



Government of **Western Australia**
Department of **Mines and Petroleum**

WESTERN AUSTRALIAN
MINERAL AND PETROLEUM
**STATISTICS
DIGEST 2014**



Disclaimer

Information provided in this Digest is made available without charge, as a public service, in good faith. The information provided is derived from sources believed to be reliable and accurate at the time of publication. However, use of the information in the Digest is at your own risk. The Digest is provided solely on the basis that users will be responsible for making their own assessment of the information provided therein and users are advised to verify all representations, statements and information for decisions that concern the conduct of business that involves monetary or operational consequences.

Each user waives and releases the Department of Mines and Petroleum and the State of Western Australia and its servants to the full extent permitted by law from all and any claims relating to the use of the material in the Digest. In no event shall the Department of Mines and Petroleum or the State of Western Australia be liable for any incidental or consequential damages arising from any use or reliance on any material in the Digest.

Copyright © 2014

Copyright in this document is reserved to the State of Western Australia. Reproduction except in accordance with copyright law is prohibited.

LIST OF FIGURES, TABLES AND MAPS

FIGURES

Figure 1	Mining Investment	5
Figure 2	New Capital Investment	5
Figure 3	Mineral Exploration Expenditure	5
Figure 4	Petroleum Exploration Expenditure	5
Figure 5	Average Price Comparison 2013 and 2014	5
Figure 6	Australian Merchandise Exports 2014	5
Figure 7	Major Commodities by Value 2013 and 2014	6
Figure 8	Selected WA Commodities Relative to World Production	6
Figure 9	Value of Minerals and Petroleum by Commodity	6
Figure 10	Exchange Rate US\$/A\$	7
Figure 11	Exchange Rate Trade Weighted Index	7
Figure 12	Non-Rural Commodity Price Index	7
Figure 13	Western Australian Mineral and Petroleum Exports 2014	8
Figure 14	Western Australian Merchandise Exports 2014	8
Figure 15	Western Australian Merchandise Exports by Country 2014	8
Figure 16	Gold Exports	8
Figure 17	Petroleum Exports	9
Figure 18	Alumina Exports	9
Figure 19	Iron Ore Exports	9
Figure 20	Heavy Mineral Sands Exports	9
Figure 21	Nickel Exports	9
Figure 22	Iron Ore Fines	10
Figure 23	Gold Price	10
Figure 24	Tapis Crude Oil Price	10
Figure 25	Nickel Price	11
Figure 26	Alumina Price	11
Figure 27	Monthly Uranium Price	11
Figure 28	Western Australian Average Domestic Natural Gas Price	11
Figure 29	Copper Price	12
Figure 30	Lead Price	12
Figure 31	Zinc Price	12
Figure 32	LNG Import Prices	13
Figure 33	Average LNG Import Prices	13
Figure 34	Average Natural Gas Prices	13
Figure 35	Historic Gold Prices	14
Figure 36	Historic Nickel Prices	14
Figure 37	Historic Oil Prices	14
Figure 38	Gold Quantity and Value by Quarter	15
Figure 39	Nickel Quantity and Value by Quarter	15
Figure 40	Heavy Mineral Sands Value by Quarter	15
Figure 41	Iron Ore Quantity and Value by Quarter	15
Figure 42	Alumina Quantity and Value by Quarter	15
Figure 43	Crude Oil and Condensate Quantity and Value by Quarter	15
Figure 44	Nickel Quantity	16
Figure 45	Heavy Mineral Sands Value of Production	16

Figure 46	Gold Production	16
Figure 47	Crude Oil and Condensate Quantity	17
Figure 48	Iron Ore Quantity	17
Figure 49	Alumina Quantity	17
Figure 50	Crude Oil and Condensate Production 2014	18
Figure 51	Natural Gas Production 2014	18
Figure 52	OPEC Share of World Crude Oil Reserves 2013	18
Figure 53	China's Crude Steel Production and Iron Ore Imports	18
Figure 54	Sales by Commodity 2014	21
Figure 55	Value of Minerals and Petroleum by Region 2014	24
Figure 56	Royalty Receipts 2014	26
Figure 57	Western Australian Mining Employment 2014	33
Figure 58	Western Australian Mining Employment	33

