



Government of Western Australia
Department of Mines and Petroleum

Western Australian Mineral and Petroleum Statistics Digest 2008



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Department of **Mines and Petroleum**

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In 2008 the value of the mineral and petroleum industry reached \$71.8 billion, representing a 35 per cent increase compared to the previous year. Strong overseas demand and high prices in the first half of the year for the State's mineral and petroleum commodities helped to counteract the effect of slowing demand and falling commodity prices in the fourth quarter of the year.

Most of the increase in value for 2008 came from the iron ore and petroleum sectors. Together, these two sectors accounted for 75 per cent (\$53.6 billion) of total sales value of the State's resources industry.

In 2008 there was a huge 93 per cent increase in the value of iron ore sales out of Western Australia, with 303 million tonnes exported at a value of \$31.3 billion. The iron ore industry is the largest resource sector, representing 44 per cent of the total value of the State's resources industry.

High oil prices maintained the petroleum industry's prominence in merchandise sales. In 2008 the State's petroleum industry grew in value by 33 per cent to \$22.3 billion. The total sales value of this industry which includes crude oil, gas and LNG represents a third of the total value of Western Australia's resource industry. Western Australia's petroleum industry also now accounts for 71 per cent of gas and 66 per cent of oil and condensate production nationally.

Exploration

Expenditure on petroleum exploration in Western Australia in 2008 grew by 29 per cent to \$2.5 billion. Total petroleum exploration expenditure in Australia for the same period grew by 26 per cent to \$3.4 billion. Western Australia continues to attract the lion's share of petroleum exploration dollars. In 2008 Western Australia accounted for 73 per cent of the national total.

Mineral exploration in Western Australia expanded by \$362 million in 2008 to \$1.4 billion. Western Australia attracted 54 per cent of the total Australian mineral exploration budget of \$2.6 billion. This percentage share is still short of the highs of the last boom during the mid to late 1990's when the State share was around 62 per cent.

The Australian Bureau of Statistics (ABS) private new capital expenditure statistics for Western Australia show a very significant rise in the value of new capital expenditure over the past three years increasing a cumulative 50 per cent since 2006. In 2008 the amount of capital expenditure on mining in Western Australia alone amounted to \$21.3 billion, which was a 42 per cent increase compared to the previous year. This also represented 77 per cent of Western Australia's total (\$27.8 billion) new capital expenditure in 2008.

Investment

Total national mining investment in 2008 amounted to \$32.6 billion, an increase of 33 per cent compared to the previous year. In 2008, Western Australia accounted for 65 per cent of the total national mining investment.

It is important to note that the figures reported above do not capture all mining investment as the ABS uses classifications specified in the 1993 edition of the Australian and New Zealand Standard Industrial Classification (ANZSIC) (ABS catalogue number 1292.0). Accordingly, mining is broadly defined as the extraction of minerals occurring naturally as solids such as coal and ores, liquids such as crude petroleum and natural gas. Downstream mining activities such as smelting of minerals or ores (other than preliminary smelting of gold) or refining are classified as manufacturing activities under the ANZSIC. Products such as coke and alumina are also included in the ANZSIC manufacturing category.

During 2008, the Australian dollar weakened against the US dollar by 1.7 per cent, averaging US\$0.85. For the first six months of 2008 the Australian dollar was trading at around ninety cents and by mid-July it reached a high of US\$0.98 only to fall three months later to US\$0.61. The dollar stayed in the US sixty cent range for the remainder of the year helping to offset lower commodity prices and weakening demand.

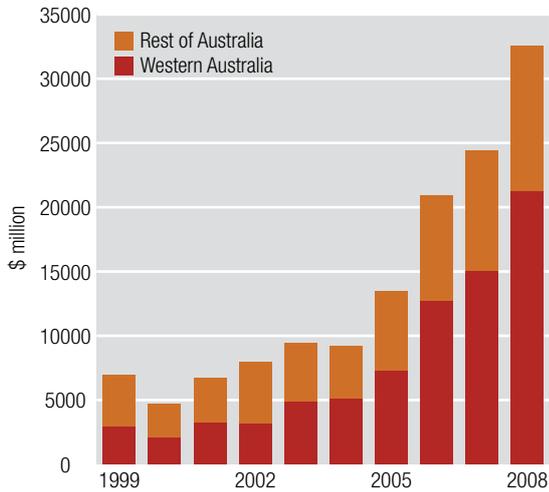


Figure 01 | **Mining Investment**
Source: ABS

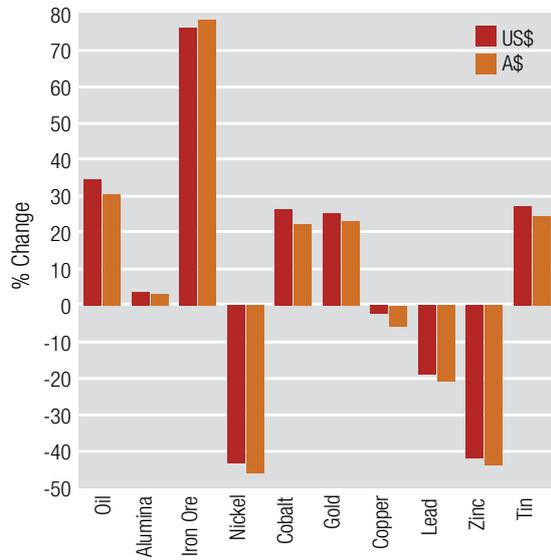


Figure 02 | **Average Price Comparison 2007 and 2008**
Source: LME, Kitco, TEX Report, Metal Prices

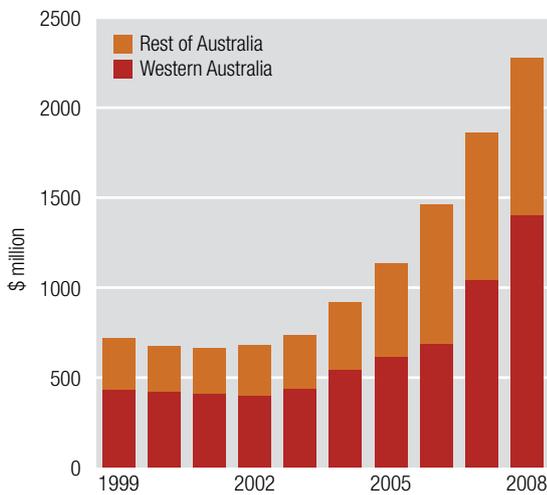


Figure 03 | **Mineral Exploration Expenditure**
Source: ABS

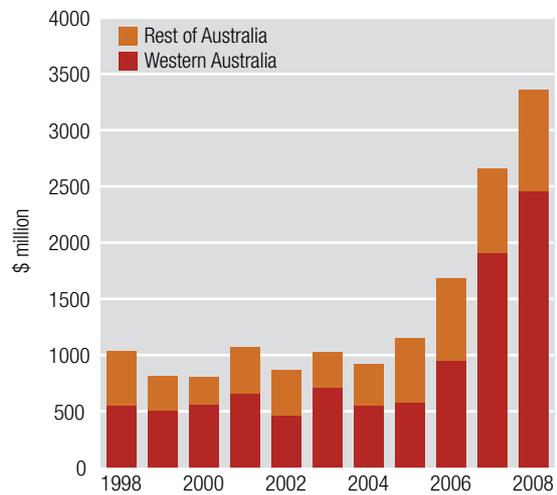


Figure 04 | **Petroleum Exploration Expenditure**
Source: ABS

HIGHLIGHTS IN 2008

During the last ten years the value of Western Australia's mineral and petroleum industry has grown on average by an impressive 18 per cent per annum. Also highlighting the importance to both the State and national economies, the mining and petroleum sectors contributed 89 per cent (\$74.65 billion) toward total Western Australian merchandise exports in 2008 of \$83.96 billion. Western Australia contributed 41 per cent (\$88.5 billion) of Australian Merchandise exports.

The effect of the world economic crisis arrived on Western Australia's doorstep mid-way through 2008 in the form of slowing demand coupled with dramatically falling commodity prices.

During the past three years, escalating commodity prices played an important role in pushing up the value of Western Australian mineral and petroleum sales. High demand and constricted supply saw record prices being reached for oil, iron ore, gold, cobalt and lead. LNG returns were also boosted in 2008 by the higher oil price. However, after these previous massive increases, from June 2008 nickel and zinc prices underwent downward price corrections of 46 per cent and 44 per cent respectively (in Australian dollar terms). The following table lists the overall average commodity price movements in 2008:

Commodity	US\$ Terms	A\$ Terms
Iron Ore	Up 70%	Up 72%
Crude Oil	Up 35%	Up 30%
Tin	Up 27%	Up 25%
Cobalt	Up 26%	Up 22%
Gold	Up 25%	Up 23%
Alumina	Up 4%	Up 3%
Nickel	Down 43%	Down 46%
Zinc	Down 42%	Down 44%
Lead	Down 19%	Down 21%
Copper	Down 2%	Down 6%

Several commodities recorded decreased output volumes. These included: lead, gold, domestic natural gas, LPG and heavy mineral sands. However stronger prices for gold, domestic natural gas, LPG butane and propane increased revenues despite these lower volumes.

Iron ore is the largest individual mineral sector by value and accounts for 44 per cent of the value of the overall mineral and petroleum sector's output for 2008. On the back of strong demand from China, continued support from traditional markets, a 15 per cent increase in output and significant price increases, iron ore reached a record sales value of \$31.3 billion. This represents a massive 93 per cent rise from 2007. The quantity sold in 2008 also broke records, increasing by nearly 15 per cent to reach 303 million tonnes.

High oil prices were a feature of the first half of 2008. **The Tapis oil** price averaged US\$96.74 a barrel in January 2008 and climbed steadily to reach a record US\$153.12 a barrel in July

2008. However, this record level was short-lived and by the end of September, with global demand slowing, the Tapis oil price was averaging around the US\$100 a barrel mark.

Considering supply/demand projections for 2009 and in an effort to stabilise the oil price at around US\$100 per barrel, the Organisation of Petroleum Exporting Countries (OPEC) started implementing production cuts in September 2008 totalling 4.2 million barrels a day, the last cut effective 1 January 2009. It would appear that these cuts have been overwhelmed by a collapse in crude demand amid the global slowdown and by year end the price was averaging a little over US\$40 a barrel.

For the first time since 1983, world oil consumption decreased in 2008 by a total of 0.05 million barrels a day compared to 2007. A drop in US oil consumption is considered the major factor behind the vanishing growth in oil demand in 2008.

Crude oil prices in the short-term are likely to remain sensitive to uncertainty of demand due to global financial instability and unexpected changes in world economic growth.

Western Australian **Crude oil** output remained almost static rising by one per cent to 83.8 million barrels. However high oil prices saw the value of sales increase by around 32 per cent to reach \$9.7 billion. **Condensate** output decreased by two per cent due to reduced gas production to reach 36 million barrels with the sales value increasing by almost nine per cent to reach \$3.5 billion.

LNG output remained static however the influence of high oil prices saw the sales value increasing by a massive 61 per cent for a record value of \$7.2 billion. This resulted in LNG holding the position of third most valuable individual commodity in the State.

Alumina's steady performance continued through 2008 to claim fourth place. A small output increase of one per cent resulted in a record 12.2 million tonnes being shipped for the year. The value of alumina sales in 2008 rose four per cent to reach another record of \$4.9 billion.

Gold output fell by 14 per cent in 2008 to 4.2 million ounces (131,421 kg) due in part to producers taking advantage of strong gold prices to process lower grade ore. This sector is now placed fifth with a value of \$4.4 billion, an increase of seven per cent from 2007. Whilst gold averaged US\$872 per ounce for 2008, in March 2008 the gold price achieved new highs of US\$1,033 per ounce, averaging US\$925 per ounce for the quarter. The weakening Australian dollar in the third quarter saw gold reach A\$1374 per ounce in October 2008.

After achieving record prices in May 2007, **Nickel** has been on a downward spiral. During 2008 the price of nickel fell 43 per cent in US dollar terms. The value of this industry in Western Australia is now down by 40 per cent to \$4.2 billion, placing it sixth in order of value for 2008. Sales quantities dropped by 16 per cent to 188 thousand tonnes.

Base metals were down in terms of overall value by seven per cent to \$1.7 billion in 2008.

Zinc's sales volumes increased by a modest three per cent to reach 186 thousand tonnes however an average 42 per cent fall in the US dollar price of zinc saw sales values drop by 24 per cent to \$522 million.

The value of **Copper** rose by eight per cent to \$1.1 billion even though the price of copper fell on average by six per cent in Australian dollar terms. Output rose by seven per cent to reach 128 thousand tonnes.

Lead production was down in 2008 to 21 thousand tonnes from the previous year's 42 thousand tonnes. Lead prices fell by 19 per cent in US dollar terms and a similar amount in Australian dollar terms. The value of lead sales for 2008 fell 46 percent to \$62 million.

Domestic natural gas sales fell by seven per cent to 8.5 billion cubic meters in 2008 due to the Varanus Island incident. The sales value of this gas rose by almost 19 per cent to \$1.2 billion.

LPG butane and propane output fell by 14 per cent, however the strong prices helped to return a sales value of \$731 million which is nearly a seven per cent increase on the previous year.

The total value of **mineral sands** sales fell by three per cent to \$755 million. Sales volumes were down for most types of mineral sands with the exception of zircon which rose 13 per cent. The fall in the quantities for mineral sands output needs to be interpreted with caution because falls in output for most types of mineral sands are partly attributed to products being sourced from private land and therefore not reported to the Department.

Cobalt sales volumes were almost static, up by just under two per cent. On average cobalt prices increased 26 per cent in US dollar terms to return an overall increase in sales value of 16 percent or \$397 million.

Diamond sales volumes decreased by ten per cent from 23.5 to 21.2 million carats.

Coal output was up by 16 per cent to 6.7 million tonnes and included several export shipments. Sales revenue was up by a similar amount (15 per cent) to \$306 million.

The volume of **salt** sales increased by five per cent in 2008 to 10.9 million tonnes and the value of these salt sales rose by 12 per cent in 2008 to \$257 million.

The State's Mineral and Petroleum resources in order of value for 2008 are:

	Billion
Iron Ore	\$31.30
Crude Oil and Condensate	\$13.25
LNG	\$7.18
Alumina	\$4.90
Gold	\$4.37
Nickel	\$4.19
Others	\$6.60
Total	\$71.79

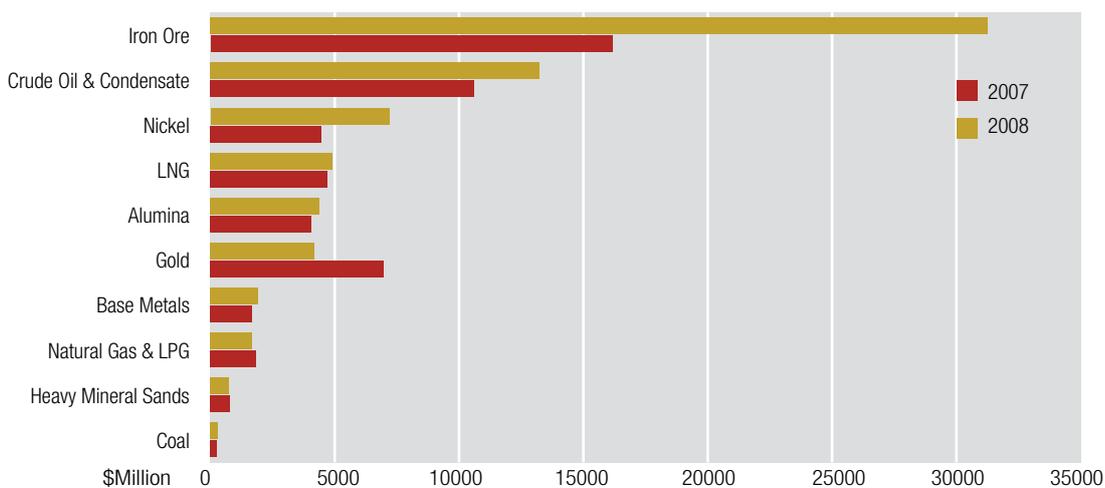


Figure 05 | **Major Commodities by Value** Source: DMP

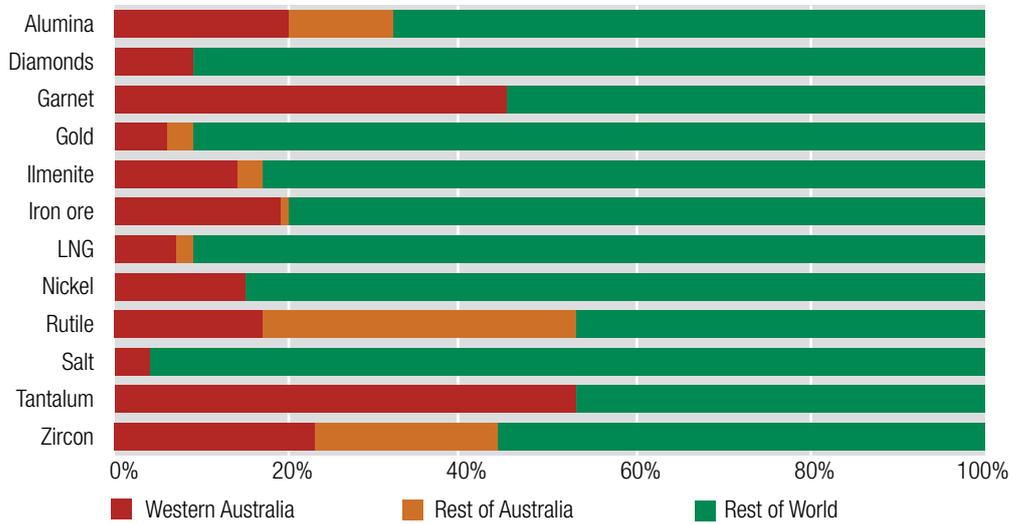


Figure 06 **Selected WA Commodities Relative to World Production Ending 2008 by Quantity** Source: DoIR, ABARE, USGS

The latest comparable data show that the Western Australian share (by quantity) of the world's output of the following products was: alumina 20%, garnet 45%, gold 6%, ilmenite 14%, iron ore 19%, LNG (sea borne trade) 7%, nickel 15%, rutile 17%, salt 4%, tantalum 53%, zircon 23% and 9% of diamonds (mainly industrial grade).

