	East Pilbara	3,880,825		160,049,895	
	Yilgarn	740		17,107	
	Total	4,071,143		167,649,234	
Exported Ore	Ashburton	74,335,737		3,215,983,262	
	Derby-West Kimberley	975,726		52,633,854	
	East Pilbara	157,866,050		7,475,338,197	
	Mullewa	1,829,418		94,174,754	
	Yilgarn	5,395,363		285,807,055	
	Total	240,402,294		11,123,937,122	
TOTAL IRON ORE		244,473,437		11,291,586,356	(a)
LIMESAND-LIMESTONE-DOLOMITE					
Dolomite	Lake Grace	2,360		58,045	
	Yilgarn	1,520		25,640	
	Total	3,880		83,685	
Limesand-Limestone	Carnamah	15,568		62,272	
	Carnarvon	15,087		377,486	
	Cockburn	1,546,119		4,638,357	
	Coorow	21,837		327,548	
	Dandaragan	41,812		266,823	
	Dundas	173,281		17,472,840	
	Exmouth	11,253		62,418	
	Gingin	19,973		277,332	
	Irwin	178,697		514,127	
	Karratha	2,999		29,990	
	Kwinana	86,668		1,196,156	
	Laverton	703,040		7,014,137	
	Manjimup	5,857		68,190	
	Shark Bay	512		71,618	
	Wanneroo	229,882		6,959,387	
	Wiluna	35,166		70,332	
	Wyndham-East Kimberley	1,573		46,671	
	Total	3,419,323		39,455,684	
TOTAL LIMESAND-LIMESTONE-DOLOMITE		3,423,203		39,539,369	(e)
MANGANESE ORE					
			Mn tonnes		
	East Pilbara	599,994	302,255	109,016,321	(a)
NICKEL INDUSTRY					
			Co tonnes		
Cobalt By-Product	Coolgardie		132	5,370,282	
	Dundas		236	9,317,376	
	Halls Creek		437	12,084,568	
	Kalgoorlie-Boulder		176	7,769,279	
	Leonora		193	8,359,098	
	Ravensthorpe		9	365,030	

Table 3 Calendar Year 2005 Quantity and Value by Local Government Area

COMMODITY	LOCAL GOVERNMENT AUTHORITY	QUANTITY (TONNES)	CONTENT	VALUE	REF (p33)
	Roebourne		88	3,638,397	
	Wiluna		324	12,747,150	
	Total		1,596	59,651,179	
Cobalt Metal	Coolgardie		577	26,044,794	
	Laverton		1,616	62,010,031	
	Total		2,193	88,054,825	
Cobalt Sulphide	Kalgoorlie-Boulder		713	18,078,872	
TOTAL COBALT			4,503	165,784,876	(a), (b)
			Ni tonnes		
Nickel Concentrates	Coolgardie		22,048	416,939,919	
	Dundas		11,790	229,665,178	
	Halls Creek		7,653	146,804,173	
	Kalgoorlie-Boulder		23,421	438,713,632	
	Leonora		7,494	131,407,504	
	Ravensthorpe		1,317	23,928,682	
	Roebourne		2,288	42,961,496	
	Wiluna		21,462	398,484,485	
	Total		97,474	1,828,905,069	
Nickel Metal	Coolgardie		62,374	1,111,962,689	
	Laverton		28,176	491,944,808	
	Total		90,550	1,603,907,497	(i)
TOTAL NICKEL			188,024	3,432,812,566	
			Pd kg		
Palladium By-Product	Coolgardie		603	4,280,093	(b)
			Pt kg		
Platinum By-Product	Coolgardie		58	1,740,018	(b)
TOTAL NICKEL INDUSTRY				3,604,617,553	
PETROLEUM			Kilolitres		
Condensate	Ashburton		29,756	11,963,973	
	Irwin		1,159	460,430	
	Roebourne		5,853,499	2,564,423,915	
	Total		5,884,414	2,576,848,318	
			Kilolitres		
Crude Oil	Ashburton		2,225,737	1,049,843,973	
	Derby-West Kimberley		8,285	3,471,802	
	Irwin		455,712	194,365,046	
	Roebourne		10,494,420	4,917,913,303	
	Total		13,184,154	6,165,594,124	
			Btu 10 ⁶		
LNG	Roebourne		584,696,681	4,320,268,382	
			Tonnes		
LPG - Butane	Roebourne		520,599	289,796,059	
			Tonnes		
LPG - Propane	Roebourne		432,727	236,641,308	
			'000 m ³		
Natural Gas	Ashburton		230,762	21,274,234	
	Carnamah		22,615	1,690,212	
	Irwin		213,770	20,969,709	
	Roebourne		6,939,102	617,676,491	
	Total		7,406,249	661,610,646	
TOTAL PETROLEUM PRODUCTS				14,250,758,837	(d)

Table 3 Calendar Year 2005 Quantity and Value by Local Government Area

COMMODITY	LOCAL GOVERNMENT AUTHORITY	QUANTITY (TONNES)	CONTENT	VALUE	REF (p33)
PIGMENTS					
Red Oxide	Cue	2,173		444,829	(a)
SALT	Ashburton	2,058,701		46,037,076	(a)
	Carnarvon	1,322,496		27,132,666	(a)
	Esperance	12,517		511,837	(h)
	Port Hedland Town	3,502,518		62,167,410	(a)
	Roebourne	3,459,327		62,648,967	(a)
	Shark Bay	1,004,165		17,236,910	(a)
	Wyalkatchem	93		8,788	(h)
	Yilgarn	115,314		6,261,735	(h)
TOTAL SALT		11,475,130		222,005,388	
SILICA-SILICA SAND					
Silica	Moora	105,552		1,055,532	
Silica Sand	Albany	106,601		2,519,528	
	Coolgardie	159,573		608,584	
	Swan	591,159		2,956,991	
	Total	857,333		6,085,103	
TOTAL SILICA-SILICA SAND				7,140,635	
SILVER					
			Ag Kg		
Silver By-Product	Ashburton		95	23,512	
	Coolgardie		2,304	677,638	
	Dundas		835	254,489	
	East Pilbara		7,913	2,253,511	
	Kalgoorlie-Boulder		54,044	13,622,312	
	Laverton		540	165,956	
	Leonora		4,552	1,363,062	
	Meekatharra		609	106,746	
	Menzies		172	50,416	
	Mt Magnet		571	146,021	
	Sandstone		51	11,756	
	Wiluna		1,723	529,040	
	Yalgoo		51,538	16,224,007	
	Yilgarn		1,753	426,475	
TOTAL SILVER			126,699	35,854,939	(a), (j)
SPONGOLITE	Plantagenet	8,593		983,771	(h)
TALC	Meekatharra	11,018		1,283,496	
	Three Springs	111,346		9,464,405	
TOTAL TALC		122,364		10,747,901	(f)
TIN-TANTALUM-LITHIUM					
Spodumene	Bridgetown-Greenbushes	173,635	Li ₂ O tonnes	3,191	n/a
Tantalite	Bridgetown-Greenbushes	975	Ta ₂ O ₅ kg		n/a
	Coolgardie	69			n/a
	Total	1,043			n/a
Tin	Bridgetown-Greenbushes		Sn Tonnes	427	3,810,800
TOTAL TIN-TANTALUM-LITHIUM				184,373,200	(a)
TOTAL VALUE				38,911,258,521	