TABLES

Table 1	Quick Resource Facts	4
Table 2	Minerals Tenements in Force 1978 Act	19
Table 3	Petroleum Titles Area – By Title Type	19
Table 4	Quantity and Value of Minerals and Petroleum	20
Table 5	Quantity and Value of Selected Major Commodities	22
Table 6	Value of Minerals and Petroleum by Region by Commodity	24
Table 7	Value of Minerals and Petroleum by Region by LGA	25
Table 8	Royalty Receipts 2013 and 2014	26
Table 9	Average Number of Persons Employed in the WA Minerals Industry	27
Table 10	Petroleum Employment – State Legislation	34
Table 11	Principal Mineral and Petroleum Producers	35

MAPS

Map 1	Local Government Boundaries	44
Map 2	Local Government Boundaries – Inset 2	45
Map 3	Major Mineral and Petroleum Projects in WA	46
Map 4	Major Mineral and Petroleum Projects in WA – Inset A & B	47
	Data Sources	41
	Abbreviations	42
	Weights and Measures	42
	Units and Conversion Factors	43

The value of Western Australia's mineral and petroleum industry in 2014 reached just over \$114 billion.

Iron ore remained the State's highest value commodity, accounting for a \$65 billion (75 per cent) of total mineral sales in 2014. This represents a decrease of six per cent from 2013, which can be attributed to the sharp drop in iron ore prices in the second half of the year. Project expansions, together with strong demand led by China, saw iron ore achieve record levels of export quantities. In total 697 million tonnes of iron ore were exported which was an increase of 25 per cent on the previous calendar year.

The US dollar gold price was weaker throughout 2014 compared to the previous period and averaged US\$1,266 an ounce, down 10 per cent. In Australian dollar terms the gold price averaged A\$1,413, a fall of three and a half per cent. This resulted in total sales of \$8.7 billion for 2014, close to that of 2013.

Together iron ore and gold accounted for \$73.7 billion (85 per cent) of all mineral sales in 2014.

The petroleum sector, which includes crude oil, condensate, LNG, natural gas and LPG (butane and propane), was valued at \$27.6 billion, an increase of 11.8 per cent on the previous year. This increase was largely attributed to LNG.

The Australian dollar averaged 90 US cents for the period, a fall of seven per cent. This weakening of the Australian dollar helped to offset falling commodity prices. Traditionally perceived as a commodity currency, the Australian dollar decreased in line with falling commodity prices and therefore shielded producers to some extent from lower prices. Increased output, the result of considerable investment in resource projects, particularly iron ore, also boosted the end result.

ABS figures showed that mining investment activity in Western Australia fell slightly during 2014, with the State's mining industry investing \$46 billion, a one per cent decrease compared to 2013. This result was not unexpected as large investment in mine expansions and new projects

slowed in the transition from construction to the production phase of the resource lifecycle.

Western Australia remained the nation's leading mining investment destination, attracting 55 per cent of total national capital spending of \$83 billion.

Although recent falls in commodity prices have also caused some mining companies to re-evaluate their investment positions the dominance of the resources sector in the nation's economy is expected to continue. This is due to the number of projects which have been expanded or developed, in particular iron ore and LNG.

As at March 2015, Western Australia had an estimated \$179 billion worth of resource projects under construction or in the committed stage of development. A further \$118 billion has been identified as being allocated to planned or possible projects in coming years.

Highlights in 2014

Iron ore remains the State's most valuable sector of the mining industry, accounting for \$65 billion (75 per cent) of the mineral sector's total sales. This result was six per cent lower than in 2013. Output increased by 25 per cent (138 million tonnes) which offset weaker prices in the latter part of the year. In total, 697 million tonnes were sold in 2014. The price of 62 per cent CFR iron ore delivered to China averaged US\$128 in January 2014 before falling 46 per cent to average US\$69 in December. The Australian dollar iron ore price fell 42 per cent over the period.

Gold was the second most valuable mineral sector, with total sales of \$8.7 billion, representing 10 per cent of the mineral sector's total sales. The gold price fell 10 per cent to average US\$1,266 an ounce and 3.6 per cent in Australian dollar terms to average A\$1,413 an ounce. The quantity sold rose from 6.6 million ounces in 2013 to 6.8 million ounces, a three per cent increase.

Alumina was the third most valuable mineral in 2014 reaching \$4.6 billion, an increase of 11 per cent over the previous year. The quantity sold was up marginally by two per cent to 13.9 million tonnes. Alumina prices rose by around two per cent in US dollar terms.