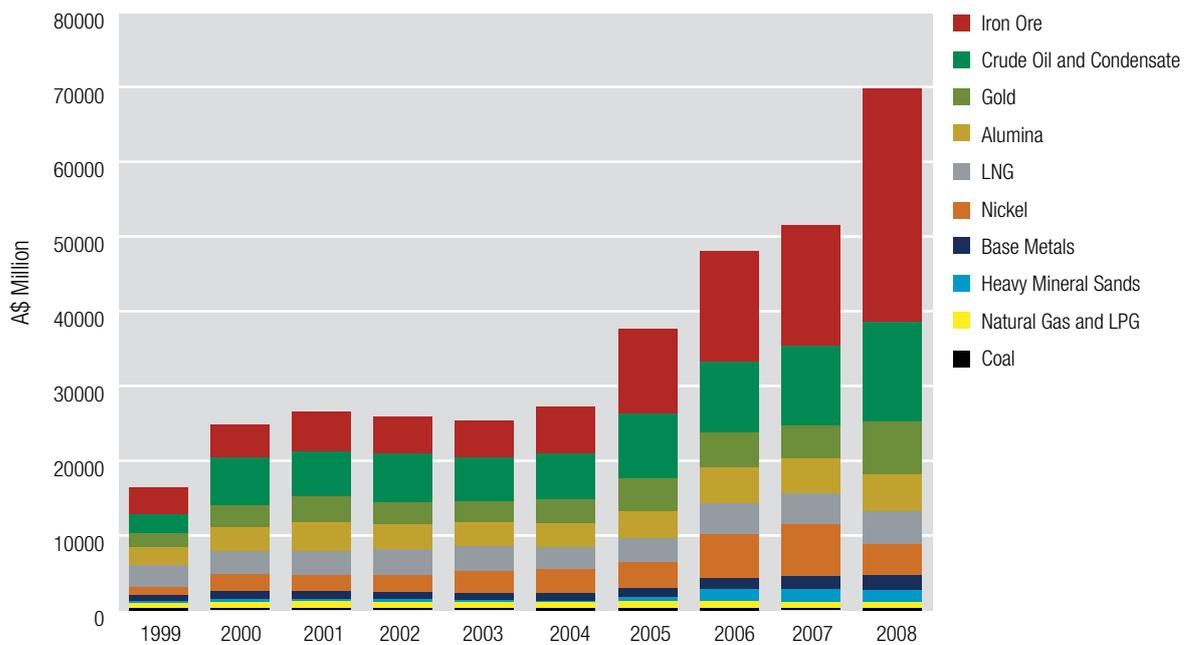


Figure 07 **Value of Minerals and Petroleum by Commodity** Source: DMP

EXCHANGE RATES



Figure 8 | **Exchange Rate US\$/A\$**
Source: Reserve Bank of Australia

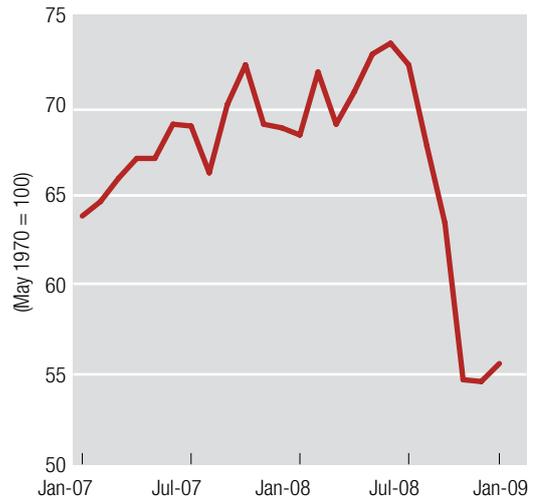


Figure 9 | **Exchange Rate Trade Weighted Index**
(units of foreign currency per A\$)
Source: Reserve Bank of Australia

Definition: "Trade weighted index" is the average value of A\$ in relation to the currencies of Australia's major trading partners.

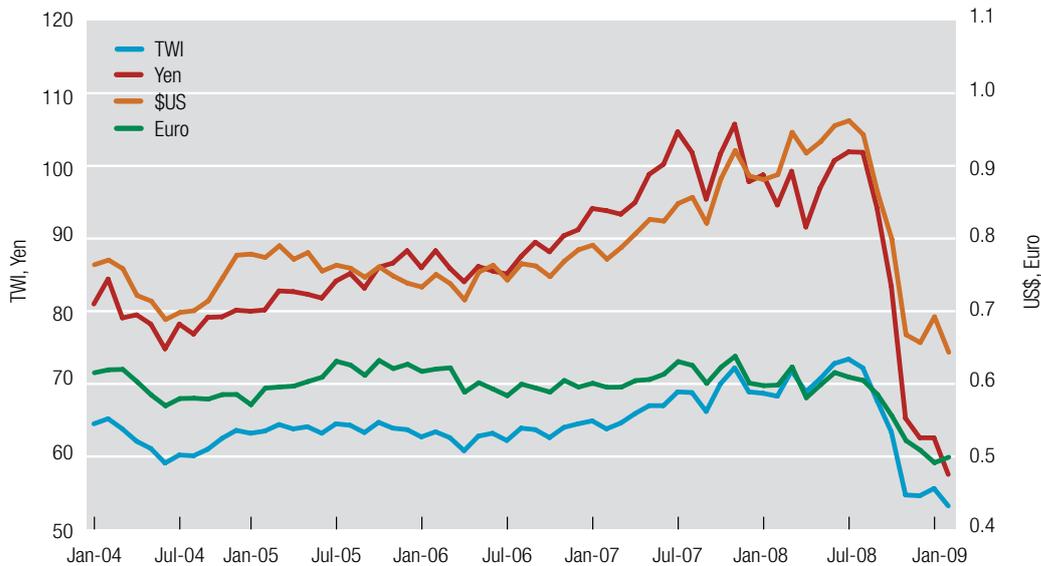


Figure 10 | **Australian Dollar Exchange Rate Against Major Currencies** Source: Reserve Bank of Australia

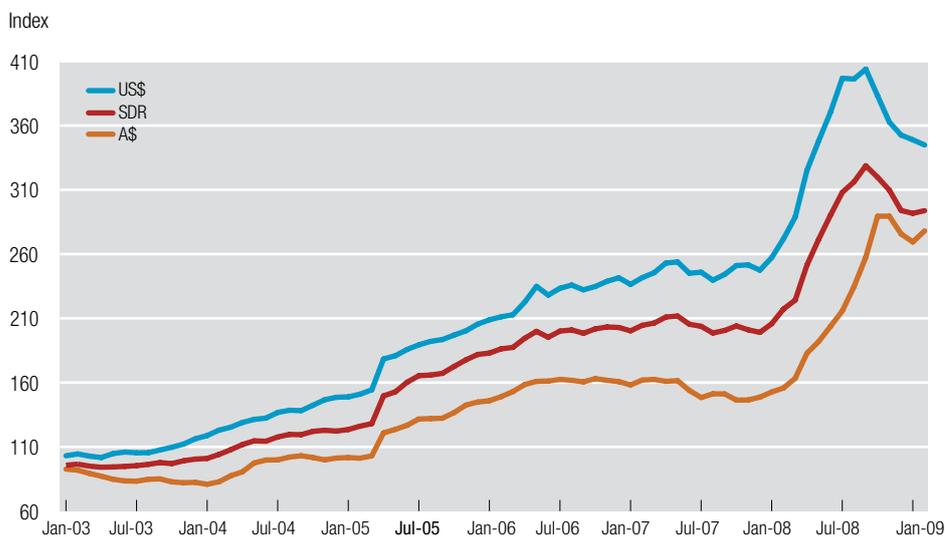


Figure 11 | **Non-Rural Commodity Price Index (2001-02 = 100)** Source: Reserve Bank of Australia

GOLD EXPORT UPDATE 2008

The Australia Bureau of Statistics (ABS) release 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 2008 amounted to approximately \$14.26 billion. Approximately 31% or \$4.37 billion was gold produced in Western Australia. The remaining 69% (approximately \$9.89 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.

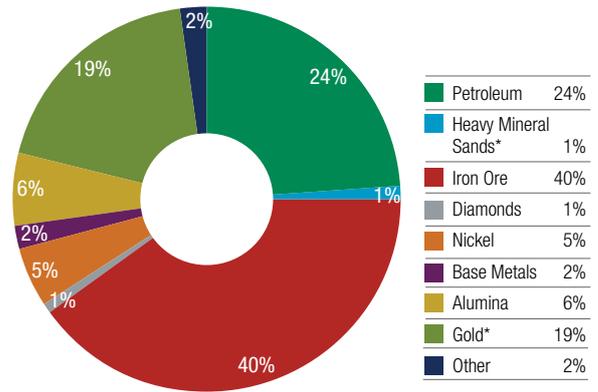


Figure 12 **Western Australian Mineral and Petroleum Exports 2008**

Total Value A\$74.65 billion Source: DMP

* Includes \$9.89 billion of gold and \$173 million of heavy mineral sands refined/processed and exported from Western Australia, but produced from mining operations in other States, Territories and overseas.

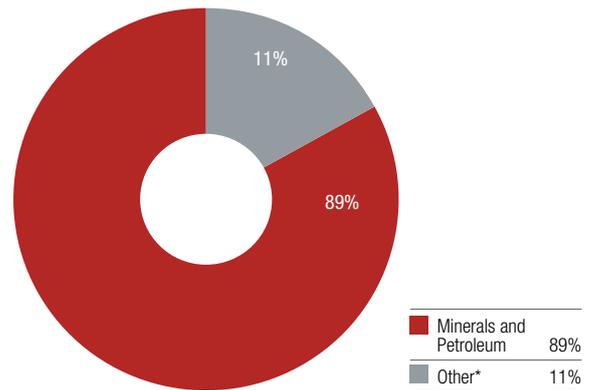


Figure 13 **Western Australian Merchandise Exports 2008**

\$83.96 billion Source: DMP and ABS

* Other includes wheat, wool, live animals, seafood, meat, pearls and other agricultural and manufactured items.

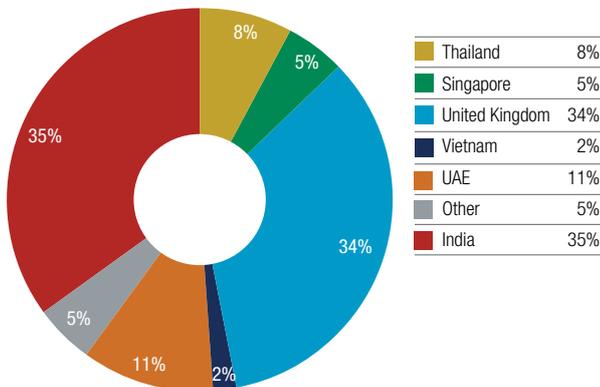


Figure 14 **Gold Exports**

Total Value \$14.26 billion Source: ABS and DMP

Note: Includes gold refined/processed and exported from Western Australia, but produced from mining operations in other States, Territories and overseas.

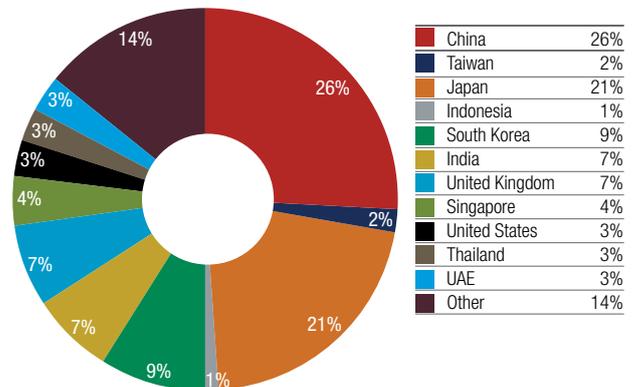


Figure 15 **Western Australian Merchandise Exports 2008**

\$83.96 billion Source: ABS

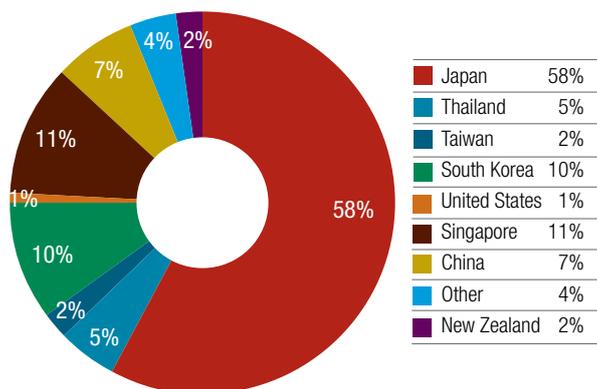


Figure 16 | **Petroleum Exports**
Total Value \$17.78 billion Source: DMP and ABS

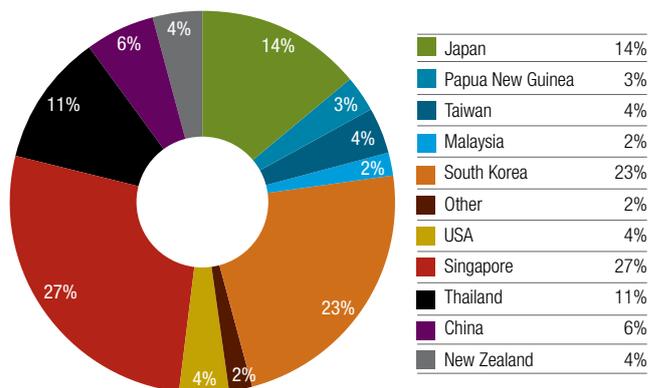


Figure 17 | **Crude Oil and Condensate Exports**
Total Value \$9.97 billion Source: DMP and ABS

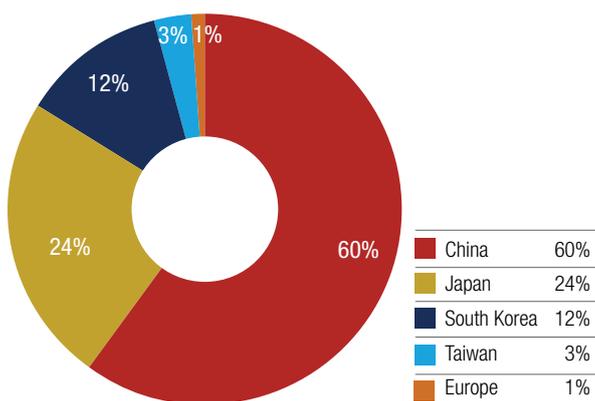


Figure 18 | **Iron Ore Exports**
Total Value \$28.75 billion Source: DMP

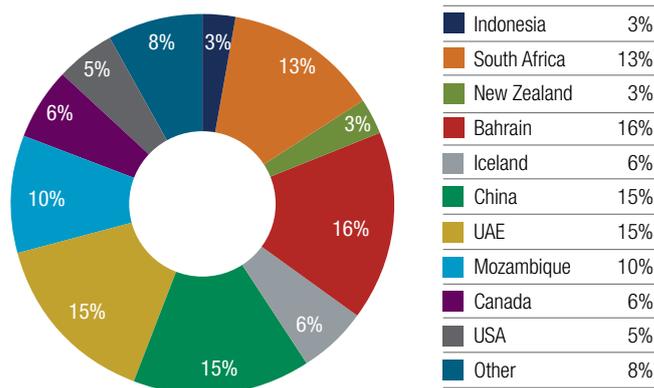


Figure 19 | **Alumina Exports**
Total Value \$4.36 billion Source: DMP

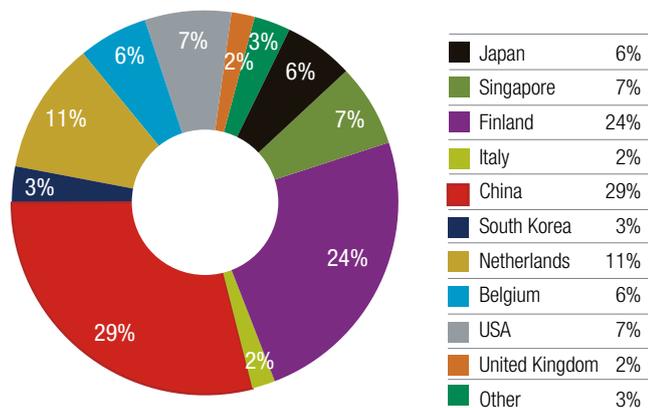


Figure 20 | **Nickel Exports**
Total Value \$3.84 billion Source: DMP

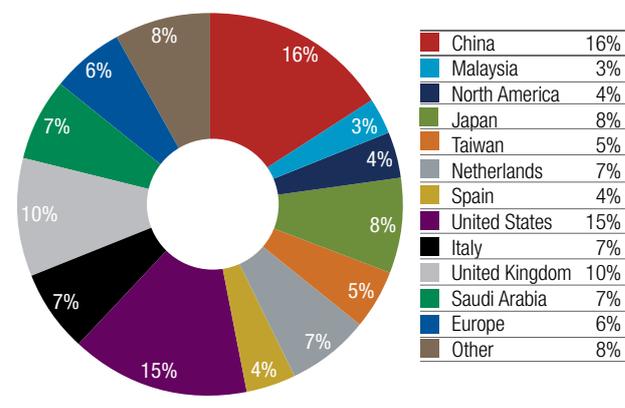


Figure 21 | **Heavy Mineral Sands Exports**
Total Value \$928.29 million Source: DMP
Note: Exports include titanium dioxide and product sourced from private land, overseas and other States and processed in Western Australia

PRICES

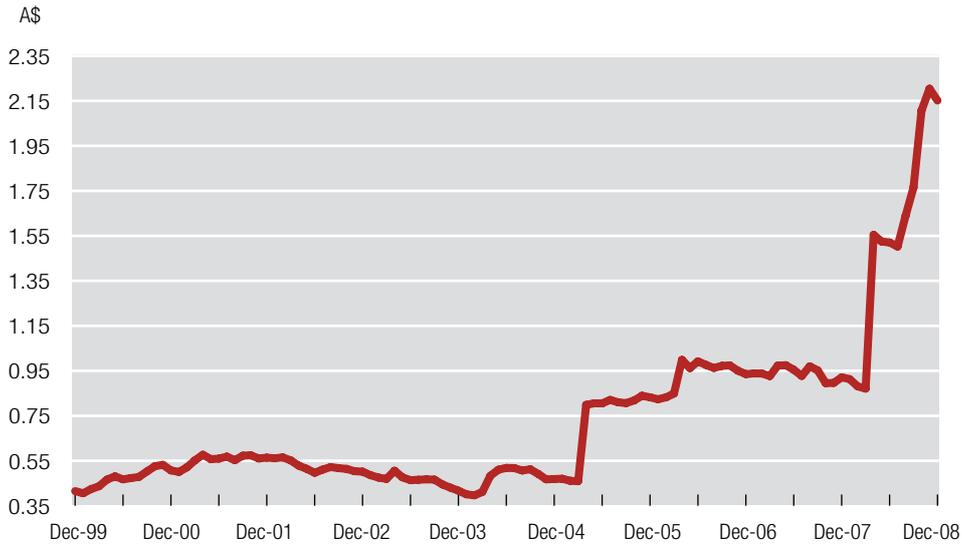


Figure 22 | **Iron Ore Price A\$/Fe unit** Source: Tex Report, High Grade Fine Ore Prices
 Note: Price is per 1%. An 'Fe unit' is equivalent to each 1% of iron ore.
 Hence, ore shipped at 63% Fe commands a price of 63 x 'Fe unit price'.