Table 4 Royalty Receipts 2004 and 2005

COMMODITY	2004 Total Value	2005 Total Value	2005 Growth	
			\$	%
ALUMINA	52,514,256	57,283,452	4,769,196	9
BASE METALS				
Copper	6,257,836	10,833,454	4,575,618	73
Lead	157,101	393,862	236,761	151
Zinc	3,240,062	2,481,460	-758,602	(23)
TOTAL BASE METALS	9,654,999	13,708,776	4,053,777	42
CHROMITE	1,367,507	2,074,707	707,200	52
CLAYS	98,366	51,875	-46,491	(47)
COAL	14,219,233	14,926,977	707,744	5
CONSTRUCTION MATERIALS				
Aggregate	141,348	151,402	10,054	7
Gravel	31,265	63,393	32,128	103
Rock	102,762	117,682	14,920	15
Sand	707,844	945,679	237,835	34
TOTAL CONSTRUCTION MATERIALS	983,219	1,278,156	294,937	30
DIAMONDS	36,539,966	50,335,666	13,795,700	38
DIMENSION STONE	1,339	3,641	2,302	172
GEM & SEMI-PRECIOUS STONES	15,038	11,386	-3,652	(24)
GOLD	74,334,582	74,081,030	-253,552	(0)
GYPSUM	513,803	505,511	-8,292	(2)
HEAVY MINERAL SANDS				
Garnet	791,700	1,129,608	337,908	43
Ilmenite	8,079,998	7,450,352	-629,646	(8)
Leucoxene	1,003,830	1,180,613	176,783	18
Rutile	3,753,329	3,126,860	-626,469	(17)
Staurolite	9,721	32,989	23,268	100
Zircon	13,446,004	14,739,551	1,293,547	10
TOTAL HEAVY MINERAL SANDS	27,084,582	27,659,973	575,391	2
INDUSTRIAL PEGMATITE MINERALS				
Feldspar	47,653	47,853	200	0
IRON ORE	330,194,487	534,957,577	204,763,090	62
LIMESAND-LIMESTONE-DOLOMITE				
Dolomite	3,538	1,301	-2,237	(63)
Limesand-Limestone	1,655,344	1,696,014	40,670	2
TOTAL LIMESAND-LIMESTONE-DOLOMITE	1,658,882	1,697,315	38,433	2
MANGANESE	4,399,222	5,133,772	734,550	17
NICKEL INDUSTRY				
Cobalt	5,061,504	3,624,280	-1,437,224	(28)
Nickel	82,189,511	87,554,132	5,364,621	7
Palladium by-product	120,190	97,006	-23,184	(19)
Platinum by-product	70,536	40,126	-30,410	(43)
TOTAL NICKEL INDUSTRY	87,441,741	91,315,544	3,873,803	4

Table 4 Royalty Receipts 2004 and 2005

COMMODITY	2004 Total Value	2005 Total Value	2003 Growth	
			\$	%
PETROLEUM				
Condensate	109,519,987	150,124,912	40,604,925	37
Liquified Natural Gas	141,768,161	227,539,715	85,771,554	61
LPG - Butane	10,391,732	15,601,083	5,209,351	50
LPG - Propane	8,246,154	12,714,472	4,468,318	54
Natural gas	34,279,312	42,292,225	8,012,913	23
Crude Oil	185,130,590	176,418,167	-8,712,423	(5)
TOTAL PETROLEUM	489,335,936	624,690,574	135,354,638	28
PIGMENTS				
Red oxide	57,555	26,314	-31,241	(54)
SALT	2,404,016	2,909,208	505,192	21
SILICA SAND	347,593	329,526	-18,067	(5)
SILVER	444,998	762,195	317,197	71
SPONGOLITE	75,458	67,956	-7,502	(10)
TALC	61,835	67,229	5,394	9
TIN-TANTALUM-LITHIUM				
Spodumene	741,084	1,160,830	419,746	57
Tantalite	6,075,469	7,986,862	1,911,393	31
Tin	120,494	100,215	-20,279	(17)
TOTAL TIN-TANTALUM-LITHIUM	6,937,047	9,247,907	2,310,860	33
VANADIUM	502,951	67,909	-435,042	100
TOTAL REVENUE	1,141,236,264	1,513,242,029	372,005,765	33

Note: All Royalty Receipts above are only those paid to the Consolidated Revenue Fund during the period. It does not include royalty receipts collected on behalf of the Commonwealth.