Nickel was the State's fourth most valuable mineral sector. US dollar prices were volatile over the year however the weakening Australian dollar in the second half resulted in an increase in price of around three per cent to producers. The quantity of nickel sales fell by 15 per cent to 195,000 tonnes, however the total value increased by six per cent, from \$3.4 billion in 2013 to \$3.6 billion this calendar year.

The overall value of **base metals** (copper, lead and zinc) increased by five per cent to just under \$1.8 billion in 2014. Copper dominates this group with total sales of \$1.4 billion, down 4.5 per cent on the previous calendar year. Sales of lead increased from \$116 million to \$187 million due to a full year's sales by the Paroo Station project. Zinc output levels rose by 51 per cent, with the total value of sales rising from \$96 million in 2013 to \$173 million in 2014.

The total value of **mineral sands** sales fell by 42 per cent to \$379 million. Sales revenues were impacted by sharp falls in tonnages due to weakening demand for these products.

The value of **salt** sales rose by one per cent to \$419 million in 2014 while volumes remained flat at 13 million tonnes.

In 2014, **diamond** sales volumes were flat at 10.6 million carats.

Coal prices remained static whilst output was lower by 12 per cent totalling 6.2 million tonnes valued at \$268 million.

Output for **cobalt**, as a by-product of nickel mining, fell by seven per cent to 5,978 tonnes, however higher prices translated into a 15 per cent increase in sales value which reached \$197 million.

Petroleum, which includes crude oil, condensate, LNG, natural gas and LPG (butane and propane) was valued at a record \$27.6 billion, an increase of 12 per cent.

LNG was the most valuable petroleum product in the State in 2014 with output increasing by 10 per cent to reach a record 21 million tonnes. The sales value of LNG increased by 18 per cent to reach a record \$15.6 billion. LNG production is forecast to grow further with supply from new projects coming on stream including Gorgon and Wheatstone.

Production of **crude oil**, the second most valuable petroleum product in 2014, rose by 16 per cent to 50 million barrels, with sales values rising to \$5.6 billion.

During the period, the value of **condensate** fell by four per cent to \$3.9 billion whilst output was up two per cent to 38 million barrels.

In 2014 domestic **natural gas** sales increased by three per cent to 9.6 billion cubic metres while the value of sales rose by 15 per cent to \$1.8 billion. Output of **LPG (butane and propane)** decreased by 15 per cent with the sales value also decreasing to \$532 million, down 11 per cent on the previous financial year.

Western Australia's mineral and petroleum resources, in order of value for 2014, were:

Commodity	A\$ Billion
Iron Ore	65.1
LNG	15.6
Crude Oil and Condensate	9.5
Gold	8.7
Alumina	4.6
Nickel	3.6
Others	7.0
Total	114.1

TABLE 1. QUICK RESOURCES FACTS

All data is for the 2014 calendar year unless otherwise stated.

Output of minerals and energy	\$ million
Western Australia	\$114,123
Australia (DMP estimate)	\$175,570
WA minerals	\$86,540
WA petroleum	\$27,583
Major West Australian Commodities	\$ million
Iron Ore	\$65,057
Petroleum	\$27,583
Gold	\$8,715
Alumina	\$4,560
Nickel	\$3,614
Crude Oil and Condensate	Million barrels
Western Australia	84
Australia	129
WA share	65%
Natural Gas (inc. LNG feedstock and CSG)	Million cubic metres
Western Australia	40,723
Australia	61,845
WA share	66%
Merchandise Exports	\$ million
Western Australia	\$125,259
Australia	\$267,126
WA share	47%
WA exports of minerals and energy as % share of all State Merchandise exports	91%
Mineral and Energy Exports	\$ million
Western Australia	\$113,509
Australia (DMP estimate)	\$186,080
WA share	61%
Exploration	\$ million
Western Australian mineral	\$1,005
Australian mineral	\$1,796
WA share	56%
Western Australian petroleum	\$2,758
Australian petroleum	\$4,739
WA share	58%
Private New Capital Investment	\$ million
Western Australia	\$55,800
Australia	\$155,262
WA share	36%
Western Australian minerals and energy	\$46,230
Australian minerals and energy	\$83,384
WA share	55%
Australia GDP 2013-14	\$1,581,836
Western Australian GSP 2013-14	\$236,624
Mining component of WA GSP *	33%

Data Sources: BREE, ABS, DMP, DSD, NOPTA and EnergyQuest

* Note: The ABS categorise alumina as manufacturing and is not included in the GSP mining component above.