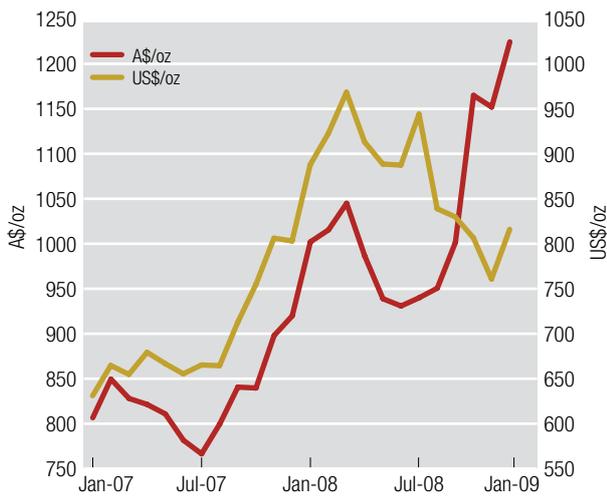


Figure 23 | **Gold Price** Source: Perth Mint and London Fix

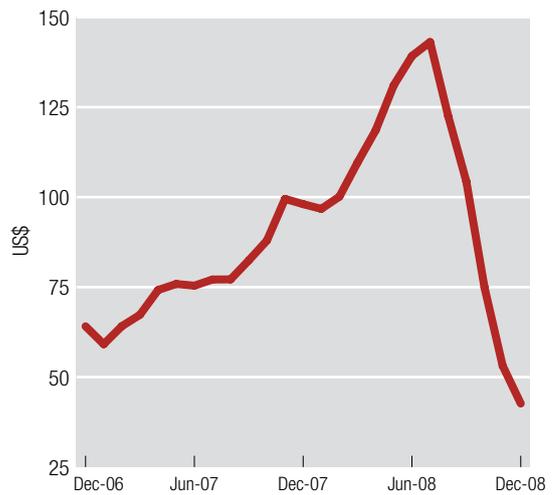


Figure 24 | **Tapis Crude Oil Price US\$/bbl**
 Source: WA Treasury Corporation

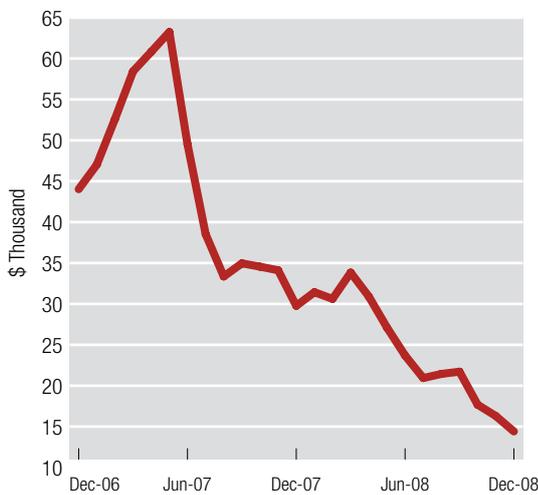


Figure 25 | **Nickel Price A\$/tonne**
 Source: LME Cash, Monthly Average

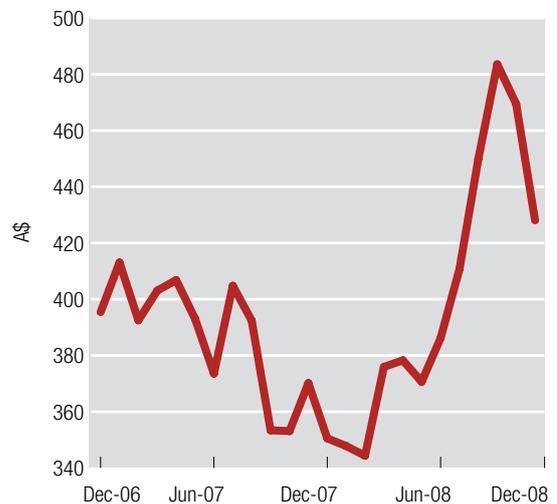


Figure 26 | **Alumina Price A\$/tonne** Source: ABS

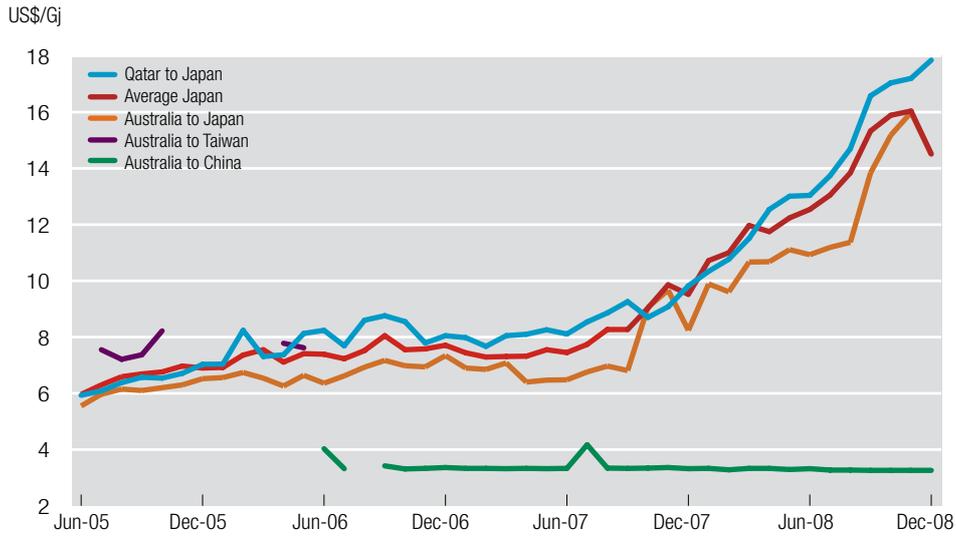


Figure 27 | **LNG Import Prices** Source: Argus Monthly LNG (Prices include freight and regassing)

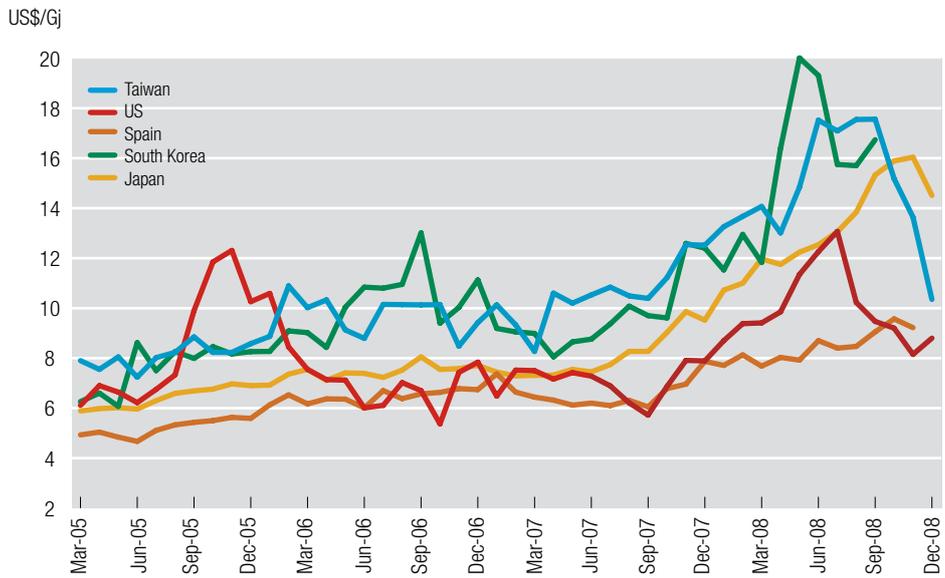


Figure 28 | **Average LNG Import Prices** Source: Argus Monthly LNG

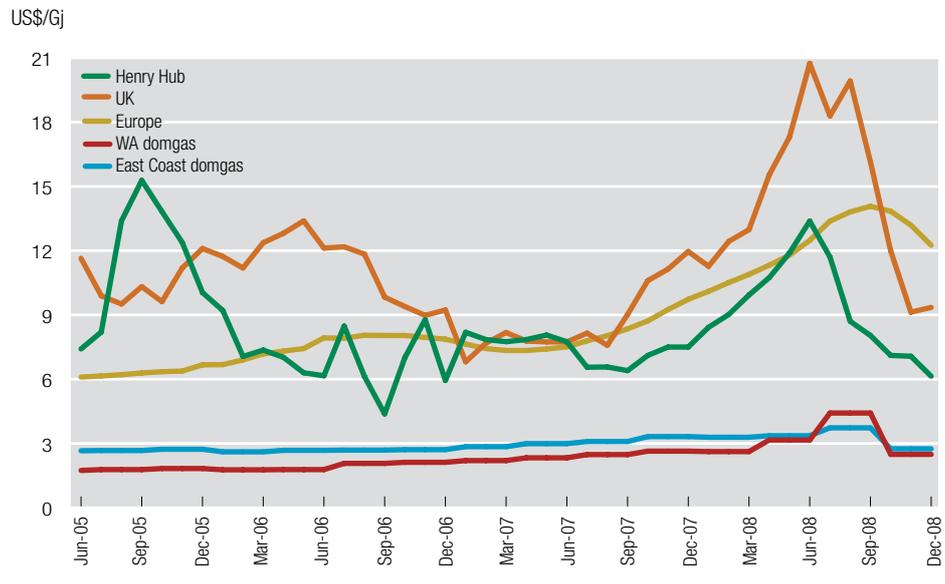


Figure 29 | **Average Natural Gas Prices** Source: Argus Monthly LNG, EnergyQuest, DMP

HISTORIC PRICES

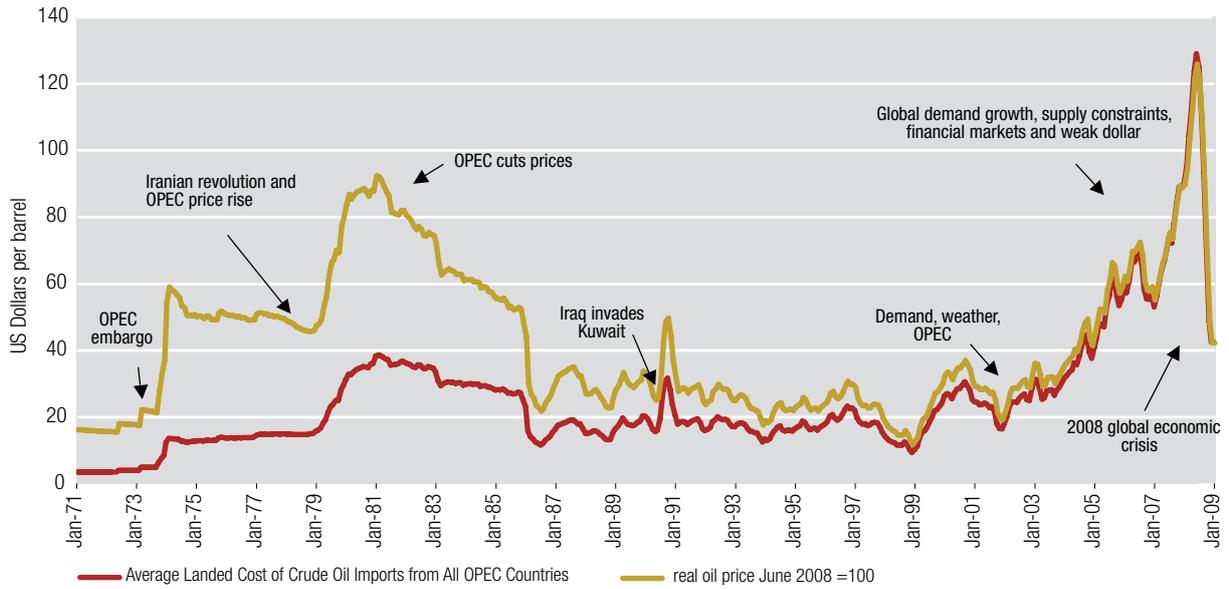


Figure 30 | **Historic Oil Prices** Source: Energy Information Administration, US Department of Energy; DMP

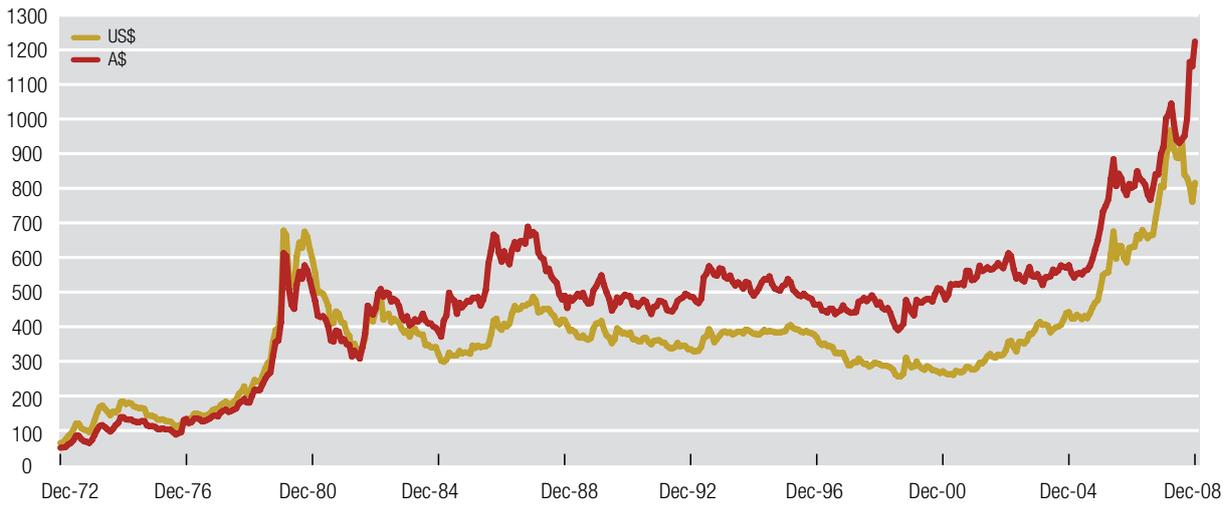


Figure 31 | **Historic Gold Price, US\$/A\$ per ounce**
Source: World Gold Council, Perth Mint and London PM Fix

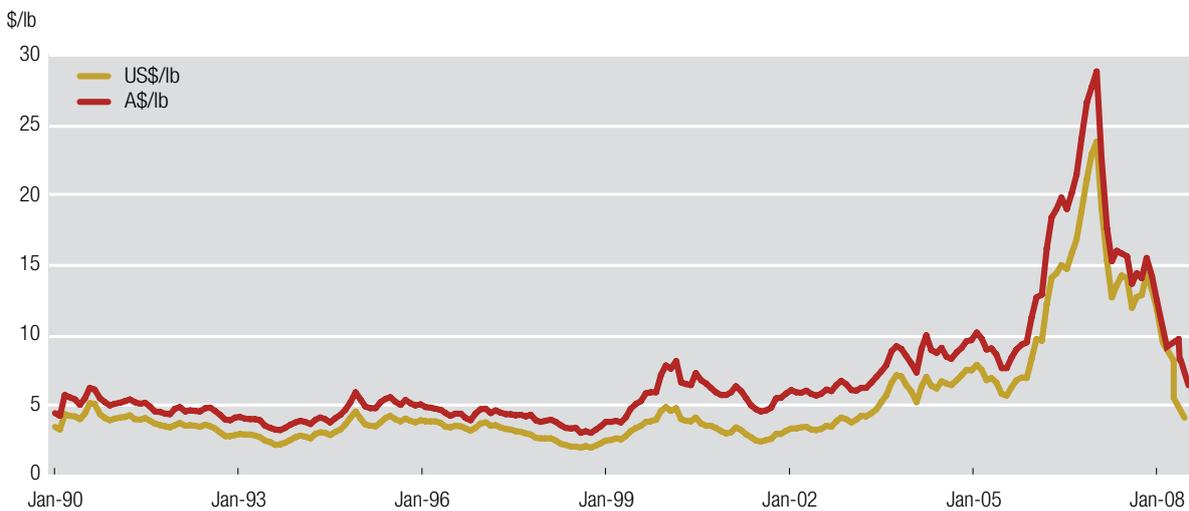


Figure 32 | **Historic Nickel Prices** Source: LME

QUANTITY AND VALUE BY QUARTER

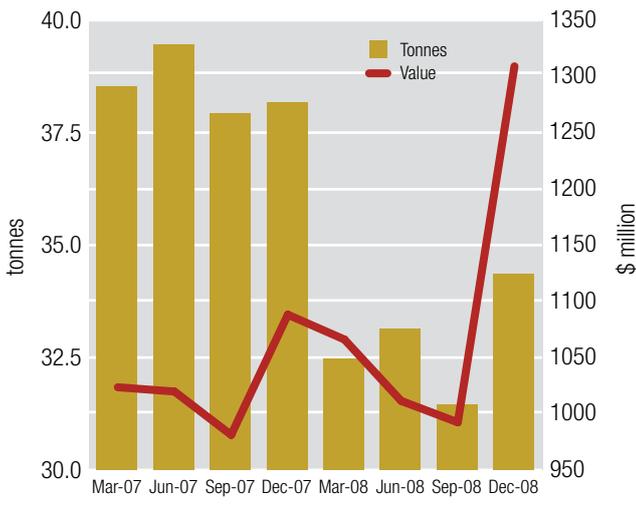


Figure 33 **Gold**
Quantity and Value by Quarter
Source: DMP

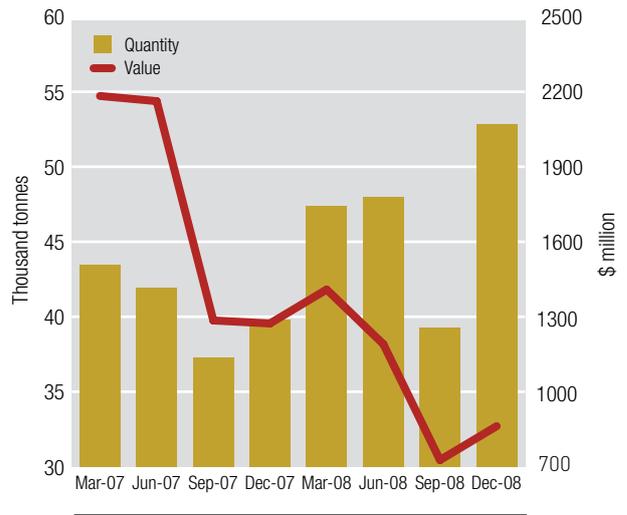


Figure 34 **Nickel**
Quantity and Value by Quarter
Source: DMP



Figure 35 **Heavy Mineral Sands**
Value by Quarter
Source: DMP

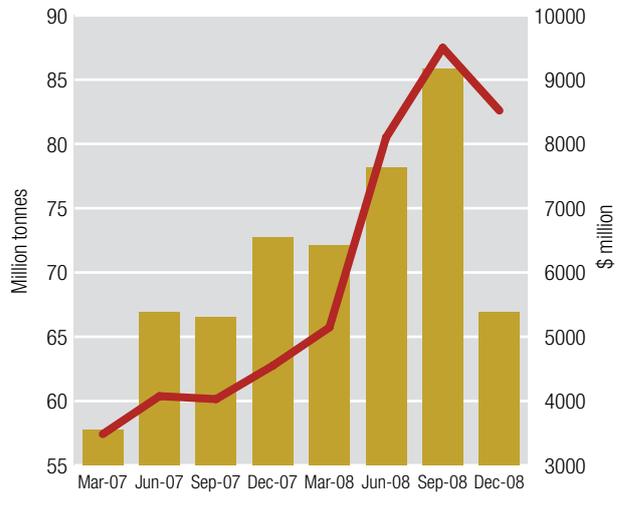


Figure 36 **Iron Ore**
Quantity and Value by Quarter
Source: DMP



Figure 37 **Alumina**
Quantity and Value by Quarter
Source: DMP

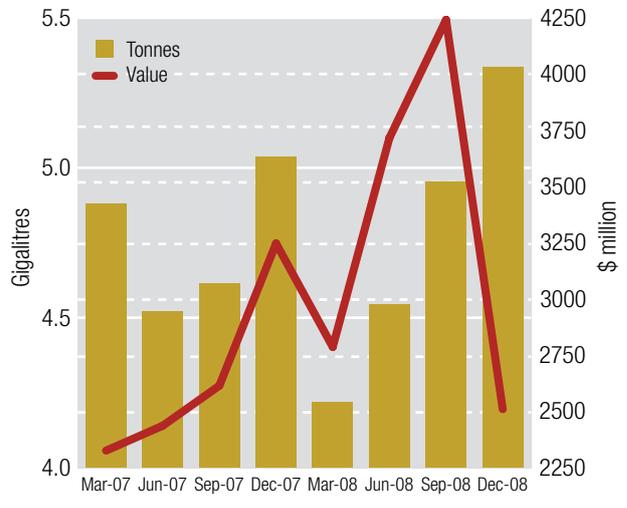


Figure 38 **Crude Oil and Condensate**
Quantity and Value by Quarter
Source: DoIR