Table 5 Average Number of Persons Employed in the WA Minerals and Petroleum Industries				
MINERAL/Company	Operating Site	2004	2005	
BASE METALS				
Birla (Nifty) Pty Ltd	Nifty	429	681	
Jabiru Metals Ltd	Jaguar	0	10	
Magellan Metals Pty Ltd	Magellan	0	107	
Newmont Mining Company	Golden Grove	419	537	
Straits (Whim Creek) Pty Ltd	Whim Creek	0	110	
Teck Cominco WA Pty Ltd	Pillara	40	23	
TOTAL BASE METALS		459	670	
BAUXITE - ALUMINA				
Alcoa of Australia Ltd	Huntly	964	703	
	Kwinana Alumina Refinery	1,554	1,776	
	Pinjarra Refinery	1,466	3,087	
	Wagerup Alumina Refinery	1,052	1,126	
	Willowdale	396	394	
Australian Fused Materials Pty Ltd	Rockingham Fused Alumina Plant	214	89	
Worsley Alumina Pty Ltd	Worsley - includes Mount Saddleback	278	285	
	Worsley Refinery	1,689	2,251	
TOTAL BAUXITE - ALUMINA		7,613	9,711	
COAL				
Griffin Coal Mining Co. Pty Ltd	Muja	307	340	
Wesfarmers Coal Ltd	Premier/WCL	344	376	
TOTAL COAL		651	716	
DIAMONDS				
Argyle Diamond Mines Pty Ltd	Lake Argyle	1,213	1,254	
Kimberley Diamond Company NL	Ellendale	184	225	
TOTAL DIAMONDS		1,397	1,479	
GOLD				
Agincourt Resources Limited	Wiluna	218	258	
Agnew Gold Mining Co Pty Ltd	Agnew-Emu	901	923	
AGR Matthey	Perth Mint	123	124	
AngloGold Australia Ltd	Sunrise Dam	847	893	
Barmenco Pty Ltd	Lights of Israel Underground	21	0	
Barrick Gold Corporation	Darlot	147	198	
	Lawlers	251	296	
	Plutonic	588	492	
Burnakura Joint Venture	Burnakura	9	59	
Worsley Alumina Pty Ltd	Boddington	47	57	
Coolgardie Mining Company Pty Ltd	Coolgardie	155	47	
Croesus Mining NL	Central Norseman	225	209	
	Davyhurst	86	67	
	Hannan South	27	3	
Equigold NL	Kirkalocka	97	81	
Gindalbie Gold NL	Minjar	21	6	
Harmony Gold (Australia) Pty Ltd	Big Bell	333	0	
Hill 50 Gold NL	Hill 50, Mt Magnet	414	396	
Haoma Mining NL	Bamboo Creek	0	18	
Jervois Mining Limited	Bullabulling	9	8	

Table 5 Average Number of Persons Employed in the WA Minerals and Petroleum Industries				
MINERAL/Company	Operating Site	2004	2005	
Kalgoorlie Consolidated Gold Mines Pty Ltd	Golden Mile - Superpit	1,328	1,410	
Legend Mining Limited	Gidgee	143	36	
LionOre Australia Pty Ltd	Thunderbox	194	256	
Lynas Gold NL	Mt Olympus	9	0	
Mines and Resources Australia Pty Ltd	Frogs Leg	161	96	
Newcrest Australia Ltd	Telfer	1,800	1,924	
Newfield Central Pty Ltd	Newfield Central	10	7	
Newmont Yandal Operations Ltd	Jundee, Nimary	542	592	
	Bronzewing, Mt McClure	79	10	
Nustar Mining Corp Ltd	Paulsens	24	134	
Perilya Daisy-Milano Pty Ltd	Daisy-Milano	53	65	
Placer Dome Inc	Granny Smith	592	526	
Placer Dome Asia Pacific Limited	Kanowna Belle	419	301	
	Kalgoorlie West	461	595	
Siberia Gold Operation Pty Ltd	Siberia	34	8	
South Kal Mines Pty Ltd	South Kal - New Celebration	333	254	
St. Barbara Mines Ltd	Bluebird	39	19	
	Carosue Dam	407	187	
	Marvel Loch	470	343	
	Sons of Gwalia	183	49	
St Ives Gold Mining Company Pty Limited	Kambalda-St Ives	1,547	1,091	
Troy Resources Ltd	Bulchina-Mt Klemptz	44	68	
Other		7	15	
TOTAL GOLD		13,398	12,121	
HEAVY MINERAL SANDS				
BHP Titanium Minerals Pty Ltd	Beenup	11	8	
Cable Sands Pty Ltd	Bunbury	287	333	
Doral Mineral Sands Pty Ltd	Dardanup	136	278	
GMA Garnet Pty Ltd	Narngulu Garnet Plant	29	30	
	Port Gregory	24	26	
Hanwah Advanced Ceramics Australia Pty Ltd	Rockingham Zirconia Plant	24	21	
Iluka Resources Limited	Capel	478	587	
	Eneabba	277	308	
	Narngulu Synthetic Rutile Plants	556	487	
	Gingin	0	66	
TiWest Pty Ltd	Chandala-Muchea	263	251	
	Cooljarloo	350	379	
	Bunbury Port	0	15	
TOTAL HEAVY MINERAL SANDS		2,435	2,789	
IRON ORE				
BHP Iron Ore (Goldsworthy) Ltd	Finucane Island	268	272	
	Yarrie	235	284	
BHP Iron Ore (Jimblebar) Ltd	Jimblebar	179	305	
BHP Iron Ore Ltd	Mining Area C	210	364	
	Mt Newman Railway	428	586	
	Mt Whaleback	1,424	1,719	