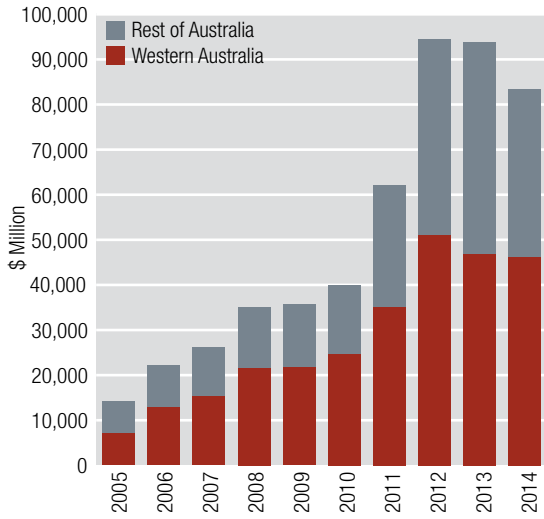


Figure 1. Mining Investment Source: ABS

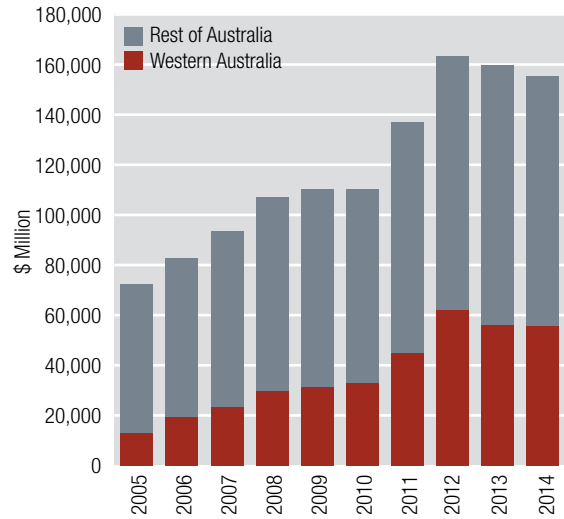


Figure 2. New Capital Investment Source: ABS

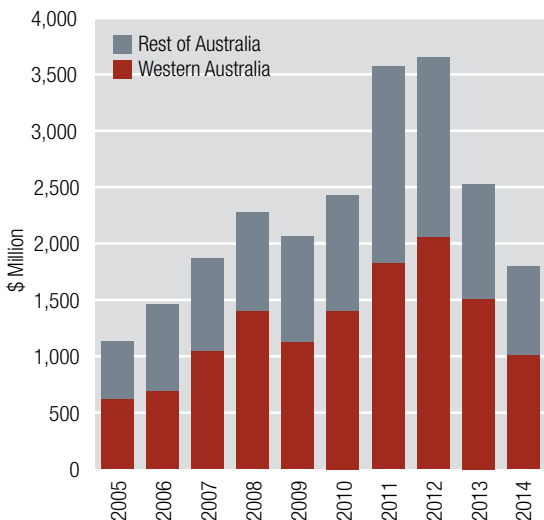


Figure 3. Mineral Exploration Expenditure Source: ABS

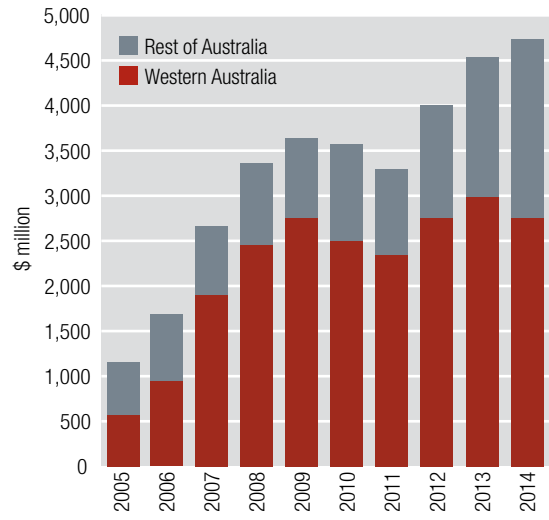


Figure 4. Petroleum Exploration Expenditure Source: ABS

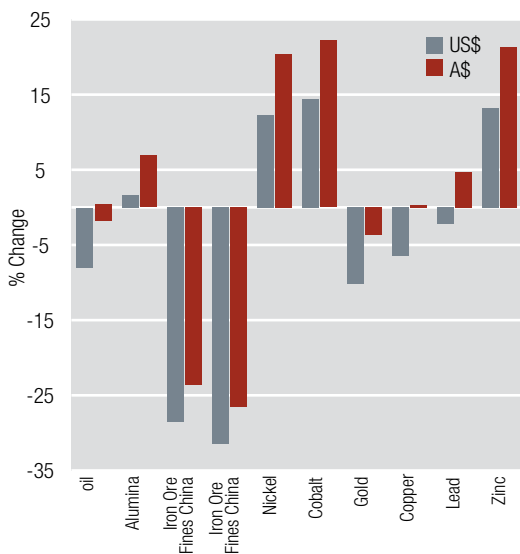


Figure 5. Average Price Comparison 2013 and 2014 Source: LME, Kitco, Metal Prices, WATC and DMP

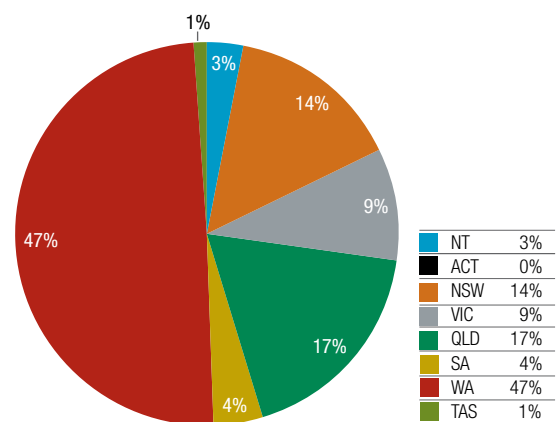


Figure 6. Australian Merchandise Exports 2014 \$267 billion

Source: ABS
 Note: These percentages are based on data which includes \$16.1 billion of re-exported goods and of no State origin available and account for around 6% of the total.