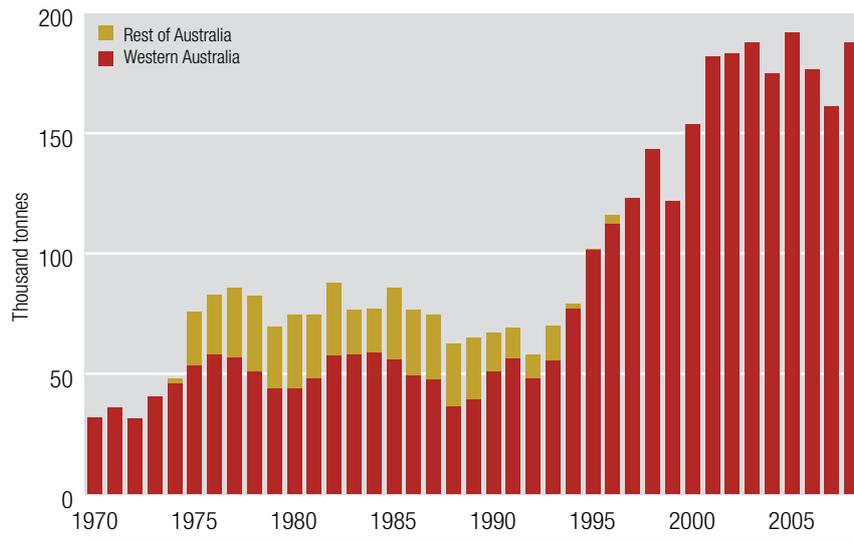


Figure 39 | **Nickel Quantity up to 2008** Source: DMP and ABARE

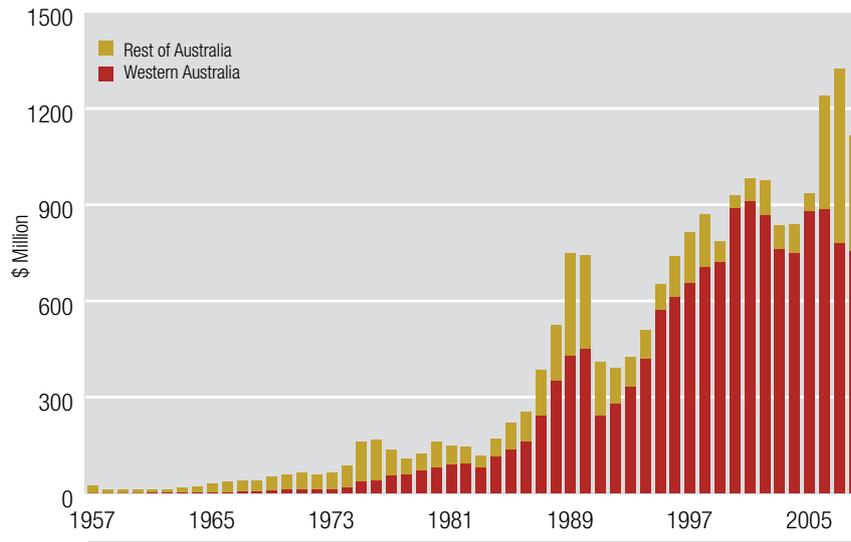


Figure 40 | **Heavy Mineral Sands Value of Production up to 2008**
Includes Ilmenite, Leucoxene, Upgraded Ilmenite, Rutile, Zircon and Monazite
Source: DMP and ABARE

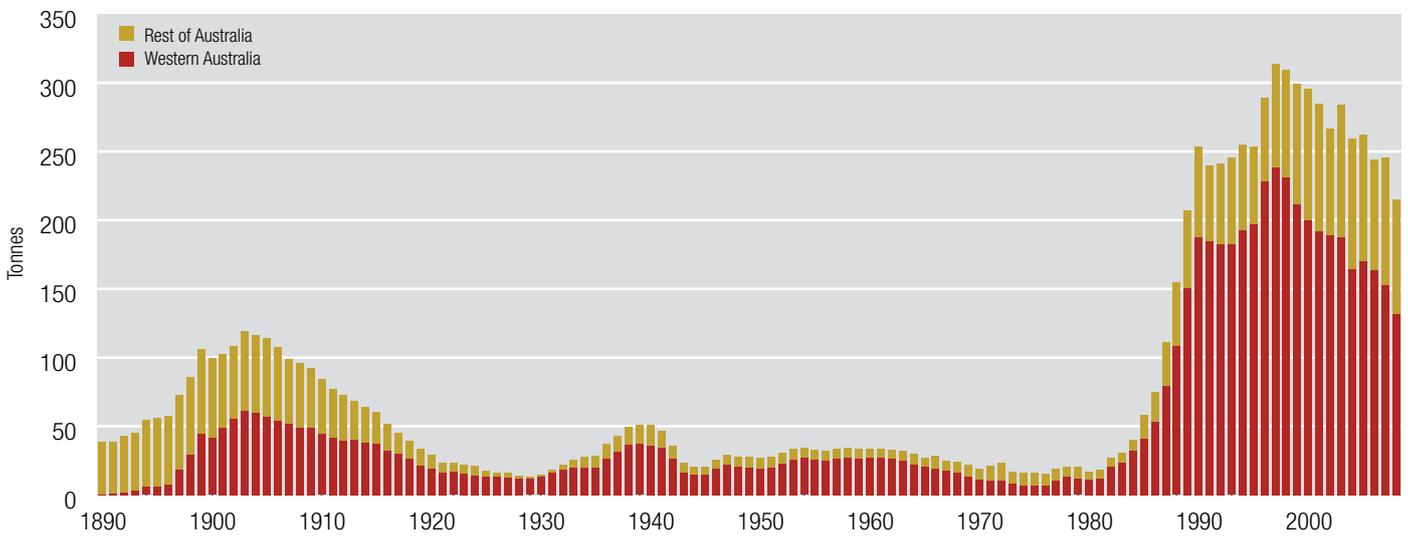


Figure 41 | **Gold Production up to 2008** Source: DMP and ABARE

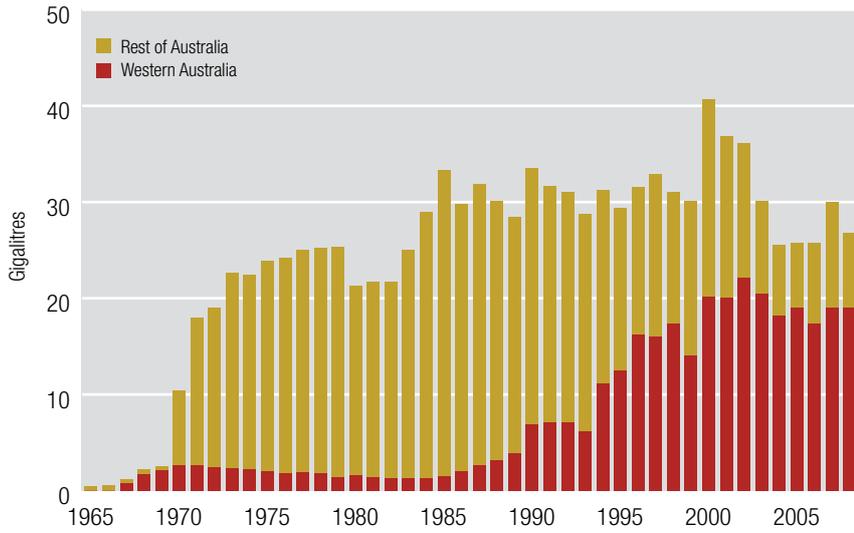


Figure 42 | **Crude Oil and Condensate Quantity up to 2008**
Source: DMP and ABARE

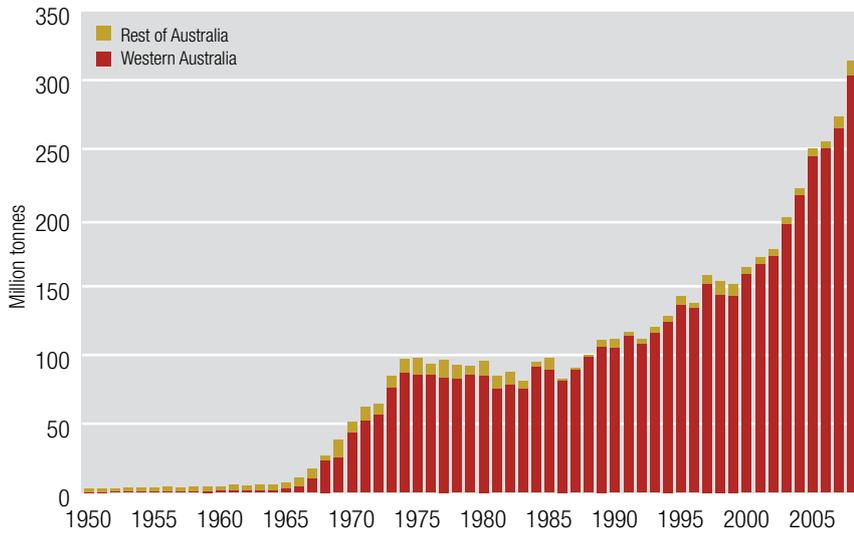


Figure 43 | **Iron Ore Quantity up to 2008** Source: DMP and ABARE

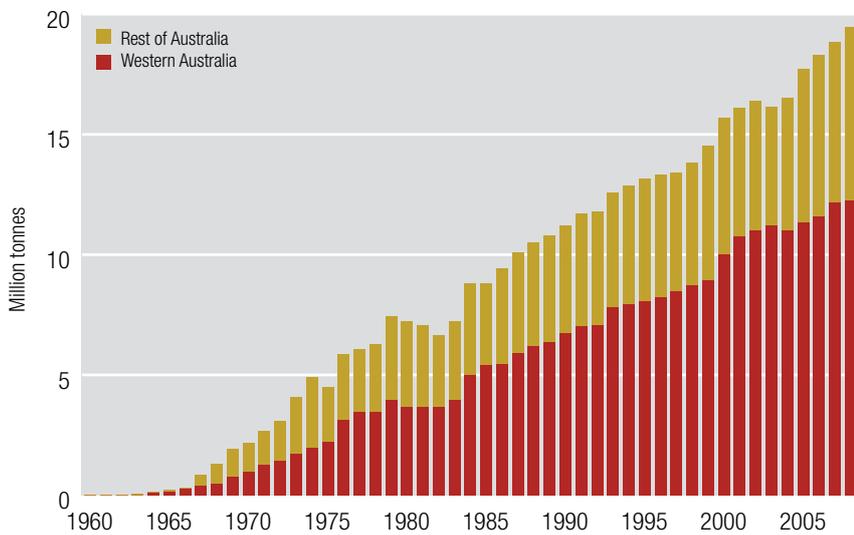


Figure 44 | **Alumina Quantity up to 2008** Source: DMP and ABARE

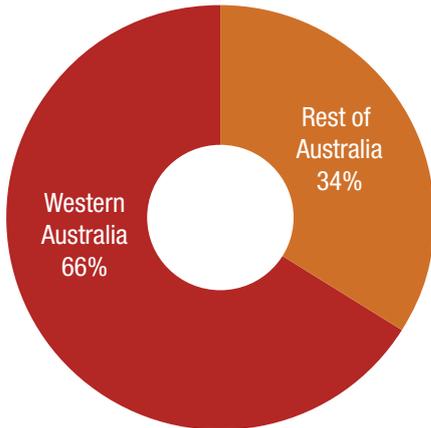


Figure 45 | **Crude Oil and Condensate Production 2008**
Source: ABARE

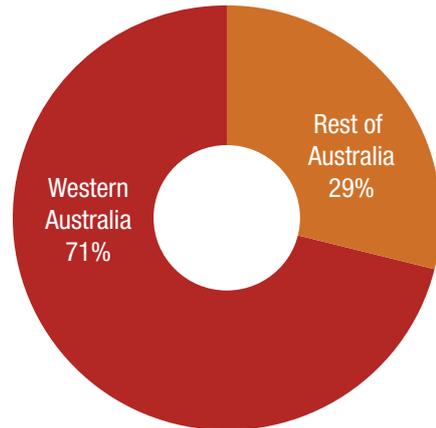


Figure 46 | **Natural Gas Production 2008**
Source: ABARE (Data includes LNG feedstock)

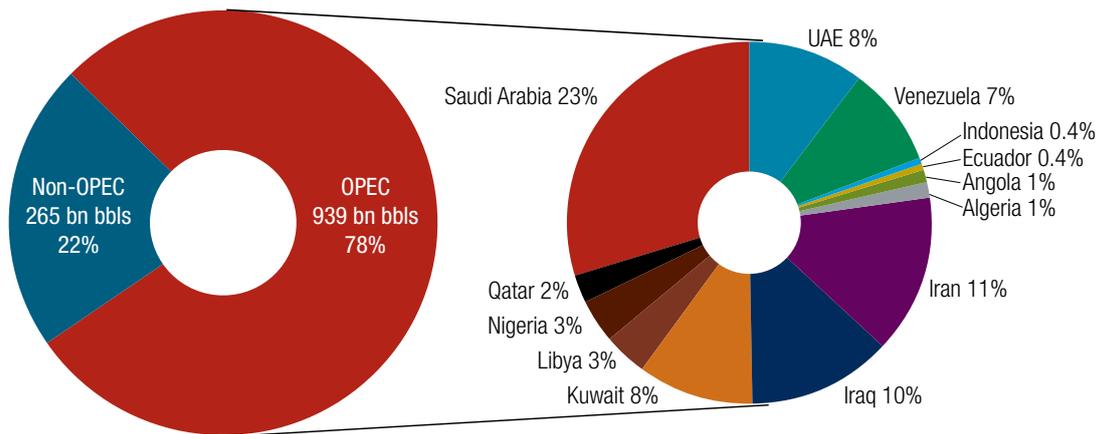


Figure 47 | **OPEC Share of World Crude Oil Reserves (2007)** Source: BP World Energy Statistics 2008

TENEMENTS IN FORCE 1978 ACT

	1999-00		2000-01		2001-02		2002-03		2003-04		2004-05		2005-06		2006-07		2007-08	
	Number	000 ha																
Prospecting Licences	5,827	745	5,512	711	4,964	634	4,566	575	4,561	568	4,665	586	5,056	638	5,376	682	6,260	800
Exploration Licences	3,394	20,687	3,162	18,152	2,899	18,556	2,855	21,123	2,917	20,896	3,066	22,215	3,966	30,822	4,766	40,031	5,427	51,790
Mining Leases	4,865	1,829	4,841	1,803	4,820	1,774	4,770	1,762	4,713	1,716	5,172	1,805	5,118	1,806	5,090	1,824	5,475	2,036
Other	2,001	468	3,625	2,840	3,618	3,002	3,629	3,299	3,590	3,115	3,258	2,982	3,432	3,037	3,629	3,248	3,678	4,119
Mineral Claims & Other 1904 Act	194	22	186	21	186	22	186	22	186	22	186	22	186	21	186	21	186	21
Total	16,280	23,751	17,326	23,829	16,487	23,988	16,006	26,781	15,967	26,317	16,347	27,610	17,758	36,324	19,047	45,806	21,026	58,766

Source: DMP

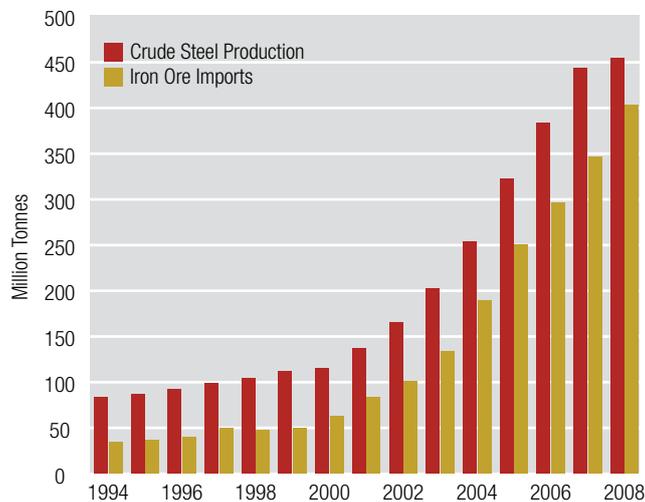


Figure 48 | **China's Crude Steel Production and Iron Ore Imports**
Source: TEX Report