Table 5 Average Number of Persons Employed in the WA Minerals and Petroleum Industries			
MINERAL/Company	Operating Site	2004	2005
	Nelson Point	667	753
	Mt Newman Orebody 25	152	190
	Mt Newman Orebody 18 - Shovelanna Hill	0	67
	Port Hedland HBI Plant	1,136	222
	PACE	158	204
	Yandi	364	491
Fortescue Metals Group Ltd	Cloud Break Trial Pit	0	8
Hamersley Iron Pty Ltd	Brockman No. 2 Detritals Group	154	223
	Dampier Port Operations	1,249	1,466
	Nammuldi	55	57
	Hismelt - Kwinana	919	324
	Marandoo	206	186
	Paraburdoo	608	881
	Tom Price	1,121	1,301
	Yandicoogina	524	614
Koolyanobbing Iron Pty Ltd	Cockatoo Island	110	121
	Koolyanobbing	260	365
Mount Gibson Mining Ltd	Tallering Peak	96	144
Pilbara Railway Company	Hamersley, Robe River and West Angelas Rail	452	546
Robe River Mining Co. Pty Ltd	Cape Lambert	726	902
	Pannawonica Deepdale	441	478
	West Angelas Plant	443	654
TOTAL IRON ORE		12,585	13,727
NICKEL			
Australian Mines Ltd	Blair Group	52	54
Australian Nickel Mines NL	Armstrong	30	1
BHP Billiton Minerals Pty Ltd	Ravensthorpe Group	95	378
Fox Resources Ltd	Radio Hill	53	108
Goldfields Mine Management Pty Ltd	Kambalda	131	133
Kimberley Nickel Mines Pty Ltd	Sally Malay Group	132	235
Lanfranchi Nickel Mines	Lanfranchi	1	48
Lightning Nickel Pty Ltd	Long Nickel	123	129
LionOre Australia (Nickel) Ltd	Emily Ann	265	272
LionOre Australia (Nickel) Ltd	Honeymoon Well	0	531
LionOre Australia (Avalon) Pty Ltd	Bulong	13	14
Mincor Resources NL	Miitel and Wannaway	210	307
MPI Mines Ltd	Black Swan	248	264
Murrin Murrin Operations	Murrin Murrin	1,058	1,842
OMG Cawse Pty Ltd	Cawse	192	221
Reliance Operations Limited	Beta-Hunt	68	145
Sir Samuel Mines NL	Cosmos	101	135
Tectonic Resources NL	RAV 8	71	44
Western Areas NL	Forrestania	0	74
Western Mining Corporation Ltd	Carnilya Hill	26	29
	Cliffs	0	30
	Kalgoorlie Nickel Smelter	922	1,093

Table 5 Average Number of Persons Employed in the WA Minerals and Petroleum Industries			
MINERAL/Company	Operating Site	2004	2005
	Kambalda Group	231	267
	Kwinana Refinery	448	401
	Leinster	1,231	1,424
	Mt Keith	1,003	1,244
TOTAL NICKEL		6,704	9,423
PETROLEUM PRODUCTS			
Apache Energy Ltd	Agincourt, Albert, Artreus, Bambra, Double Island, East Spar,		
	Endymion, Gipsy, Gudren, Harriet, Hoover, John Brookes, Linda,		
	Little Sandy, Mohave, Monet, North Alkimos, North Pedirka,		
	Pedirka, Rose, Simpson, Sinbad, South Plato, Stag,		
	Tanami, Victoria, Wonnich	245	383
ARC Energy NL	Dongara, Hovea-Erechia, Mt Horner, Woodada, Xyris	20	27
BHP Billiton Petroleum (North West Shelf) Pty Ltd	Griffin, Chinook-Scindian, Tubridgi	82	125
ChevronTexaco. Australia Pty Ltd	Barrow Island, Cowle, Crest, Roller, Skate, Saladin,		
	Yammaderry	750	817
Eni Australia Limited	Woollybutt	65	65
Kimberley Oil NL	Blina, Boundary, Lloyd, Sundown, West Terrace	4	4
Nexen Petroleum Australia Pty Ltd	Buffalo	20	0
Origin Energy Resources Ltd	Beharra Springs, Jingemia, Tarantula	37	39
Santos Ltd	Exeter, Mutineer	0	74
Vermillion Energy	Wandoo	28	28
Woodside Energy Ltd	Athena, Cossack, Echo-Yodel, Goodwyn, Hermes,		
	Laminaria East, Legendre, North Rankin, Wanaea	2,528	3,054
TOTAL PETROLEUM PRODUCTS		3,779	4,616
SALT			
Dampier Salt Ltd	Port Hedland	102	167
	Dampier	203	229
	Lake MacLeod	183	181
Onslow Solar Salt Pty Ltd	Onslow	109	188
Shark Bay Salt JV	Useless Loop	70	71
WA Salt Supply Koolyanobbing Pty Ltd	Lake Deborah East	12	10
Western Salt Refinery Pty Ltd	Pink Lake	0	7
TOTAL SALT		679	853
TOTAL CLAYS		68	74
TOTAL CONSTRUCTION MATERIALS		334	340
TOTAL DIMENSION STONE		126	136
TOTAL INDUSTRIAL PEGMATITE MINERALS		22	21
TOTAL LIMESTONE - LIMESAND		114	111
TOTAL MANGANESE ORE		215	350
TOTAL PHOSPHATE		131	141
TOTAL SILICA - SILICA SAND		204	192
TOTAL TALC		127	134
TOTAL TIN - TANTALUM - LITHIUM		483	572
TOTAL VANADIUM		19	9
ALL OTHER MATERIALS		376	560
TOTAL		51,735	58,745

[SOURCE: AXTAT REPORTING SYSTEM, DOCEP for minerals and PETROLEUM PRODUCERS for petroleum]

* Includes some administration personnel off site (e) estimated

Principal Mineral and Petroleum Producers Effective 15 March 2006

BASE METALS

Copper–Lead–Zinc

Newcrest Mining Ltd
Level 2, 20 Terrace Road
East Perth WA 6004
(08) 9270 7070
Telfer.
www.newcrest.com.au

Oxiana Limited,
PMB 7,
Geraldton WA 6530,
(08) 9956 4222
Golden Grove.
www.oxiana.com.au

Birla Mineral Resources Pty Ltd,
Level 2, 23 Ventnor Avenue,
WEST PERTH WA 6005,
Nifty.
(08) 9179 0900
www.adityabirla.com/our_companies/international_companies/birla_nifty.htm

BHP Billiton (Nickel West)
191 Great Eastern Highway,
Belmont WA 6104,
(08) 9479 0500,
Kambalda.
www.bhpbilliton.com

BAUXITE–ALUMINA

Alumina

Alcoa World Alumina Australia,
181–205 Davy Street,
Booragoon WA 6154,
(08) 9316 5111,
Del Park, Willowdale, Huntly,
www.alcoa.com.au

Worsley Alumina Pty Ltd,
PO Box 344,
Collie WA 6225,
(08) 9734 8311,
Boddington,
www.wapl.com.au

CHROMITE

Chromite Ore

Pilbara Chromite Pty Ltd,
28 Ventnor Ave,
West Perth WA 6005,
(08) 9321 3633,
Coobina,
www.consminerals.com.au

CLAY

Attapulgitite

Hudson Resources Ltd,
34 James Street, Narngulu,
Geraldton WA 6530,
(08) 9923 3604,
Lake Nerramayne,
www.hudsonresources.com

Clay Shale

The Griffin Coal Mining Company Pty Ltd,
28 The Esplanade,
Perth WA 6000,
(08) 9261 2800,
Collie
www.griffincoal.com.au

Fire Clay

Broome Brick Company Pty Ltd
PO Box 323,
Broome WA 6725,
(08) 9192 1385,
Broome.