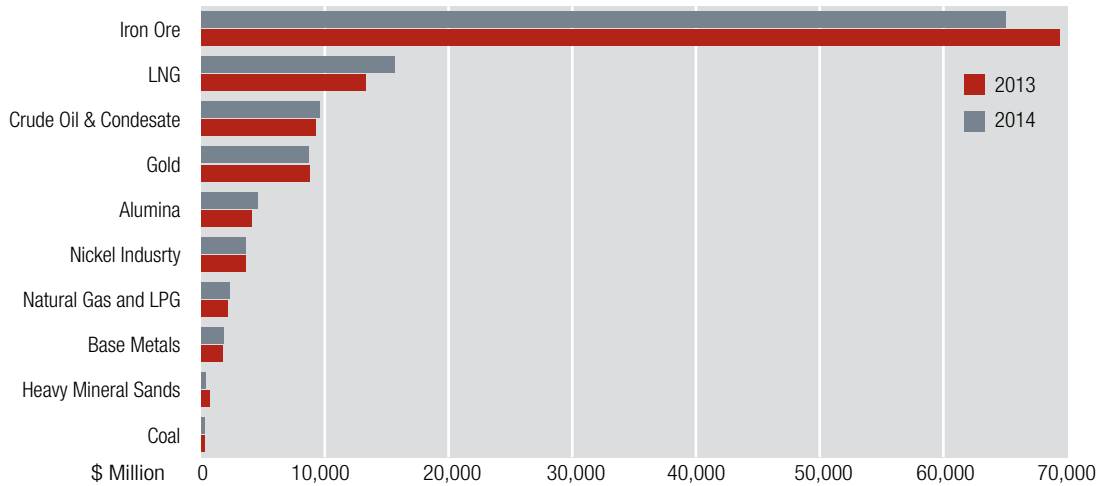


Figure 7. **Major Commodities by Value 2013 and 2014** Source: DMP

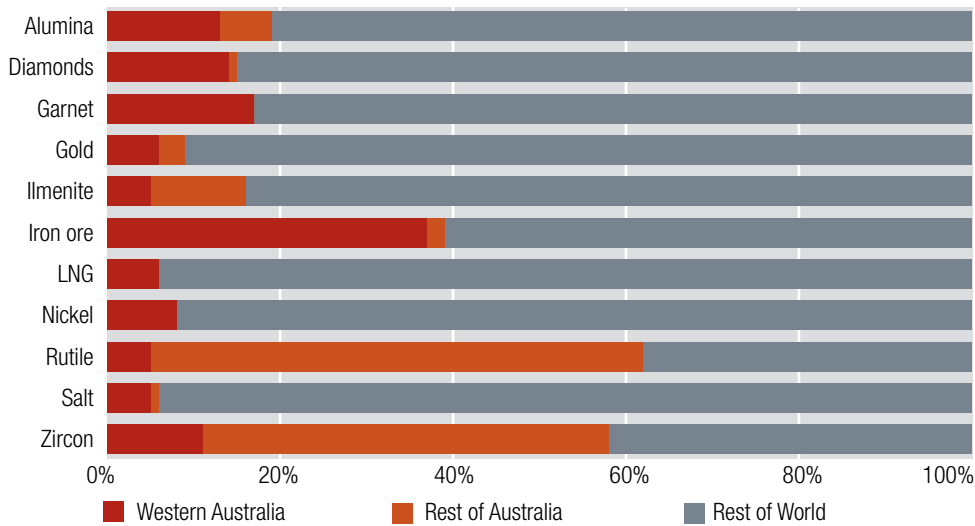


Figure 8. **Selected WA Commodities Relative to World Production Ending 2014 by Quantity**

Source: DMP, BREE, EnergyQuest 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 13%, garnet 17%, gold 6%, ilmenite 5%, iron ore 37%, LNG (sea-borne trade) 6%, nickel 8%, rutile 5%, salt 5%, zircon 11% and 14% of diamonds (mainly industrial grade)