TABLE 1 QUANTITY AND VALUE OF MINERALS AND PETROLEUM

COMMODITY	UNIT	CALENDAR YEAR 2007		CALENDAR YEAR 2008	
		QUANTITY	VALUE	QUANTITY	VALUE
ALUMINA	t	12,167,659	4,704,326,205	12,245,511	4,901,123,868
BASE METALS					
Copper Metal	t	119,412 (r)	1,018,753,805	128,047	1,103,521,478
Lead Metal	t	42,019 (r)	115,567,202	20,594	62,421,106
Zinc Metal	t	180,733 (r)	685,540,716	186,077	521,670,654
TOTAL BASE METALS			1,819,861,723		1,687,613,238
CHROMITE	t	118,093	70,327,427	56,982	n/a
CLAYS			1,787,130		1,225,758
COAL	t	5,810,091	265,153,484	6,740,176	305,882,763
CONSTRUCTION MATERIALS					
Aggregate	t	1,526,311	38,398,371	2,549,450	58,413,357
Gravel	t	202,620	1,499,392	136,276	1,230,708
Rock	t	785,965	12,530,094	1,007,790	13,279,921
Sand	t	4,103,627 (r)	21,867,179	3,741,609	26,760,596
TOTAL CONSTRUCTION MATERIALS			74,295,036		99,684,582
DIAMONDS	ct	23,535,500	n/a	21,240,529	n/a
DIMENSION STONE		522	140,804	1,468	312,173
GEM & SEMI-PRECIOUS STONES	kg	263,683	206,222	2,964,734	398,977
GOLD	kg	152,690	4,073,294,909	131,421	4,374,632,321
GYPSUM	t	1,191,536	20,810,492	946,313	14,433,910
HEAVY MINERAL SANDS					
Garnet	t	294,007 (r)	n/a	298,290	n/a
Ilmenite	t	730,874 (r)	79,800,273	542,347	67,362,910
Leucoxene	t	73,035 (r)	23,574,626	55,127	16,111,881
Zircon	t	289,876 (r)	263,931,467	328,847	287,832,100
Other	t		412,969,675		384,000,793
TOTAL HEAVY MINERAL SANDS			780,276,041		755,307,684
IRON ORE	t	264,449,685 (r)	16,165,248,957	303,025,340	31,251,261,824
LIMESAND-LIMESTONE-DOLOMITE		3,814,744	19,304,521		17,092,231
MANGANESE ORE	t	430,446	185,709,293	329,775	n/a
NICKEL INDUSTRY					
Cobalt	t	4,734 (r)	343,084,748	4,785	396,781,957
Nickel	t	161,005 (r)	6,958,081,139	187,514	4,185,712,343
Palladium and Platinum By-Product	kg	742	10,162,872	710	8,753,701
TOTAL NICKEL INDUSTRY			7,311,328,759		4,591,248,000

COMMODITY	UNIT	CALENDAR YEAR 2007		CALENDAR YEAR 2008	
		QUANTITY	VALUE	QUANTITY	VALUE
PETROLEUM					
Condensate	kl	5,855,654	(r) 3,236,755,018	5,725,013	3,512,416,904
Crude Oil	kl	13,195,792	(r) 7,384,292,251	13,324,422	9,737,620,320
LNG	t	12,375,731		12,381,004	7,176,489,492
LPG - Butane and Propane	t	893,914		764,668	731,502,315
Natural Gas	'000m ³	9,174,076	(r) 1,002,465,839	8,502,567	1,191,442,427
TOTAL PETROLEUM			16,758,725,114		22,349,471,458
SALT	t	10,385,684	(r) 229,604,348	10,893,780	256,986,182
SILICA-SILICA SAND		666,652		532,038	8,432,202
SILVER	kg	118,737	(r) 60,335,342	97,176	46,406,629
TIN-TANTALUM-LITHIUM					
Spodumene	t	245,279		n/a	239,528
Tantalite	t	538	(r) n/a	680	n/a
Tin Metal	t	148		170	2,260,618
TOTAL TIN-TANTALUM-LITHIUM			170,883,445		194,522,855
OTHER (Includes Feldspar, Red Oxide, Spongolite, Diamonds and Talc)	t		568,678,819		931,008,911
TOTAL VALUE			53,290,943,651		71,787,045,566

Note: Quantities used in this table only apply to Mineral and Petroleum covered by the *Mining Act 1978*, the *Petroleum Act 1967*, the *Petroleum (Submerged Lands) Act 1982* and relevant State Agreement Acts.

(r) Revised from previous edition

n/a Breakdown of feldspar, garnet, red oxide, talc, spodumene and tantalite not available

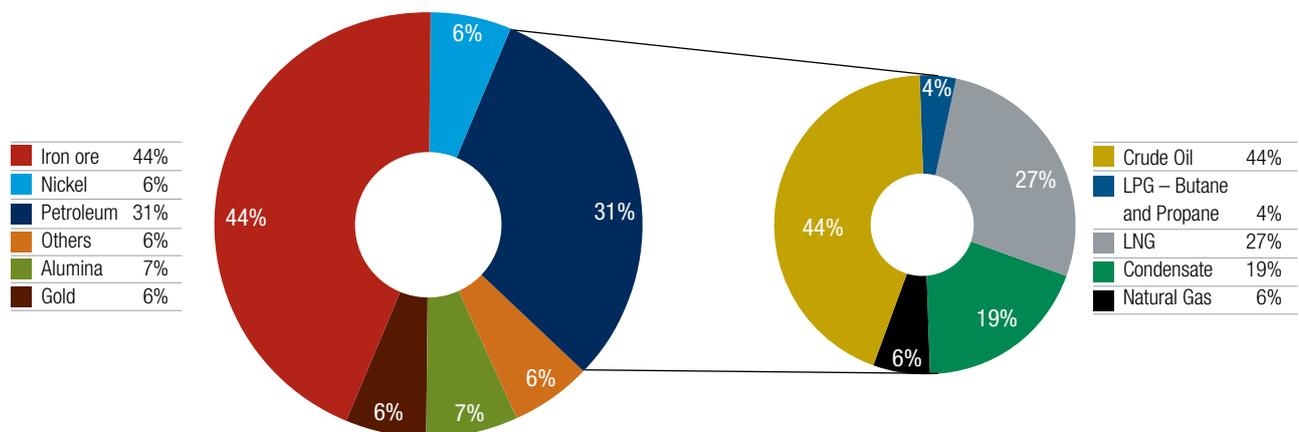


Figure 49 | Sales by Commodity 2008 Source: DMP

TABLE 2 QUANTITY AND VALUE OF SELECTED MAJOR COMMODITIES (CALENDAR YEARS)

	Unit	1999		2000		2001		2002	
		Quantity	Value \$M						
ALUMINA	Mt	8.93	2,311.38	10.00	3,187.47	10.75	3,766.55	11.00	3,339.25
BASE METALS									
Copper Metal	kt	26.23	46.25	34.04	82.61	50.24	120.71	64.29	145.49
Lead Metal	kt	55.28	17.23	73.08	25.76	91.38	44.90	70.40	32.69
Zinc Metal	kt	222.54	219.59	257.72	290.11	210.84	208.72	218.80	173.06
TOTAL BASE METALS			283.07		398.48		374.33		351.24
COAL	Mt	6.23	268.02	6.20	257.84	6.20	258.21	6.26	266.40
COBALT	kt	1.01	37.68	3.59	157.66	4.26	146.27	4.70	118.95
DIAMONDS ***	M ct	51.64	640.06	42.30	713.68	21.68	499.53	34.37	650.34
GOLD	tonnes	211.76	2,939.98	199.50	3,078.65	192.20	3,236.20	188.86	3,460.87
HEAVY MINERAL SANDS									
Ilmenite	Mt	1.24	152.95	1.30	185.47	0.83	137.32	0.85	131.26
Rutile	kt	113.40	82.26	122.15	100.58	112.93	99.01	125.41	102.66
Zircon	kt	322.94	139.14	347.93	172.11	353.17	230.00	369.92	246.74
Other HMS			26.13		27.27		24.23		21.54
TOTAL HEAVY MINERAL SANDS			688.49		862.93		909.22		855.87
IRON ORE	Mt	143.01	3,517.17	158.87	4,365.19	162.25	5,245.93	171.77	5,064.62
MANGANESE ORE ****	kt	108.16	13.20	259.53	33.61	498.60	76.09	578.39	75.63
NICKEL METAL	kt	121.89	1,084.96	153.51	2,243.28	181.17	2,074.48	183.00	2,242.55
PETROLEUM									
Condensate	Gl	5.57	1,013.30	6.20	1,946.37	6.02	1,787.91	6.88	1,928.58
Crude oil	Gl	8.49	1,559.29	13.74	4,472.42	14.06	4,246.65	15.29	4,502.72
LNG *	Btu 10 ¹²	387.38	1,934.44	385.61	2,986.97	389.57	3,482.87	394.11	2,791.22
LPG - Butane **	kt	390.08	116.55	450.57	225.36	475.25	217.54	458.15	197.56
LPG - Propane	kt	260.44	81.77	364.53	183.36	385.83	185.08	357.41	165.88
Natural Gas	Gm ³	6.60	569.33	6.93	607.64	7.67	642.08	7.75	650.20
TOTAL PETROLEUM			5,274.68		10,422.12		10,562.13		10,236.16
SALT	Mt	9.02	212.74	7.71	197.32	8.58	249.24	9.17	250.53
OTHER			192.81		297.01		379.55		389.16
TOTAL			17,464.24		26,215.24		27,777.73		27,301.57

* Expressed in million tonnes from 2005 onwards

** LPG Butane and Propane combined from 2005 onwards and expressed in million tonnes

*** Diamonds values are not available from 2006 onwards

**** Manganese values are not available from 2008 onwards

2003		2004		2005		2006		2007		2008	
Quantity	Value \$M										
11.23	3,140.48	10.99	3,178.95	11.35	3,655.84	11.60	4,567.93	12.17	4,704.33	12.25	4,901.12
58.78	145.09	42.68	160.94	83.88	434.71	89.47	689.93	119.41	1,018.75	128.05	1,103.52
56.49	24.32	1.17	0.31	30.27	41.17	74.85	130.61	42.02	115.57	20.59	62.42
174.55	139.73	51.78	57.78	63.61	118.91	138.84	353.12	180.73	685.54	186.08	521.67
	309.15		219.03		594.79		1,173.66		1,819.86		1,687.61
6.03	266.41	6.31	281.91	6.41	283.26	7.25	318.42	5.81	265.15	6.74	305.88
5.17	145.04	4.55	262.18	4.59	166.95	5.02	208.57	4.73	343.08	4.78	396.78
35.48	661.86	24.23	414.81	34.31	n/a	17.07	n/a	23.54	n/a	21.24	n/a
187.50	3,364.96	164.42	2,940.98	169.83	3,146.54	163.65	4,235.16	152.69	4,073.29	131.42	4,374.63
0.86	110.46	0.76	87.94	0.67	74.00	0.71	80.72	0.73	79.80	0.54	67.36
123.63	80.28	112.93	69.02	100.45	63.79	96.07	60.46	92.92	56.30	n/a	n/a
420.55	242.10	414.07	265.07	416.92	329.80	345.33	342.15	289.88	263.93	328.85	287.83
	17.60		327.05		412.78		373.80		412.97		400.11
	760.75		749.08		880.37		857.12		780.28		755.31
194.75	5,061.06	215.85	6,173.16	244.64	11,308.57	249.92	14,603.80	264.45	16,165.25	303.03	31,251.26
587.84	65.18	593.68	106.48	785.01	184.39	906.68	211.08	430.45	185.71	329.78	n/a
190.21	2,680.24	174.70	3,261.21	191.71	3,784.39	176.64	5,611.44	161.01	6,958.08	187.51	4,185.71
6.39	1,765.46	5.94	2,011.14	5.88	2,576.86	5.61	2,940.31	5.86	3,236.76	5.73	3,512.42
14.12	4,034.63	12.25	4,211.56	13.18	6,168.82	12.01	6,646.84	13.20	7,384.29	13.32	9,737.62
408.27	2,874.61	454.12	3,150.81	11.03	4,320.27	11.96	4,550.76	12.38	4,448.58	12.38	7,176.49
425.20	182.83	398.84	189.28	870.73	544.22	862.23	613.83	893.91	686.64	764.67	731.50
319.97	142.72	322.85	151.13								
8.11	690.45	7.71	655.46	7.41	661.61	8.37	810.72	9.17	1,002.47	8.50	1,191.44
	9,690.71		10,369.39		14,397.85		15,562.46		16,758.73		22,349.47
9.75	197.01	10.40	185.08	11.48	213.78	10.33	235.20	10.39	229.60	10.89	256.99
	343.08		353.17		835.31		834.97		1,007.58		1,322.27
	26,685.93		28,495.43		39,452.04		48,419.80		53,290.94		71,787.05

TABLE 3 VALUE OF MINERALS AND PETROLEUM BY REGION BY LGA CALENDAR YEAR 2008

Pilbara Region	2008 Value
Roebourne	286,009,510
East Pilbara	21,303,653,442
Ashburton	10,358,104,445
Port Hedland	93,828,414
Karratha and Marble Bar	392,253
Total	32,041,988,064

Offshore Petroleum	22,215,809,949
---------------------------	-----------------------

Goldfields Esperance Region	2008 Value
Coolgardie	1,849,199,626
Leonora	1,955,816,046
Kalgoorlie-Boulder	1,618,917,646
Laverton	867,888,204
Dundas	274,632,024
Esperance and Ravensthorpe	451,915,552
Menzies	26,249,452
Total	7,044,618,550

Peel Region	2008 Value
Waroona	3,524,582,712
Boddington	1,376,541,156
Total	4,901,123,868

Mid West Region	2008 Value
Yalgoo	649,771,826
Wiluna and Three Springs	548,806,630
Irwin	129,712,591
Morawa, Mullewa	226,010,381
Mt Magnet and Murchison	190,491,121
Carnamah	342,460,280
Meekatharra	236,709,404
Northampton, Perenjori and Sandstone	84,170,030
Coorow and Cue	1,646,993
Total	2,409,779,256

Kimberley Region	2008 Value
Derby-West Kimberley	523,508,412
Wyndham-East Kimberley	373,421,056
Halls Creek	271,757,324
Broome	4,808,141
Total	1,173,494,933

Wheatbelt Region	2008 Value
Yilgarn	889,511,280
Dandaragan	190,244,778
Dalwallinu and Kondinin	134,986,570
Corrigin, Lake Grace and Moora	2,541,835
Mukinbudin, Northam and Nungarin	552,047
Gingin and Wyalkatchem	1,217,989
Total	1,219,054,499

South West Region	2008 Value
Bridgetown-Greenbushes and Capel	320,673,512
Collie	306,113,225
Bunbury, Dardanup and Manjimup	50,531,236
Total	677,317,973

Gascoyne Region	2008 Value
Carnarvon	48,478,802
Exmouth, Shark Bay and Upper Gascoyne	23,910,116
Total	72,388,918

Perth Metropolitan Region	2008 Value
Kalamunda and Swan	3,953,895
Wanneroo	16,900,005
Cockburn and Kwinana	7,400,664
Total	28,254,564

Great Southern Region	2008 Value
Albany, Denmark, Kent and Plantagenet	3,214,992

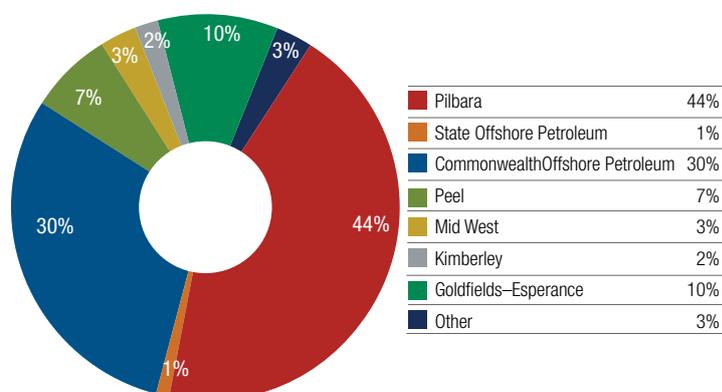


Figure 50 | Value of Minerals and Petroleum by Region 2008
Total \$71.8 billion Source: DMP

**TABLE 4 VALUE OF MINERALS AND PETROLEUM BY REGION
BY COMMODITY CALENDAR YEAR 2008**

Pilbara Region	2008 Value
Iron Ore	29,828,099,601
Copper	827,476,812
Gold	707,029,157
Nickel and Manganese	409,532,965
Other	269,849,529
Total	32,041,988,064

Offshore Petroleum	
Crude Oil and Condensate	13,145,826,782
Liquefied Natural Gas	7,176,489,492
Natural Gas	1,161,991,360
LPG Butane and Propane	731,502,315
Total	22,215,809,949

Goldfields Esperance Region	
Nickel, Platinum and Palladium	3,716,853,257
Gold	2,808,924,736
Cobalt	353,486,750
Copper and zinc	139,059,933
Silver	16,250,354
Construction Materials	5,532,670
Other	4,510,850
Total	7,044,618,550

Peel Region	
Alumina	4,901,123,868

Mid West Region	
Gold	678,194,107
Nickel, Cobalt and Talc	144,203,065
Iron Ore	379,500,897
Heavy Mineral Sands and Gypsum	388,740,985
Crude Oil and Condensate	101,660,413
Copper, Lead and Zinc	606,672,399
Chromite and Silver	77,600,209
Natural Gas	29,451,067
Other	3,756,114
Total	2,409,779,256

Kimberley Region	2008 Value
Nickel, Cobalt and Diamonds	708,953,785
Iron Ore and Gold	341,937,392
Copper, Lead and Zinc	112,955,594
Other	9,648,162
Total	1,173,494,933

Wheatbelt Region	
Iron Ore and Gold	882,208,254
Gypsum and Heavy Mineral Sands	191,884,723
Nickel, Cobalt and Salt	138,711,083
Other	6,250,439
Total	1,219,054,499

South West Region	
Coal	305,882,763
Heavy Mineral Sands	176,671,438
Tin, Tantalum and Spodumene	194,522,855
Other	240,917
Total	677,317,973

Gascoyne Region	
Salt and Gems	60,157,282
Gypsum and Limesand-Limestone	11,888,344
Other	343,292
Total	72,388,918

Perth Metropolitan Region	
Construction Materials, Silica Sand, Limesand-Limestone	28,254,564