Kaolin

Sons of Gwalia Ltd,
16 Parliament Place,
West Perth WA 6005,
(08) 9263 5555,
Greenbushes,
www.sog.com.au

Saponite

Watheroo Minerals Pty Ltd,
PO Box 353,
Dunsborough, WA 6281,
0427 517 005
Watheroo Clays,
www.bentoniteproductswa.com.au

COAL

The Griffin Coal Mining Company Pty Limited,
28 The Esplanade,
Perth WA 6000,
(08) 9261 2800,
Collie
www.griffincoal.com.au

Wesfarmers Premier Coal Ltd,
Premier Road,
Collie WA 6225,
(08) 9780 2222
Collie
www.wesfarmers.com.au

CONSTRUCTION MATERIALS

Aggregate

The Readymix Group (WA),
75 Canning Highway,
Victoria Park WA 6100,
(08) 9212 2000,
Boodarie, Burrup–Dampier,
Marble Bar, Newman, Turner River
www.readymix.com.au

Gravel

Hanson Construction Pty Ltd,
123 Burswood Road,
Victoria Park WA 6100
(08) 9311 8811,
Maitland River
www.hanson.biz/au

Martinjinni Pty Ltd,
PO Box 7,
Kununurra WA 6743,
040 8822 736,
Kununurra

WA Limestone Co.,
41 Spearwood Avenue,
Bibra Lake WA 6163,
(08) 9434 2299,
Pickering Brook

Sand

Boral Resources (WA) Ltd,
63–69 Abernethy Road,
Belmont WA 6104,
(08) 9333 3400,
Banjup,
www.boral.com.au

Rocla Quarry Products,
130 Fauntleroy Avenue,
Redcliffe WA 6104,
(08) 9475 2555,
Gnangarra,
www.rocla.com.au

The Readymix Group (WA),
75 Canning Highway,
Victoria Park WA 6100,
(08) 9212 2000,
Various sites,
www.readymix.com.au

Tuma Holdings Pty Ltd,
T/as Action Sand Supplies
42 Noel Road,
Gooseberry Hill WA 6076,
(08) 9275 1100
Mobile: 0408 923 801
Chidlow

DIAMONDS

Argyle Diamonds Australia
2 Kings Park Road,
West Perth WA 6005,
(08) 9482 1166,
Argyle,
www.argylediamonds.com.au

Kimberley Diamond Company
12 Walker Avenue,
West Perth WA 6005,
(08) 9321 5887,
Ellendale,
www.kimberleydiamondco.com.au

DIMENSION STONE

Granite

Fraser Range Granite NL,
Eyre Highway,
Norseman WA 6443,
(08) 9039 3442,
Fraser Range Granite

Principal Mineral and Petroleum Producers Effective 15 March 2006

Marble

Stone Dimensions Australia Pty Ltd,
PO Box 342,
South Perth WA 6951,
(08) 9474 743 355,
Mahogany Red

FELDSPAR

Unimin Australia Ltd,
26-28 Tomlinson Road,
Welshpool WA 6106,
(08) 9362 1655,
Pippingarra, Mukinbudin,
www.unimin.com.au

GOLD

Agincourt Resources Limited
1st Floor
16 Ord Street
West Perth WA 6005
(08) 9216 5800
Wiluna
www.agincourtresources.com.au

Agnew Gold Mining Co Pty Ltd,
PMB 10,
Leinster WA 6437,
(08) 9088 3822,
Agnew,
www.goldfields.co.za

AngloGold Australia Ltd,
Level 13, St Martin's Tower,
44 St Georges Terrace,
Perth WA 6000,
(08) 9425 4600,
Sunrise Dam,
www.anglogold.com

Barrick Gold of Australia Limited,
Level 10, 2 Mill Street,
Perth WA 6000,
(08) 9212 5777,
Darlot, Lawlers, Plutonic,
www.barrick.com

Croesus Mining NL,
39 Porter Street,
Kalgoorlie WA 6430,
(08) 9091 2222,
Central Norseman,
www.croesus.com.au

Equigold NL,
1st Floor, 7 Sleaf Road,
Applecross WA 6153,
(08) 9316 3661,
Kirkalocka,
www.equigold.com.au

Harmony Gold (Australia) Pty Ltd,
Level 1, 10 Ord Street,
West Perth WA 6005,
(08) 9211 3100,
Big Bell, Hill 50-Mt Magnet, South Kal
Mines-New Celebration,
www.harmony.co.za
Focus Minerals Ltd,

Level 34, Exchange Plaza,
2 The Esplanade,
Perth WA 6000
(08) 9421 2121
Coolgardie-Three Mile,
www.focusminerals.com.au

**Kalgoorlie Consolidated Gold Mines
Pty Ltd,**
Private Bag 27,
Kalgoorlie WA 6433,
(08) 9022 1100,
Golden Mile,
www.kalgold.com.au

LionOre Australia Pty Ltd,
PO Box 205,
Leinster WA 6437,
(08) 9088 3400,
Thunderbox,
www.lionore.com

Mines and Resources Australia Pty Ltd,
Level 1, 12 St Georges Terrace,]
Perth WA 6000,
(08) 9202 1100,
Mungari East-Frogs Legs,
www.cogema.com

Newcrest Mining Ltd
Level 2, 20 Terrace Road
East Perth WA 6004
(08) 9270 7070
Telfer.
www.newcrest.com.au

Newfield Central Pty Ltd,
PO Box 1094,
Kalgoorlie WA 6430
(08) 9021 7234,
Mobile: 041 999 1713
Newfield Central.