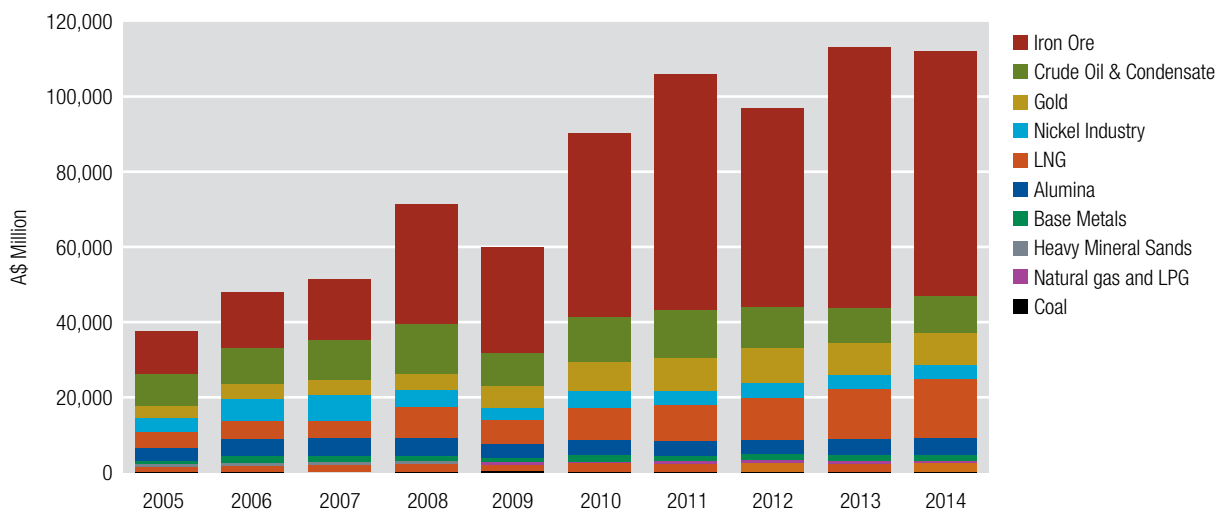


Figure 9. **Value of Minerals and Petroleum by Commodity** Source: DMP

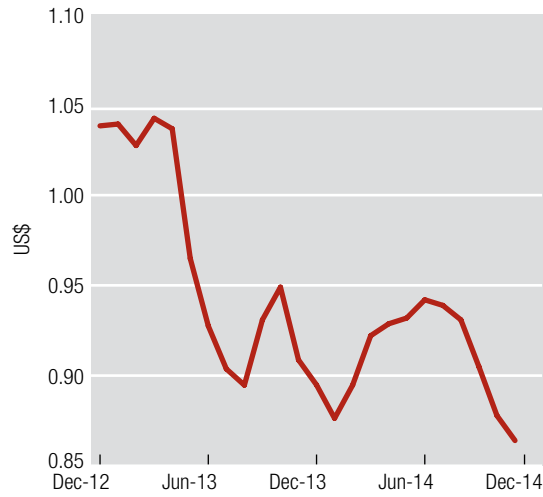


Figure 10. **Exchange Rate US\$/A\$** Source: Reserve Bank of Australia

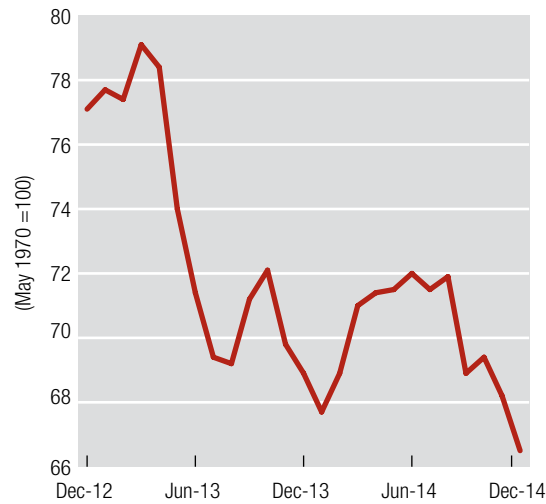


Figure 11. **Exchange Rate Trade-Weighted Index (units of foreign currency per A\$)**

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.

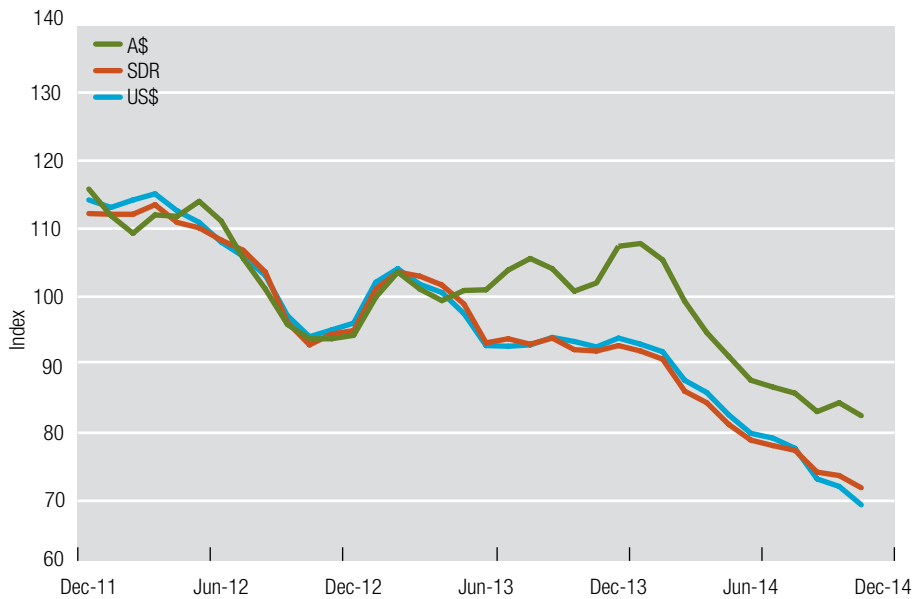