Great Southern Region	
Gypsum, Silica Sand and Spongolite	3,214,992

TABLE 5 ROYALTY RECEIPTS FOR CALENDAR YEARS 2007 AND 2008

COMMODITY	2007	2008	2008 Growth	
	Total A\$	Total A\$	A\$	%
Alumina	85,152,337	78,222,581	-6,929,756	(8)
Diamonds	33,182,993	30,998,568	-2,184,425	(7)
Gold	100,583,204	99,877,858	-705,346	(1)
Heavy Mineral Sands	29,438,101	22,530,518	-6,907,583	(23)
Iron Ore	830,412,802	1,518,472,327	688,059,525	83
Nickel, (Includes, cobalt, palladium and platinum)	197,972,076	116,720,356	-81,251,720	(41)
Petroleum	737,114,522	929,258,722	192,144,200	26
Other	154,122,223	125,425,651	-28,696,572	(19)
TOTAL REVENUE	2,167,978,258	2,921,506,581	753,528,323	35

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

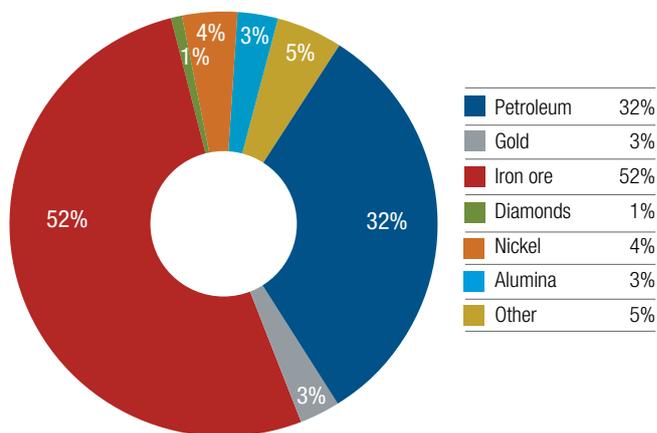


Figure 51 | **Royalty Receipts 2008** Source: DMP

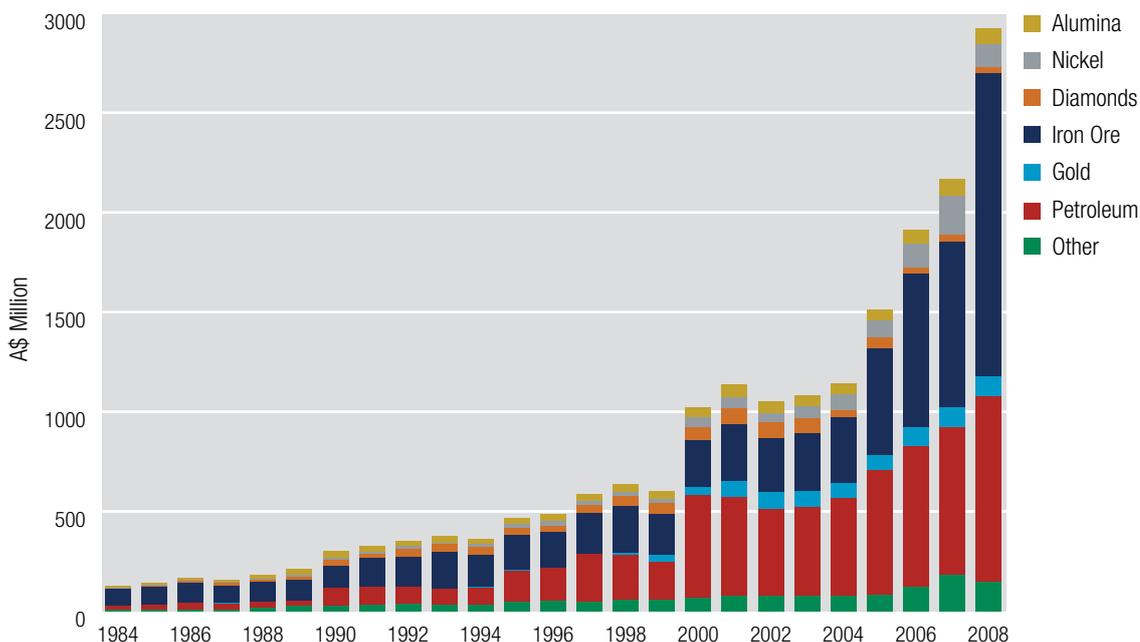


Figure 52 | **Royalty Receipts by Commodity** Source: DMP

TABLE 6 AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS AND PETROLEUM INDUSTRIES

MINERAL/Company	Operating Site	2007	2008
BAUXITE - ALUMINA			
Australian Fused Materials Pty Ltd	Rockingham Fused Alumina Plant	91	85
Alcoa World Alumina Australia	Huntly	773	830
	Kwinana Alumina Refinery	1,646	1,583
	Pinjarra Refinery	1,916	1,868
	Wagerup Alumina Refinery	1,341	1,215
	Wagerup Co-Generation Plant	195	5
	Willowdale	385	403
Worsley Alumina Pty Ltd	Worsley Mining Operations	303	296
	Worsley Refinery	1,909	1,916
TOTAL BAUXITE - ALUMINA		8,559	8,201
BASE METALS			
Birla (Nifty) Pty Ltd	Nifty	782	694
Jabiru Metals Ltd	Jaguar	103	101
CBH Sulphur Springs Pty Ltd	Panorama	5	9
Magellan Metals	Magellan	77	64
Oz Minerals Limited	Scuddles	907	1,118
Straits (Whim Creek) Pty Ltd	Whim Creek	156	157
Lennard Shelf Pty Ltd	Pillara	211	99
TOTAL BASE METALS		2,241	2,242
COAL			
Griffin Coal Mining Co. Pty Ltd	Muja	386	425
Wesfarmers Coal Ltd	Premier/WCL	422	472
TOTAL COAL		808	897
DIAMONDS			
Argyle Diamond Mines Pty Ltd	Lake Argyle	1,486	1,687
Kimberley Diamond Company Ltd	Ellendale	374	528
North Australian Diamonds Limited	Wangarra Laboratory	3	3
TOTAL DIAMONDS		1,863	2,218
GOLD			
Agnew Gold Mining Company Pty Limited	Emu	888	328
AngloGold Australia Ltd	Sunrise Dam	1,011	883
Anglo Australian Resources	Mandilla Group	17	0
Apex Gold Pty Ltd	Wiluna Group	235	326
Australian Gold Resources Ltd	Perth Mint	125	119
Avoca Resources Ltd	Trident-Athena-Apollo	136	272
Barra Resources Ltd	Burbanks Group	33	5
Barrick Gold of Australia Limited	Darlot	259	257

TABLE 6 AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS AND PETROLEUM INDUSTRIES

MINERAL/Company	Operating Site	2007	2008
GOLD (CONTINUED)			
	Granny Smith	376	379
	Kalgoorlie West Group	795	646
	Lawlers	379	382
	Plutonic	468	262
BGM Group	Boddington	867	2,348
Bullabulling Joint Venture	Bullabulling	22	11
Burnakura Joint Venture	Burnakura	9	19
Central Norseman Gold Corporation	Central Norseman Group	234	245
Crescent Gold Limited	Laverton-Barnicoat Group	110	79
Davyhurst Gold Pty Ltd	Davyhurst	65	86
Diora - HBJ Minerals Pty Ltd	New Celebration Group	294	238
Equigold NL	Kirkalocka	65	40
Focus Minerals Ltd	Coolgardie Group	15	62
Gleneagle Gold Limited	Fortnum Group	30	0
Haoma Pty Ltd	Bamboo Creek	15	9
Higginsville Mining Pty Ltd	Greenfields-Higginsville Plant	51	51
Intrepid Mines Limited	Paulsens	70	154
Kalgoorlie Consolidated Gold Mines Pty Ltd	Golden Mile - Super Pit	1,486	1,565
Kingrose Mining Pty Ltd	Sand Queen	14	25
La Mancha Resources Australia Pty Ltd	Frogs Legs Group	76	162
Mercator Gold Australia Pty Ltd	Bluebird Group	59	74
Minjar Gold Pty Ltd	Minjar Group	9	4
Monarch Resources Limited	Binduli Group	1	14
Mount Magnet Gold NL	Hill 50-Mt Magnet	371	38
Mt Ida Gold Operations Pty Ltd	Mt Ida Group	14	24
Newcrest Mining Ltd	Telfer	1,787	1,832
Newmont Mining Corporation	Jundee	623	553
Norilsk Nickel Wildara NL	Thunderbox	203	0
Paddington Gold Mine Pty Ltd	Paddington Group	72	288
Ramelius Milling Services Pty Ltd	Coolgardie-Burbanks Custom Milling	14	14
Ramelius Resources Ltd	Wattle Dam	10	26
Range River Gold Ltd	Indee Group	84	28
Silver Lake Resources Limited	Daisy-Milano	28	64
	Lakewood - Fimtails Plant	1	40
St Barbara Mines Ltd	Carosue Dam	11	17
	Marvel Loch-Southern Cross Group	498	499
	Sons of Gwalia	201	447

MINERAL/Company	Operating Site	2007	2008
St Ives Gold Mining Company Pty Limited	Kambalda/St Ives	1,179	1,306
Tanami Gold NL	Coyote Group	67	118
Troy Resources Ltd	Sandstone Group	63	37
View Gold Pty Ltd	Bronzewing-Mt McClure	271	65
Other	Various	22	18
TOTAL GOLD		13,733	14,459
HEAVY MINERAL SANDS			
BHP Titanium Minerals Pty Ltd	Beenup	9	7
Bemax Resources Limited	Bunbury	210	205
Doral Mineral Sands Pty Ltd	Dardanup	164	296
Doral Specialty Chemicals Pty Ltd	Rockingham Zirconia Plant	22	10
GMA Garnet Pty Ltd	Narngulu Garnet Plant	37	38
	Port Gregory	32	33
Iluka Resources Limited	Capel	745	604
	Eneabba	352	501
	Narngulu Synthetic Rutile Plants	552	346
	Gingin/Iluka	89	84
TiWest Pty Ltd	Chandala-Muchea	307	302
	Cooljarloo	298	223
	Bunbury Port	23	21
TOTAL HEAVY MINERAL SANDS		2,840	2,670
IRON ORE			
Atlas Iron Ltd	Pardoo RSD Group	0	19
Australian Premium Iron JV	Upper Cane	0	3
BHP Iron Ore (Goldsworthy) Ltd	Yarrie	96	160
BHP Iron Ore (Jimblebar) Ltd	Jimblebar	147	84
	RGP4 Jimblebar Construction	28	72
BHP Iron Ore Ltd	Boodarie HBI Plant	50	47
	Mining Area C	666	992
	Mining Area C and Port Development	630	118
	Mt Newman Railway	610	1,039
	Mt Whaleback	1,175	1,439
	Mt Whaleback Laboratory-Explosives Facility 194	194	664
	Nelson Point	744	761
	Orebody 25 - Pit 3	259	420
	Orebody 18 - Shovelanna Hill	222	239
	Orebody 18 - Wheelarra RSD Group	0	61
	PACE-RGP Group	738	189

TABLE 6 AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS AND PETROLEUM INDUSTRIES

MINERAL/Company	Operating Site	2007	2008
IRON ORE (continued)			
	Yandi - Marillana Creek Group	630	775
Citic Pacific Mining Management Pty Ltd	Cape Preston Group	0	428
Crosslands Resources Ltd	Jack Hills	79	92
Ferro Metals Australia Pty Ltd	Balla Balla Group	0	11
Fortescue Metals Group Ltd	Cloud Break	144	1,599
Hamersley Iron Pty Ltd	Brockman No. 2 Detritals Group	432	445
	Dampier Port Operations and Power Plant	1,506	1,619
	Hismelt Kwinana	587	612
	Marandoo	232	250
	Paraburdoo/Channar/Eastern Range	1,031	1,324
	Paraburdoo Power Plant	2	35
	Tom Price	1,602	1,701
	Tom Price Brownfields Mine Expansion	60	0
	Yandicoogina	1,215	957
Henry Walker Eltin Cockatoo Pty Ltd	Cockatoo Island	139	169
Hope Downs Iron Ore	Hope Downs 1-3 Group	0	453
	Hope Downs Construction Group	1,240	665
	Hope Downs Village	96	14
Mount Gibson Iron Limited	Geraldton Port Storage Facility	18	18
	Koolan Island	391	503
	Mullewa Transfer Station	58	70
	Tallering Peak	285	305
Pilbara Iron Pty Ltd	Includes Hamersley and Robe railway operations	588	769
Portman Mining Ltd	Koolyanobbing	546	584
Robe River Mining Co. Pty Ltd	Cape Lambert Port Operations and Power Plant	799	1,601
	Pannawonica Deepdale Mesa A	432	1,012
	West Angelas Plant	716	867
TOTAL IRON ORE		18,387	23,185
NICKEL			
Australian Mines Limited	Blair	56	52
BHP Billiton Minerals Pty Ltd	Ravensthorpe	1,816	1,075
BHP Billiton (Nickel West)	Cliffs	97	316
	Kalgoorlie Nickel Smelter	1,197	1,526
	Kambalda	461	514
	Kwinana Refinery	503	463
	Leinster	1,503	1,836
	Mt Keith	1,332	1,599

MINERAL/Company	Operating Site	2007	2008
Consolidated Nickel Pty Ltd	Beta-Hunt Nickel Group	221	220
Consolidated Minerals Limited	Armstrong - Kambalda	44	21
Copernicus Nickel Mines Pty Ltd	Copernicus	0	25
Focus Minerals Ltd	Nepean	5	9
Fox Resources Pty Ltd	Radio Hill	123	74
Heron Resources Limited	Jump Up Dam	7	6
Panoramic Resources Ltd	Savannah Group	236	294
Lanfranchi Nickel Mines	Lanfranchi	204	287
Lightning Nickel Pty Ltd	Long Nickel	165	162
Mincor Operations Pty Ltd	Miitel, Wannaway, Redross, Mariners	385	371
	Carnilya Hill - Carnilya East	22	76
	Kambalda Group	114	139
Norilsk Nickel Avalon Pty Ltd	Avalon-Bulong Plant	9	16
	Black Swan	473	524
	Cawse	287	376
	Emily Ann	414	400
	Honeymoon Well	23	0
	Waterloo	102	177
Murrin Murrin Operations Pty Ltd	Murrin Murrin	2,424	1,893
Poseidon Nickel Ltd	Windarra Group	13	24
Sir Samuel Mines NL	Cosmos	224	286
	Sinclair	2	147
Southern Cross Energy	Southern Cross Energy Power Group	71	100
Tectonic Resources NL	Rav 8	8	0
Western Areas Limited	Forrestania	195	299
TOTAL NICKEL		12,736	13,307
PETROLEUM PRODUCTS			
Apache Energy Ltd	Agincourt, Albert, Artreus, Bambra, Double Island, East Spar, Endymion, Gipsy, Gudren, Harriet, Hoover, John Brookes, Legendre, Linda, Little Sandy, Mohave, Monet, North Pedirka, Perdirka, Rose, Simpson, Sinbad, South Plato, Stag, Tanami, Victoria, Wonnich,	155	155
AWE Ltd	Dongara, Hovea-Eremita, Mt Horner, Woodada	40	40
BHP Billiton Petroleum (North West Shelf) Pty Ltd	Griffin, Chinook-Scindian, Stybarrow, Minerva	98	110
Buru Energy Limited	Blina	3	3
Chevron (Australia) Pty Ltd	Barrow Island, Crest, Roller-Skate, Saladin, Yammaderry	77	81
ENI Australia	Woollybutt	36	36
Origin Energy Resources Ltd	Beharra Springs, Tarantula, Jingemina	21	21

TABLE 6 AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS AND PETROLEUM INDUSTRIES

MINERAL/Company	Operating Site	2007	2008
PETROLEUM (continued)			
Roc Oil (WA) Pty Ltd	Cliff Head	17	18
Santos Limited	Mutineer-Exeter	73 (e)	73 (e)
Vermillion Oil and Gas Australia Pty Ltd	Wandoo	27	22
Woodside Energy Ltd	Athena, Cossack, Echo-Yodel, Goodwyn, Hermes, Laminaria East, North Rankin, Wanaea, Angel, Vincent, Enfield	2,981*	3,099*
TOTAL PETROLEUM PRODUCTS		3,528	3,658
SALT			
Dampier Salt Ltd	Dampier	227	199
	Lake MacLeod	186	170
	Port Hedland	195	240
WA Salt Supply Koolyanobbing Pty Ltd	Lake Deborah	9	11
Onslow Solar Salt Pty Ltd	Onslow	163	161
Shark Bay Salt JV	Useless Loop	78	79
Western Salt Refinery Pty Ltd	Pink Lake	7	7
TOTAL SALT		865	867
TOTAL CHROMITE		81	115
TOTAL CLAYS		80	139
TOTAL CONSTRUCTION MATERIALS		527	600
TOTAL DIMENSION STONE		155	138
TOTAL INDUSTRIAL PEGMATITE MINERALS		22	20
TOTAL LIMESTONE - LIMESAND		99	108
TOTAL MANGANESE ORE		251	513
TOTAL MOLYBDENUM		0	50
TOTAL PHOSPHATE		142	151
TOTAL RARE EARTHS		26	37
TOTAL SILICA - SILICA SAND		205	198
TOTAL SILVER		16	6
TOTAL TALC		74	81
TOTAL TIN - TANTALUM - LITHIUM		432	465
TOTAL VANADIUM		28	67
TOTAL VARIOUS PORTS		390	443
ALL OTHER MATERIALS		48	48
TOTAL		68,136	74,883

SOURCE: AXTAT Reporting System, Resources Safety Division, Department of Mines and Petroleum, for minerals data and petroleum producing companies for petroleum data. Figures are as provided by the various operating companies and include employees as well as contractors.