Newmont Australia,
10 Richardson Street,
West Perth WA 6005,
(08) 9366 3232,
Jundee-Nimary,
www.newmont.com

Nustar Mining Corporation Limited,
Level 2, 34 Colin Street,
West Perth WA 6005
(08) 9346 000,
Paulsens,
www.nustarmining.com.au

Perilya Daisy-Milano Pty Ltd
PO Box 675,
Kalgoorlie WA 6433
(08) 9024 2222,
Mt Monger-Ridgeview, Daisy Milano,
www.perilya.com.au

Placer (Granny Smith) Pty Ltd,
PO Box 33,
Laverton WA 6440,
(08) 9088 2211
Granny Smith,
www.placerdome.com

Placer Dome Asia Pacific Limited,
PO Box 1662,
Kalgoorlie WA 6433,
(08) 9080 6111,
Kanowna-Golden Valley
www.placerdome.com

Placer Dome Asia Pacific Limited,
PO Box 1161,
Kalgoorlie WA 6433,
(08) 9080 8400,
Red Hill-Golden Feather,
www.placerdome.com

Placer Dome Asia Pacific Limited,
PO Box 622,
Kalgoorlie WA 6433,
(08) 9080 6400,
Kundana, Paddington, White Flag,
www.placerdome.com

St Barbara Mines Ltd,
Level 2, 16 Ord Street,
West Perth WA, 6005
(08) 9476 5555,
Carosue Dam, Cornishman,
Marvel Loch-Southern Cross,
www.stbarbara.com.au

St Ives Gold Mining Co Pty Ltd,
POB 359
Kambalda WA 6442,
(08) 9088 1111,
Kambalda-St Ives,
www.goldfields.co.za

Troy Resources NL,
44 Ord Street,
West Perth WA 6005,
(08) 9481 1277,
Sandstone,
www.try.com.au

GYP SUM

Cockburn Cement Ltd,
Lot 242 Russell Road East
East Munster WA 6166,
(08) 9411 1000,
Lake Hillman.

CSR Limited,
21 Sheffield Road,
Welshpool WA 6106,
(08) 9365 1666,
Jurien Bay North.

Dampier Salt Pty Ltd,
37 Belmont Avenue
Belmont WA 6104
(08) 9270 9270,
Lake MacLeod
www.dampiersalt.com.au

Principal Mineral and Petroleum Producers Effective 15 March 2006

Gypsum Industries,
PO Box 952,
Canning Bridge, 6153
(08) 9364 4951,
Lake Cowcowing.
www.aglime.com.au

Lake Hillman Mining Pty Ltd,
PO Box 1,
Kalannie WA 6468,
(08) 9666 2045,
Lake Hillman.

HEAVY MINERAL SANDS

Garnet Sand

GMA Garnet Pty Ltd,
PO Box 188,
Geraldton WA 6531,
(08) 9923 3747
Port Gregory,
www.gmagarnet.com

Ilmenite, Leucoxene, Rutile and Zircon

Cable Sands (WA) Pty Ltd,
PO Box 133,
Bunbury WA 6231,
(08) 9721 0200,
Jangardup, Sandalwood, Ludlow,
Tutunup,
www.cablesands.com.au

Doral Mineral Sands,
Lot 7 Harris Road,
PICTON WA 6229,
(08) 9725 4899,
Dardanup
www.doral.com.au

Iluka Resources Ltd,
Level 23, 140 St Georges Terrace,
Perth WA 6000,
(08) 9360 4700
Capel, Eneabba, Yoganup,
www.iluka.com

TiWest Pty Ltd,
1 Brodie-Hall Drive,
Bentley WA 6102,
(08) 9365 1333,
Cooljarloo,
www.tiwest.com.au

IRON ORE

BHP Billiton Iron Ore (Goldsworthy) Ltd,
200 St Georges Terrace,
Perth WA 6000,
(08) 9320 4444,
Mining Area C, Nimingarra-Yarrie,
www.bhpbilliton.com

BHP Billiton Iron Ore Ltd,
200 St Georges Terrace,
Perth WA 6000,
(08) 9320 4444,
Jiblebar, Newman, Yandicoogina,
www.bhpbilliton.com

Channar Mining Pty Ltd,
152 St Georges Terrace,
Perth WA 6000,
(08) 9327 2327,
Channar.

Hamersley Iron Pty Ltd,
152 St Georges Terrace,
Perth WA 6000,
(08) 9327 2327,
Brockman, Marandoo, Paraburdoo, Tom
Price, Yandicoogina,
www.hamersleyiron.com

Mt Gibson Iron Limited,
1st Floor,
7 Havelock Street,
West Perth WA 6005,
(08) 9426 7500
Tallering Peak
www.mtgibsoniron.com.au

Portman Iron Ore Ltd,
Level 11, 1 William Street,
Perth WA 6000,
(08) 9426 3333,
Cockatoo Island, Koolyanobbing,
www.portman.com.au

Robe River Iron Associates
Level 27 Central Park
152-158 St Georges Terrace
Perth WA 6000,
(08) 9327 2800
Pannawonica, West Angeles,
www.roberiver.com.au

LIMESAND-LIMESTONE

Cockburn Cement Ltd,
Lot 242, Russell Road East,
East Munster WA 6163,
(08) 9411 1000,
Cockburn, Dongara,
www.cockburncement.com.au

Limestone Resources Australia Pty Ltd,
Parkland Road, Cnr Hasler Street,
Osborne Park WA, 6017,
(08) 9445 3433,
Wanneroo, Moore River, Carabooda
www.limestone-resources.com.au

Loongana Lime Pty Ltd,
PO Box 808,
Kalgoorlie WA 6430,
(08) 9021 8055,
Loongana.

WA Limestone Co.,
41 Spearwood Avenue,
Bibra Lake WA 6163,
(08) 9434 2299,
Postans.

Gypsum Industries of Australia,
PO Box 952,
Canning Bridge WA 6153,
(08) 9364 4951,
Dongara-Denison, Cervantes, Lancelin,
Jurien.