Figure 12. **Non-Rural Commodity Price Index (2012-13 = 100)** Source: Reserve Bank of Australia

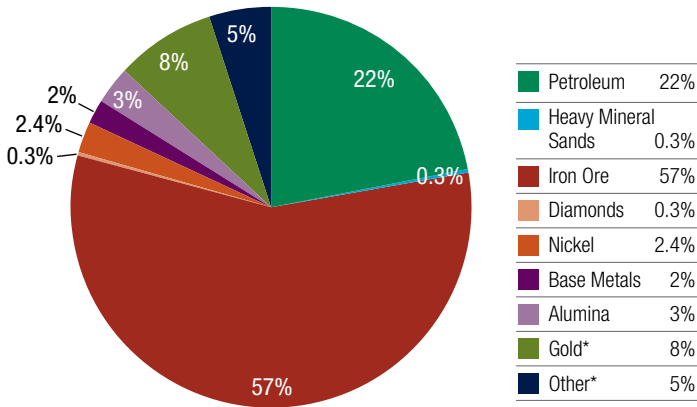


Figure 13. **Western Australian Mineral and Petroleum Exports 2014**

Total Value A\$113.5 billion Source: DMP

* Includes \$4.3 billion of gold and \$241 million of heavy mineral sands refined/processed and exported from Western Australia, but produced from mining operations in other States, Territories and overseas.