* Does not include third party contractors

(e) estimated

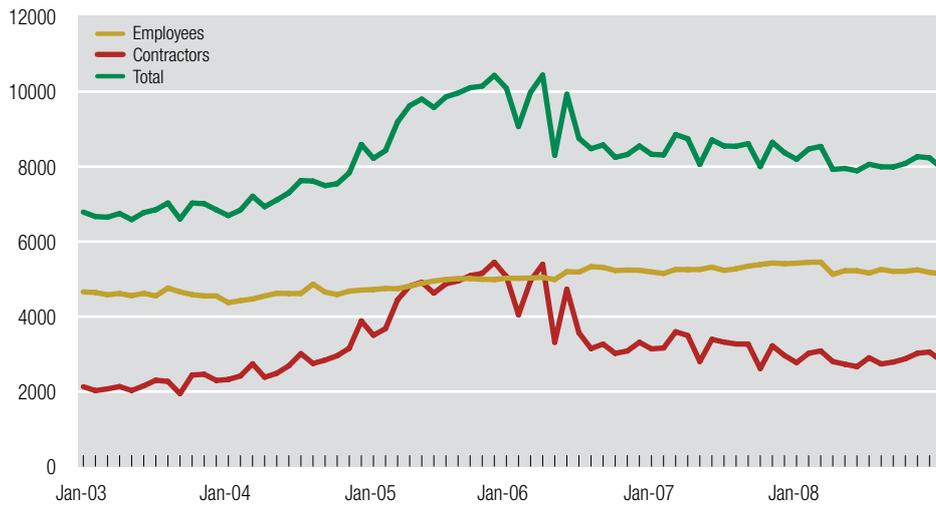


Figure 53 | Mining Employment Alumina January 2003 to December 2008 Source: DMP

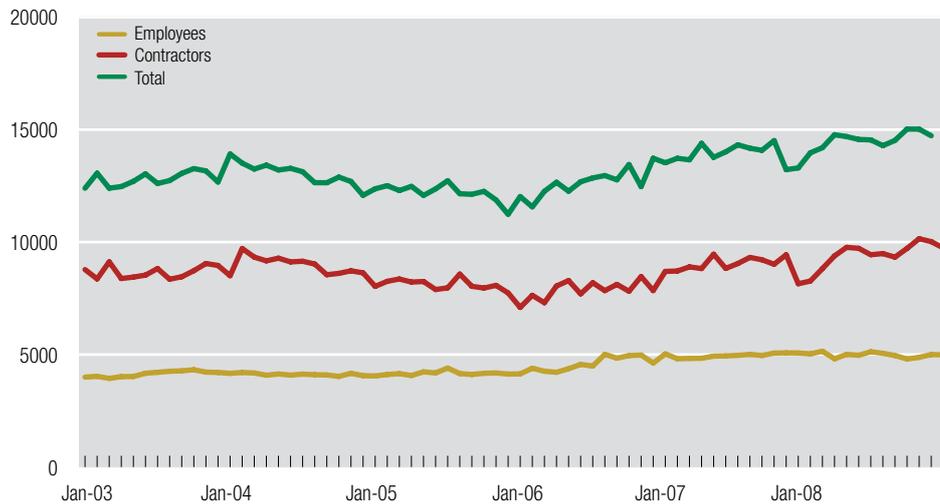


Figure 54 | Mining Employment Gold January 2003 to December 2008 Source: DMP

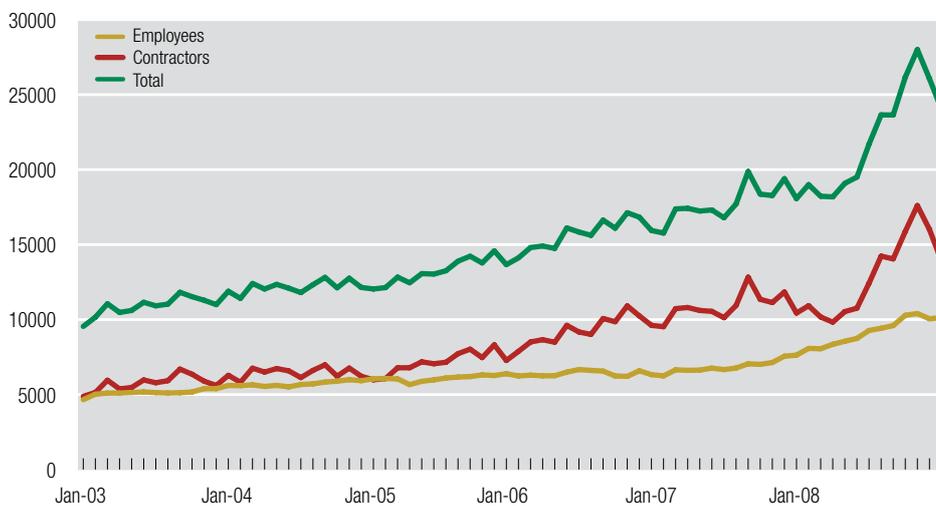


Figure 55 | Mining Employment Iron Ore January 2003 to December 2008 Source: DMP

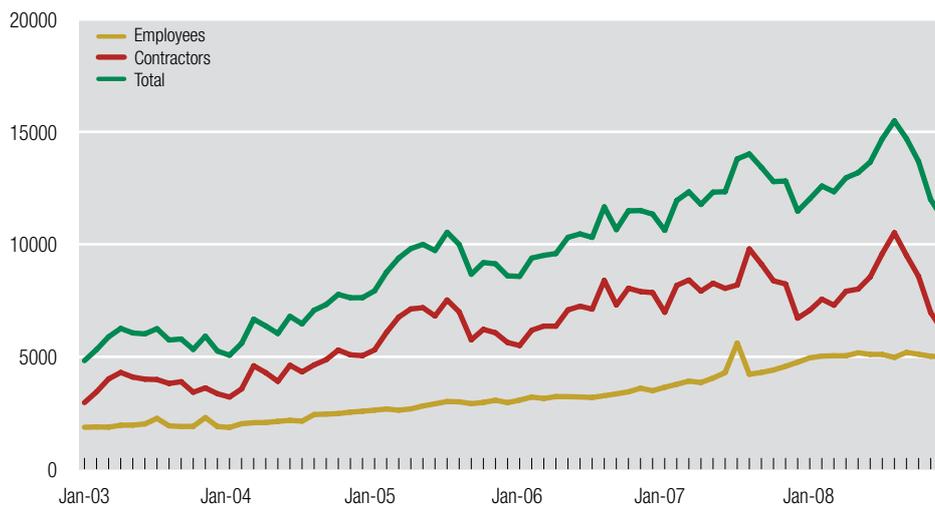


Figure 56 | **Mining Employment Nickel January 2003 to December 2008** Source: DMP

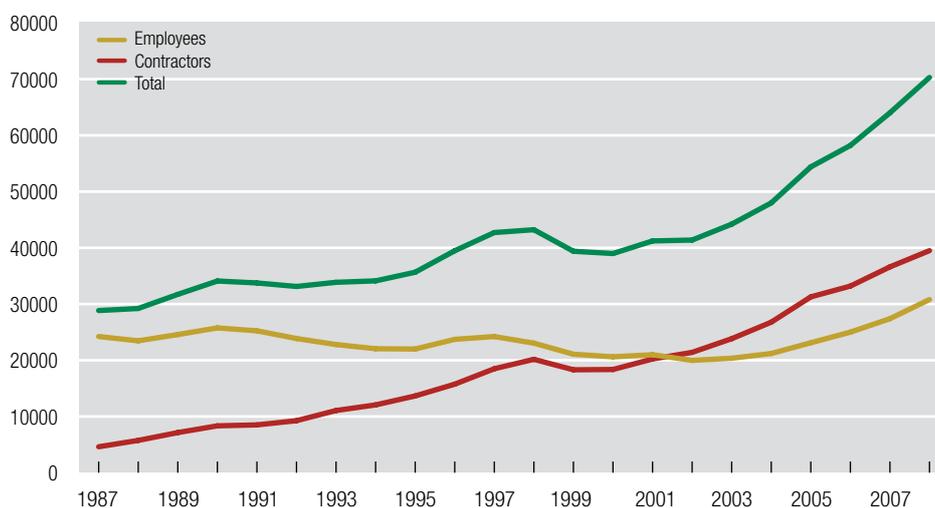


Figure 57 | **Mining Employment 1987–2008** Source: DMP

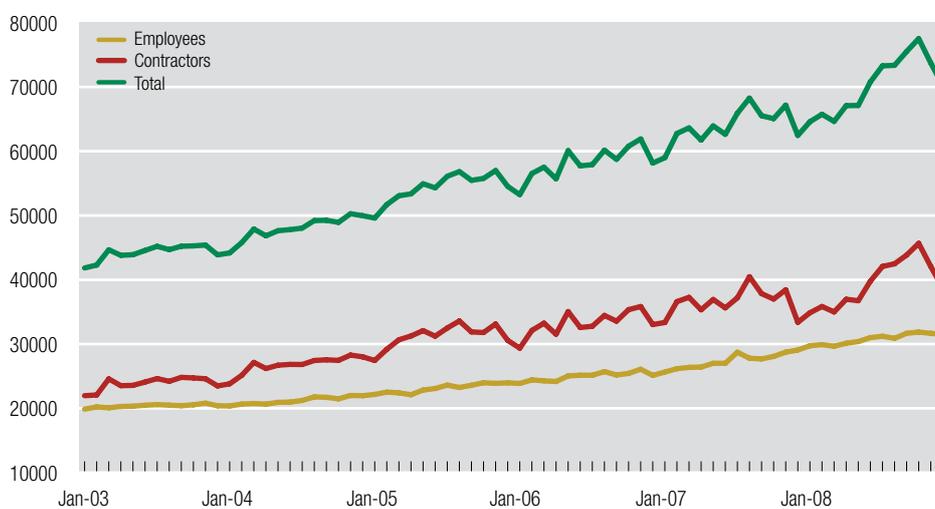


Figure 58 | **Mining Employment January 2003 to December 2008** Source: DMP

TABLE 7 PRINCIPAL MINERAL AND PETROLEUM PRODUCERS effective 1 April 2009**BASE METALS****Copper–Lead–Zinc****Aditya Birla Minerals Ltd,**

Level 3, 256 Adelaide Terrace,
Perth WA 6000,
(08) 9366 8800,
Nifty.

http://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

Jabiru Metals Limited,

Ground Floor,
1205 Hay Street,
West Perth WA 6005,
(08) 9426 8300
Jaguar.

www.jabirumetals.com.au

Magellan Metals Pty Ltd,

96 Welshpool Road,
Welshpool WA 6106,
(08) 9267 7000,
Magellan.

www.ivernia.com

Newcrest Mining Ltd

Level 2, 20 Terrace Road,
East Perth WA 6004,
(08) 9270 7070,
Telfer.

www.newcrest.com.au

Oz Minerals Limited,

Level 5
41 St George's Terrace
Perth WA 6000
(08) 9230 1600
Golden Grove.

www.ozminerals.com

Straits Resources Limited,

Level 1, 35 Ventnor Avenue,
West Perth WA 6005,
(08) 9480 0500,
Mons Cupri.

www.straits.com.au

BAUXITE–ALUMINA**Alumina****Alcoa of Australia Limited,**

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

CLAY**Attapulgitte****Hudson Resources Ltd,**

2 Kemp Street, Narngulu,
Geraldton WA 6530,
(08) 9923 3604,
Lake Nerramyne.

www.hudsonresources.com

Clay Shale**The Griffin Coal Mining Company Pty Limited,**

28 The Esplanade,
Perth WA 6000,
(08) 9261 2800,
Collie.

www.griffincoal.com.au

Saponite

Watheroo Minerals Pty Ltd,
PO Box 1761,
Osborne Park WA 6916,
(08) 9446 1533,
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****Cemex,**

Technology Park,
18-20 Brodie Hall Drive,
Bentley WA 6102
(08) 9212 2000,
Burrup–Dampier, Newman,
Turner River.

www.cemex.com.au

Gravel**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,
Gnangarra, Gosmont.

www.boral.com.au

Rocla Quarry Products,

130 Fauntleroy Avenue,
Redcliffe WA 6104,
(08) 9475 2555,
Gnangarra, Banjup, Gingin, Lexia,
Baldivis.

www.rocla.com.au

Cemex,

Technology Park,
18-20 Brodie Hall Drive,
Bentley WA 6102
(08) 9212 2000,
Various sites.

www.cemex.com.au

TABLE 7 PRINCIPAL MINERAL AND PETROLEUM PRODUCERS effective 1 April 2009**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,

Level 3, 52 Kings Park Road,
West Perth WA 6005,
(08) 9426 9888,
Ellendale.

www.gemdiamonds.com

DIMENSION STONE**Granite****Fraser Range Granite NL,**

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

FELDSPAR**Unimin Australia Ltd,**

26-28 Tomlinson Road,
Welshpool WA 6106,
(08) 9362 1655,
Mukinbudin.

www.unimin.com.au

GOLD**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.anglogoldashanti.com

Barrick Gold of Australia Limited,

Level 10, 2 Mill Street,
Perth WA 6000,
(08) 9212 5777,
Darlot, Lawlers, Plutonic,
Granny Smith,
Kanowna Belle, East Kundana,
Kalgoorlie.

www.barrick.com

Dioro Exploration NL,

Level 2, 45 Stirling Highway,
Nedlands WA 6009,
(08) 9021 9222,
South Kal Mines, Frogs Leg.

www.dioro.com.au

Kalgoorlie Consolidated Gold Mines Pty Ltd,

Private Bag 27,
Kalgoorlie WA 6433,
(08) 9022 1100,
Golden Mile Fimiston Super Pit.

www.superpit.com.au

Monarch Gold Mining Company Limited

(Administrators Appointed),
Level 1, 23 Ventnor Avenue,
West Perth WA 6005,
(08) 9481 6422,
Davyhurst, Mt Ida-Timoni.

www.monarchgold.com.au

Newcrest Mining Ltd,

Level 2, 20 Terrace Road,
East Perth WA 6004,
(08) 9270 7070,
Telfer.

www.newcrest.com.au

Newmont Australia Limited,

Level 1, 388 Hay Street,
Subiaco WA 6008,
(08) 9983 7000 (site),
Boddington, Jundee, Kalgoorlie.

www.newmont.com

Norseman Gold Plc,

Level 2, 75 Canning Highway,
Victoria Park WA 6979,
(08) 9473 2200,
Norseman.

www.norsemangoldplc.com

Intrepid Mines Limited,

Level 1, WBM Building,
490 Upper Edward Street,
Spring Hill QLD 4004,
(07) 30078000,
Paulsens.

www.nustarmining.com.au

Paddington Gold Pty Ltd,

Menzies Highway,
PO Box 1653,
Kalgoorlie WA 6430,
(08) 9080 6800,
Paddington,

www.nortongoldfields.com.au

Ramelius Resources Limited,

14 The Avenue,
Midland WA 6056,
(08) 9250 6644,
Wattle Dam.

www.rameliusresources.com.au

St Barbara Mines Ltd,

1205 Hay Street,
West Perth WA, 6005,
(08) 9476 5555,
Marvel Loch-Southern Cross,
Sons of Gwalia.

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

TABLE 7 PRINCIPAL MINERAL AND PETROLEUM PRODUCERS effective 1 April 2009**Tanami Gold NL,**

Level 4, 50 Colin Street,
West Perth WA 6005,
(08) 9212 5999,
Coyote.
www.tanami.com.au

Troy Resources NL,

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

GYPSUM**Cockburn Cement Ltd,**

Lot 242 Russell Road East
East Munster WA 6166,
(08) 9411 1000,
Lake Hillman.
www.cockburncement.com.au

Dampier Salt Pty Ltd,

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

Gypsum Industries,

Suite 1, 110 Robinson Avenue,
Belmont WA 6104,
(08) 9277 5529,
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 6000,
Port Gregory.
www.garnetsales.com

**Ilmenite, Leucosene, Rutile
and Zircon****Cable Sands (WA) Pty Ltd,**

Koombana Drive, North Shore,
Bunbury WA 6230,
(08) 9721 0200,
Ludlow, Gwindinup Mine.
www.cablesands.com.au

Doral Mineral Sands Pty Ltd,

Lot 7 Harris Road,
PICTON WA 6229,
(08) 9725 5444,
Dardanup.
www.doral.com.au

Iluka Resources Ltd,

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

TiWest Pty Ltd,

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

IRON ORE**Atlas Iron Ltd,**

Ground Floor, 10 Richardson Street,
West Perth WA 6005,
(08) 9476 7900,
Pardoo.
www.atlasiron.com.au

**BHP Billiton Iron Ore
(Goldsworthy) Ltd,**

225 St Georges Terrace,
Perth WA 6000,
(08) 6224 4444,
Mining Area C, Nimingarra-Yarrie.
www.bhpbilliton.com

BHP Billiton Iron Ore Ltd,

225 St Georges Terrace,
Perth WA 6000,
(08) 6224 4444,
Jimblebar, Newman, Yandicoogina.
www.bhpbilliton.com

Channar Mining Pty Ltd,

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

Fortescue Metals Limited,

Level 2, 87 Adelaide Terrace,
East Perth WA 6004,
(08) 6218 8888,
Cloud Break.
www.fmgl.com.au

Hammersley Iron Pty Ltd,

152 St Georges Terrace,
Perth WA 6000,
(08) 9327 2327,
Brockman, Nammuldi,
Mesa J, Channar,
Eastern Range, Hope Downs,
Marandoo, Paraburdoo,
Tom Price, Yandicoogina.
www.hammersleyiron.com

**Hope Downs Management
Services Pty Ltd,**

152 St George's Terrace,
Perth WA 6000,
(08) 9327 7000,
Hope Downs.
www.hancockprospecting.com.au

Midwest Corporation Limited,

PO Box 1915,
West Perth WA 6872,
(08) 9226 2033,
Koolanooka.
www.midwestcorp.com.au

Mt Gibson Iron Limited,

1st Floor,
7 Havelock Street,
West Perth WA 6005,
(08) 9426 7500,
Tallering Peak, Koolan Island.
www.mtgibsoniron.com.au

Murchison Metals Ltd,

Level 1, 50 Kings Park Road,
West Perth WA 6005,
(08) 9492 2600,
Jack Hills.
www.mml.net.au

TABLE 7 PRINCIPAL MINERAL AND PETROLEUM PRODUCERS effective 1 April 2009

Portman Iron Ore Ltd,

Level 12, 1 William Street,
Perth WA 6000,
(08) 9426 3333,
Cockatoo Island, Koolyanobbing.
www.cliffsnaturalresources.com

Robe River Iron Associates,

Level 22 Central Park,
152-158 St Georges Terrace,
Perth WA 6000,
(08) 9327 2000,
Pannawonica, West Angelas.
www.riotinto.com

LIMESAND-LIMESTONE

Cockburn Cement Ltd,

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

Limestone Resources Australia Pty Ltd,

25-29 Frobisher Street,
Osborne Park WA 6017,
(08) 9340 0022,
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,
Cervantes, Lancelin, Jurien.