MANGANESE

Pilbara Manganese Pty Ltd,
28 Venter Avenue,
West Perth WA 6005,
(08) 9321 3633,
Woodie Woodie,
www.consmineals.com.au

NICKEL

Fox Resources Ltd,
Suite 1 and 2,
614 Newcastle Street,
Leederville WA 6007,
(08) 9318 5600
Radio Hill
www.foxresources.com.au

Minara Resources Ltd,
Level 4, 30 The Esplanade,
Perth WA 6000,
(08) 9212 8400,
Murrin Murrin,
www.minara.com.au

Independence Group NL,
PO Box 893,
South Perth WA 6951,
(08) 9367 2755,
Long Nickel,
www.independencegroup.com.au

LionOre (Australia) Pty Ltd,
Level 3, 88 Colin Street,
West Perth WA 6005,
(08) 9426 0100
Black Swan, Emily Ann,
www.lionore.com

Mincor Resources NL,
Level 1, 1 Havelock Street,
West Perth, 6005,
(08) 9321 7125,
Miitel, Mariners, Redross, Wannaway,
www.mincor.com.au

OMG Cawse Pty Ltd,
Cawse Nickel Operations,
Locked Bag 32,
Kalgoorlie WA 6433,
(08) 9024 8800,
Cawse,
www.omgi.com

Sally Malay Mining Ltd,
Level 22, Allendale Square,
77 St Georges Terrace,
Perth WA 6000,
(08) 9225 0999,
Sally Malay,
www.sallymalay.com

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Sir Samuel Mines NL,
3rd Floor, 24 Outram Street,
West Perth WA 6005,
(08) 9213 1588,
Cosmos,
www.jubileemines.com.au

Tectonic Resources NL,
Suite 4, 100 Hay Street,
Subiaco WA 6008,
(08) 9388 3872,
RAV8,
www.tectonicres.com.au

View Resources Ltd,
Level 12, London House,
216 St Georges Terrace,
Perth WA 6000,
(08) 9226 4611,
Carnilya Hill,
www.viewresources.com.au

BHP Billiton (Nickel West),
191 Great Eastern Highway,
Belmont WA 6104,
(08) 9479 0500,
Kambalda, Leinster, Mt Keith,
Kalgoorlie, Kwinana,
www.wmc.com

PALLADIUM

BHP Billiton (Nickel West),
191 Great Eastern Highway,
Belmont WA 6104,
(08) 9479 0500,
Kambalda,
www.wmc.com

PETROLEUM

Apache Energy Ltd,
Level 3, 256 St Georges Terrace,
Perth WA 6000,
(08) 9422 7222,
Agincourt, Albert, Artreus, Bambra,
Double Island, East Spar, Endymion,
Gudrun, Gipsy, John Brookes, Harriet,
Hoover, Linda, Little Sandy, Mohave,
Monet, North Alkimos, North Pedirka,
Pedirka, Rose, Simpson, Sinbad,
South Plato, Stag, Tanami, Victoria,
Wonnich,
www.apachecorp.com

ARC Energy Ltd,
Level 4, 679 Murray Street,
West Perth WA 6005,
(08) 9486 7333,
Dongara, Hovea-Eremita, Woodada,
Mt Horner, Xyris
www.arcenergy.com.au

**BHP Billiton Petroleum
(North West Shelf) Pty Ltd,**
Level 42, Central Park,
152-158 St Georges Terrace,
Perth WA 6000,
(08) 9278 4888,
Chinook-Scindian, Griffin,
www.bhpbilliton.com

ChevronTexaco Australia Pty Ltd,
Level 24, QV1 Building,
250 St Georges Terrace,
Perth WA 6000,
(08) 9216 4000,
Barrow Island, Cowle, Crest,
Roller-Skate, Saladin, Yammaderry,
www.chevrontexaco.com

ENI Australia Limited,
Level 3, 40 Kings Park Road,
West Perth WA 6005,
(08) 9320 1111,
Woollybutt.

Kimberley Oil NL,
Suite 12B, 573 Canning Highway,
Alfred Cove WA 6154,
(08) 9330 8876,
Blina,
www.kimberleyoil.com.au

Origin Energy Resources Ltd,
34 Collins Street,
West Perth WA 6005,
(09) 9324 6111,
Beharra Springs, Jingemina,
www.originenergy.com.au

Santos Limited,
Level 29 Santos House,
91 King William Street,
Adelaide SA 5000,
(08) 8218 5111,
Mutineer-Exeter,
www.santos.com.au

Vermillion Oil and Gas Pty Ltd,
Level 7, BNZ House,
30 The Esplanade,
Perth WA 6000
(08) 9480 0300,
Wandoo,
www.vermillionenergy.com

Woodside Energy Ltd,
240 St Georges Terrace,
Perth WA 6000,
(08) 9348 4000,
Athena, Cossack, Echo-Yodel, Goodwyn,
Hermes, Lambert, Laminaria, Legendre,
North Rankin, Perseus, Wanaea,
www.woodside.com.au

PLATINUM

BHP Billiton (Nickel West)
191 Great Eastern Highway,
Belmont WA 6104,
(08) 9479 0500,
Kambalda.
www.wmc.com.au

SALT

Dampier Salt Pty Ltd,
37 Belmont Avenue
Belmont WA 6104
(08) 9270 9270,
Dampier, Lake MacLeod, Port Hedland,
www.dampiersalt.com.au

Onslow Salt Pty Ltd,
PO Box 23,
Onslow WA 6710,
(08) 9184 9000,
Onslow Salt,
www.onslowsalt.com

Shark Bay Salt Joint Venture,
Level 16, 2 The Esplanade,
Perth WA 6000,
(08) 9265 8000
Useless Loop.

WA Salt Supply Ltd,
Cockburn Road,
Hamilton Hill WA 6163,
(08) 9430 5495,
Lake Deborah East, Pink Lake,
www.wasalt.com.au

SILICA-SILICA SAND

Silica

Simcoa Operations Pty Ltd,
PO Box 1389,
Bunbury WA 6231,
(08) 9780 6666,
Dalaroo,
www.simcoa.com.au

Silica Sand

Rocla Quarry Products,
180 Fauntleroy Avenue,
Kewdale WA 6105,
(08) 9475 2555
Gnangarra,
www.rocla.com.au

Austsand Pty Ltd,
PO Box 1373,
Albany WA 6330,
(08) 9846 1222,
Mindijup.

SPONGOLITE

Supersorb Minerals NL,
55 Collie Street,
Albany WA 6330,
(08) 9842 1955,
Woogenellup,
www.supersorb.com.au

TALC

Luzenac Australia Pty Ltd,
GPO Box A42,
Perth WA 6837,
(08) 9327 2277,
Three Springs,
www.luzenac.com

Principal Mineral and Petroleum Producers Effective 15 March 2006

Unimin Australia Ltd,
26 Tomlinson Road,
Welshpool WA 6106,
(08) 9362 1411,
Mt Seabrook,
www.unimin.com.au

TIN-TANTALUM-LITHIUM

Spodumene

Sons of Gwalia Ltd,
16 Parliament Place,
West Perth WA 6005,
(08) 9263 5555,
Greenbushes, Wodgina,
www.sog.com.au

Tantalite-Tin

Sons of Gwalia Ltd,
16 Parliament Place,
West Perth WA 6005,
(08) 9263 5555,
Greenbushes, Wodgina,
www.sog.com.au

Haddington Resources Ltd,
PO Box 1909,
West Perth WA 6872,
(08) 9488 5100,
Bald Hill,
www.haddington.com.au

Abbreviations

A\$	Australian Dollar	km	kilometres
ABARE	Australian Bureau of Agricultural and Resource Economics	km ²	square kilometres
ABS	Australian Bureau of Statistics	LME	London Metal Exchange
AFR	Australian Financial Review	Mbbl	thousand barrels of oil
ANZ	Australia and New Zealand bank	MMbbl	million barrels of oil
bbl	barrels of oil	Mct	million carats
Bcm	billion cubic metres	Moz	million ounces
BMR	Bureau of Mineral Resources	Mt	million tonnes
cons	concentrates	Mt/a	million tonnes per annum
CSO	Central Selling Organisation	n/a	not applicable
ct	carat	oz	ounce
DRI	Direct Reduced Iron	RBA	Reserve Bank of Australia
ECB	European Central Bank	SARS	Severe Acute Respiratory Syndrome
f.o.b.	free-on-board	t	tonnes
f.o.t.	free-on-truck	t/a	tonnes per annum
GDP	Gross Domestic Product	Tcf	trillion cubic feet
HBI	Hot Briquetted Iron	US\$	United States Dollar
IMF	International Monetary Fund	WTI	West Texas Intermediate

References Table 3

(a)	Estimated f.o.b. value	(g)	London PM Gold Fix price as supplied by WA Treasury Corporation
(b)	Metallic by-product of nickel mining	(h)	Estimated f.o.t. value
(c)	Value based on the average Australian value of alumina as published by the ABS	(i)	Estimated f.o.b. value based on the current price of nickel-containing products
(d)	Delivered/shipped value	(j)	By-products of gold mining
(e)	Value at works	(r)	Revised from previous edition
(f)	Estimated ex-mine value		

Units and Conversion Factors

	Metric Unit	Symbol	Imperial Unit
Mass	1 gram	g	= 0.032151 troy (fine) ounce (oz)
	1 kilogram	kg	= 2.204624 pounds (lb)
	1 tonne	t	= 1.10231 United States short ton [1 US short ton = 2,000 lb]
	1 tonne	t	= 0.98421 United Kingdom long ton [1 UK long ton = 2,240 lb]
	1 tonne LNG	t	= 52,000,000 British Thermal Units (Btu)
Volume	1 kilolitre	kl	= 6.28981 barrels (bbl)
	1 cubic metre	m ³	= 35.3147 cubic feet (ft ³) [1 kilolitre (kl) = 1 cubic metre (m ³)]
Energy	1 kilojoule	kj	= 0.94781 British Thermal Units (Btu)
	Energy Content	Prefix	
Coal	19.7 GJ/t	kilo (k)	10 ³
Condensate	32.0 MJ/L	mega (M)	10 ⁶
Crude oil	37.0 MJ/L	giga (G)	10 ⁹
LNG	25.0 MJ/L	tera (T)	10 ¹²
Natural gas	38.2 MJ/m ³	peta (P)	10 ¹⁵
LPG-butane	28.7 MJ/L (1tonne LPG-butane = 1,720 litres)		
LPG-propane	25.4 MJ/L (1tonne LPG-propane = 1,960 litres)		

Data Sources

Quantities for minerals and petroleum in this publication are collected by the Department's Royalty Branch and are based on information provided by the producers in royalty and production returns. The quantities specified relate to either mine production or sales as listed below for each commodity.

Mine Production
Clays
Coal
Construction Materials
Dimension Stone
Gold
Gypsum
Limesand -Limestone -Dolomite
Silica - Silica Sand
Talc
Sales
Alumina
Base Metals (Copper, Lead and Zinc)
Chromite
Diamonds
Gem and Semi-Precious Stones
Heavy Mineral Sands
Industrial Pegmatite Minerals
Iron Ore
Manganese
Nickel Industry (Nickel, Cobalt, Platinum and Palladium)
Petroleum
Pigments
Salt
Silver
Spongolite
Tin -Tantalum - Lithium
Vanadium

Classification of Countries

Euro area ¹ / European Union	
<i>Austria</i>	<i>Italy</i>
<i>Belgium</i>	Latvia
Cyprus	Lithuania
Czech Republic	<i>Luxembourg</i>
Denmark	Malta
Estonia	<i>Netherlands</i>
<i>Finland</i>	Poland
<i>France</i>	<i>Portugal</i>
<i>Germany</i>	Slovakia
<i>Greece</i>	Slovenia
Hungary	<i>Spain</i>
<i>Ireland</i>	Sweden
	United Kingdom
Non-Japan Asia	
Afghanistan	Nepal
Bangladesh	Pakistan
Bhutan	Papua New Guinea
Brunei Darussalam	Philippines
Cambodia	Samoa
China	Solomon Islands
Fiji	Sri Lanka
India	Thailand
Indonesia	Tonga
Kiribati	Vanuatu
Lao PD Republic	Vietnam
Malaysia	Newly industrialised Asia
Maldives	Mongolia
Myanmar	
Newly Industrialised Asia	
Hong Kong	Singapore
Republic of Korea	Taiwan

¹Italics indicate countries that are members of the euro area.