MANGANESE

Pilbara Manganese Pty Ltd,

28 Ventor Avenue,
West Perth WA 6005,
(08) 9321 3633,
Woodie Woodie.
www.consminerals.com.au

NICKEL

BHP Billiton (Nickel West),

191 Great Eastern Highway,
Belmont WA 6104,
(08) 9479 0500,
Kambalda, Leinster, Mt Keith,
Kalgoorlie, Kwinana.
www.bhpbilliton.com

Glenmurrin Pty Ltd

30 The Esplanade,
Perth WA 6000,
(08) 9226 1099,
Murrin Murrin.
www.glencore.com

Minara Resources Ltd,

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

Independence Group NL,

Suite 1, 183 Great Eastern Highway,
Belmont WA 6104,
(08) 9479 1777,
Long Nickel,
www.independencigroup.com.au

Mincor Resources NL,

Level 1, 56 Ord Street,
West Perth WA 6005,
(08) 9476 7200,
Wannaway, Redross, Mariners,
Carnilya Hill.
www.mincor.com.au

Panoramic Resources Ltd,

Level 9,
553 Hay Street,
Perth WA 6000,
(08) 9225 0999,
Savannah, Lanfranchi Tramways.
www.panoramicresources.com

Xstrata Nickel Australasia,

3rd Floor, 24 Outram Street,
West Perth WA 6005,
(08) 9213 1588,
Cosmos,
www.xstrata.com

Western Areas NL,

Level 1, 11 Ventnor Avenue,
West Perth WA 6005,
(08) 9334 7777,
Flying Fox.
www.westernareas.com.au

PALLADIUM

BHP Billiton (Nickel West),

191 Great Eastern Highway,
Belmont WA 6104,
(08) 9479 0500,
Kambalda.
www.bhpbilliton.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,
Gipsy, Gudrun, Harriet,
Hoover, Legendre,
John Brookes, Linda, Little Sandy,
Mohave, Monet,
North Alkimos, North Pedirka, Pedirka,
Rose, Simpson, Sinbad,
South Plato,
Stag, Tanami, Victoria, Wonnich.
www.apachecorp.com

TABLE 7 PRINCIPAL MINERAL AND PETROLEUM PRODUCERS effective 1 April 2009

AWE Ltd,

88 Colin Street,
West Perth WA 6005,
(8) 9263 4620,
Hovea–Eremia, Mt Horner,
Dongara, Woodada.
www.awexp.com.au/irm/content/project_australia.html

Buru Energy Limited,

Level 1,
418 Murray Street,
Perth WA 6000,
Free Call: 1800 337 330,
Blina.
www.buruenergy.com.au

BHP Billiton Petroleum (North West Shelf) Pty Ltd,

Level 42, Central Park,
152-158 St Georges Terrace,
Perth WA 6000,
(08) 9338 4888,
Chinook–Scindian, Griffin, Stybarrow.
www.bhpbilliton.com

Chevron Australia Pty Ltd,

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

ENI Australia Limited,

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

Origin Energy Resources Ltd,

34 Collins Street,
West Perth WA 6005,
(09) 9324 6111,
Beharra Springs, Jingemlia.
www.originenergy.com.au

Roc Oil Company Limited,

Level 14, 1 Market Street,
Sydney NSW 2000,
(2) 8023 2000,
Cliff Head.
www.rocoil.com.au

Santos Limited,

Level 28, Forrest Centre,
221 St George's Terrace,
Perth WA 6000,
(08) 9333 9500,
Mutineer–Exeter.
www.santos.com.au

Vermillion Oil and Gas Australia Pty Ltd,

Level 5, 30 The Esplanade,
Perth WA 6000,
(08) 9215 0300,
Wandoo.
www.vermilionenergy.com/australia.html

Woodside Energy Ltd,

240 St Georges Terrace,
Perth WA 6000,
(08) 9348 4000,
Angel, Athena, Cossack,
Echo-Yodel,
Goodwyn, Hermes, Laminaria East,
North Rankin, Wanaea,
Vincent, Enfield.
www.woodside.com.au

PLATINUM

BHP Billiton (Nickel West)

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

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.

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 6744,
Dalaroo, Kemerton.
www.simcoa.com.au

Silica Sand

Kemerton Silica Sand Pty Ltd,

PO Box A283,
Australind WA 6233,
(08) 9720 0000.
www.ksspl.com.au

Rocla Quarry Products,

130 Fauntleroy Avenue,
Kewdale WA 6105,
(08) 9475 2555,
Gnangarra.
www.rocla.com.au

Austsand Pty Ltd,

Princess Royal Drive,
Albany WA 6330,
(08) 9846 1288,
Mindijup.

TABLE 7 PRINCIPAL MINERAL AND PETROLEUM PRODUCERS effective 1 April 2009

SPONGOLITE

Opalbase Nominees Pty Ltd,
Red Gum Pass,
Kendenup WA 6323,
(08) 9841 7549.
Red Gum Spongolite.

TALC

Luzenac Australia Pty Ltd,
37 Belmont Avenue,
Belmont WA 6104,
(08) 92709270,
Three Springs.
www.luzenac.com

Unimin Australia Ltd,
26 Tomlinson Road,
Welshpool WA 6106,
(08) 9362 1655,
Mt Seabrook.
www.unimin.com.au

TIN-TANTALUM-LITHIUM

Spodumene
Talison Minerals Ltd,
Level 4, 37 St Georges Terrace,
Perth WA 6000,
(08) 9263 5555,
Greenbushes.
www.talison.com.au

Tantalite-Tin
Talison Minerals Ltd,
Level 4, 37 St Georges Terrace,
Perth WA 6000,
(08) 9263 5555,
Greenbushes.
www.talison.com.au

ABBREVIATIONS, UNITS AND CONVERSION FACTORS

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	t	tonnes
f.o.b.	free-on-board	t/a	tonnes per annum
f.o.t.	free-on-truck	Tcf	trillion cubic feet
GDP	Gross Domestic Product	US\$	United States Dollar
HBI	Hot Briquetted Iron	WTI	West Texas Intermediate
IMF	International Monetary Fund		

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 and values for minerals and petroleum in this publication are collected from a variety of sources including:

The Department's royalty returns, various company annual reports and quarterly Australian Stock Exchange reports, State port authority statistics, the ABS and ABARE.

Quantities specified relate to either mine production or sales as listed below for each commodity.

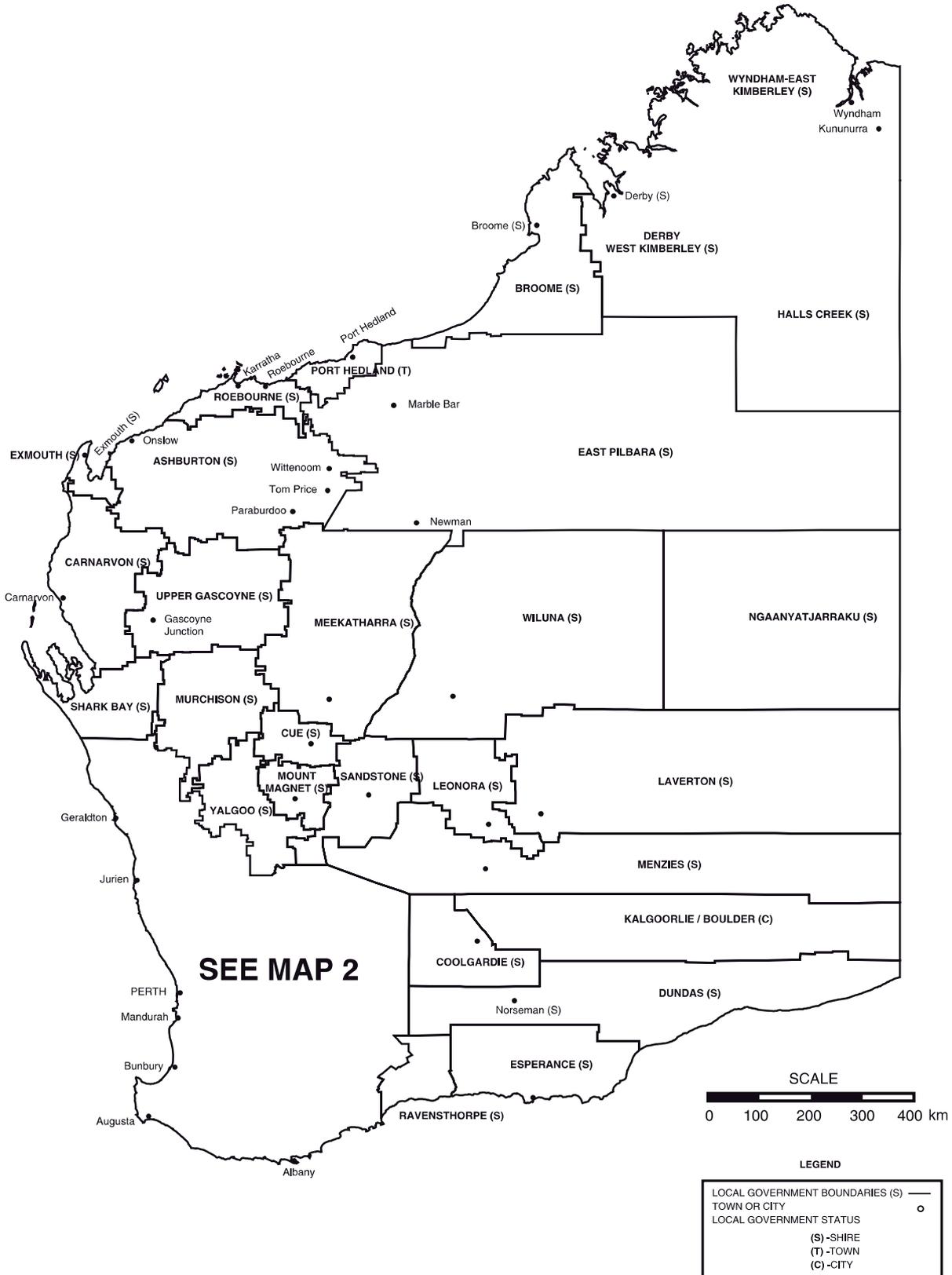
Mine Production
Clays
Coal
Construction Materials
Dimension Stone
Gold
Gypsum
Limesand–Limestone–Dolomite
Silica–Silica Sand
Talc
Sales
Alumina
Base Metals (Copper, Lead and Zinc)
Chromite
Diamonds
Gem and Semi-Precious Stones
Heavy Mineral Sands
Industrial Pegmatite Minerals
Iron Ore
Manganese
Nickel 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	Myanmar
Bangladesh	Nepal
Bhutan	Newly industrialised Asia
Brunei Darussalam	Pakistan
Cambodia	Papua New Guinea
China	Philippines
Fiji	Samoa
India	Solomon Islands
Indonesia	Sri Lanka
Kiribati	Thailand
Lao PD Republic	Tonga
Malaysia	Vanuatu
Maldives	Vietnam
Mongolia	
Newly Industrialised Asia	
Hong Kong	Singapore
Republic of Korea	Taiwan

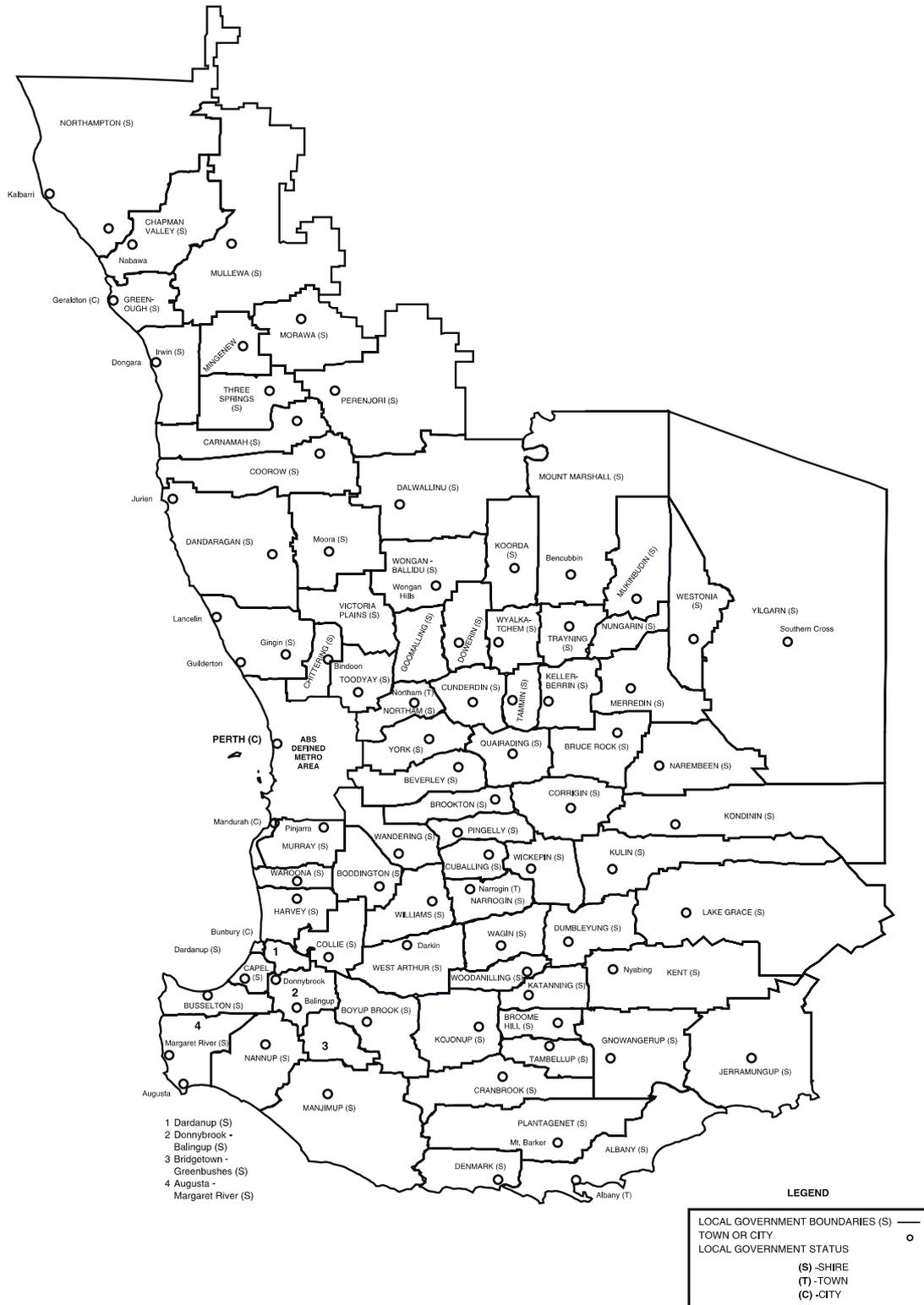
¹Italics indicate countries that are members of the euro area.

MAP 1. LOCAL GOVERNMENT BOUNDARIES



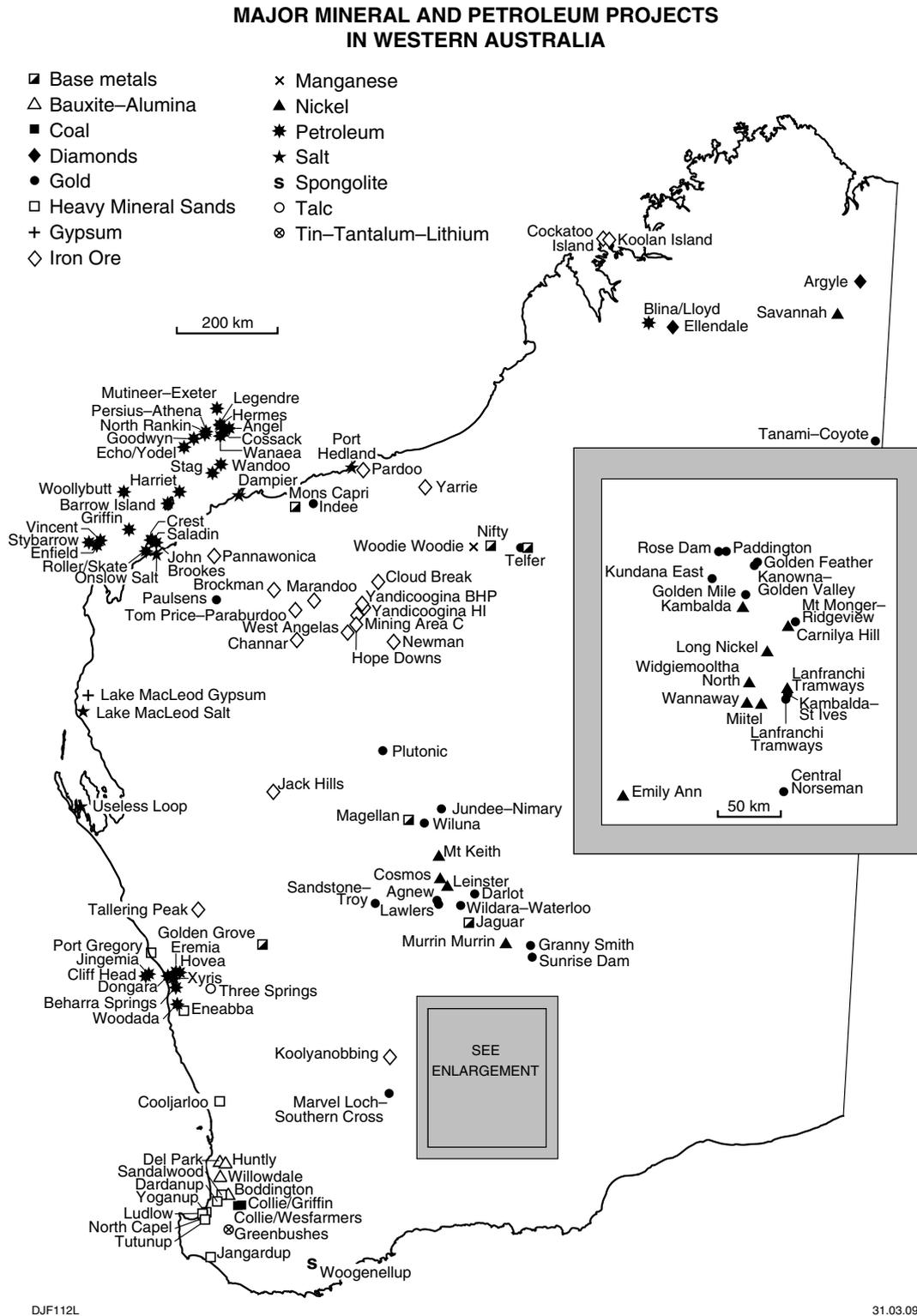
Map 1 Local Government Boundaries

MAP 2. LOCAL GOVERNMENT BOUNDARIES



Map 2 Local Government Boundaries

MAP 3. MAJOR MINERAL AND PETROLEUM PROJECTS IN WA



Map 3 Major Mineral and Petroleum Projects in Western Australia

Government of Western Australia
Department of Mines and Petroleum
Mineral House, 100 Plain Street
East Perth, Western Australia 6004

Telephone: +61 8 9222 3333
Facsimile: +61 8 9222 3568
Email: dmp@dmp.wa.gov.au
Website: www.dmp.wa.gov.au

For specific enquiries regarding this publication,
please email: jill.gregory@dmp.wa.gov.au

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