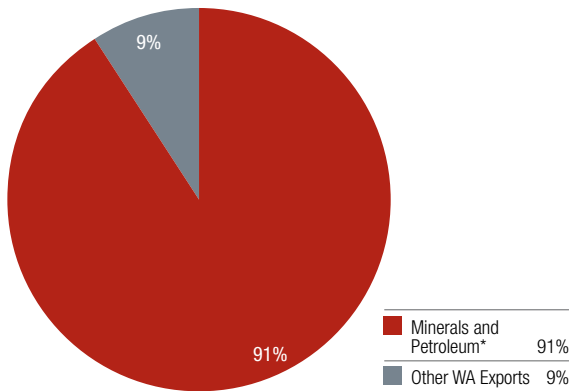


Figure 14. **Western Australian Merchandise Exports 2014**

\$125.3 billion Source: DMP and ABS

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

Minerals and Petroleum includes \$4.3 billion of gold and \$241 million of heavy mineral sands refined/processed and exported from Western Australia, but produced from mining operations in other States, Territories and overseas.

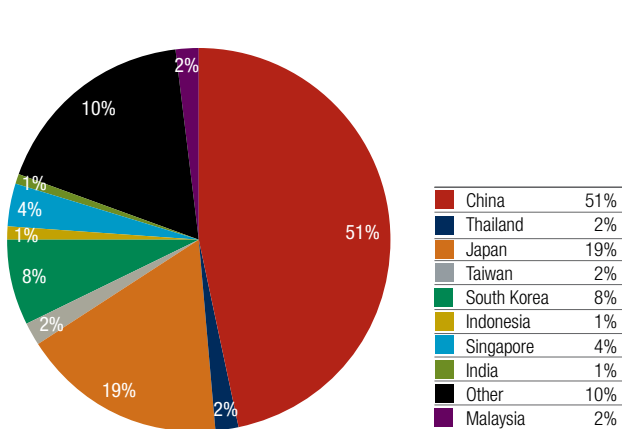


Figure 15. **Western Australian Merchandise Exports by Country 2014**

\$125.3 billion Source: ABS

Gold Export update 2014

The Australia Bureau of Statistics (ABS) release Western Australian export trade data which shows exports of gold that are significantly higher than gold produced in this State. This apparent increase in gold exports from Western Australia is due to a restructuring of Australia's gold refining industry in the late 1990's through to October 2002. Gold export data published by the ABS must therefore be interpreted with some caution.

Gold Corporation, or as it is more commonly known, The Perth Mint, operates Australia's only London Bullion Market Association (LBMA) accredited gold refinery. It refines gold produced in other States and Territories, gold from surrounding countries and also secondary gold, mainly from Asia, which is refined and exported from Western Australia.

This export figure for Western Australia is therefore larger than Western Australia's own level of gold production.

The Victorian refinery still refines silver and jewellery products.

The ABS estimates that gold exports from Western Australia in 2014 amounted to approximately \$13 billion. Approximately 67 per cent or \$8.7 billion was gold produced in Western Australia. The remaining 33 per cent (approximately \$4.3 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.

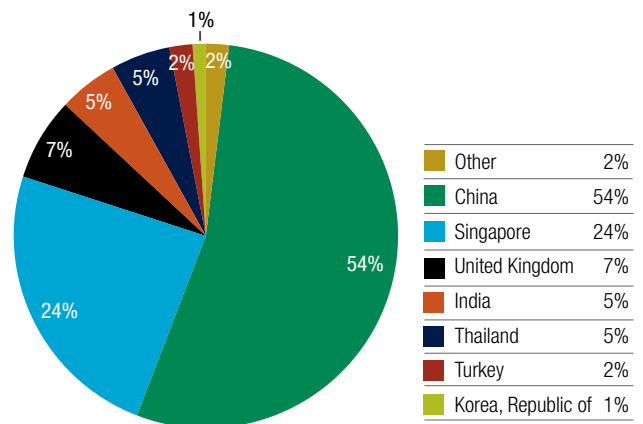


Figure 16. **Gold Exports**

Total Value \$13 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.

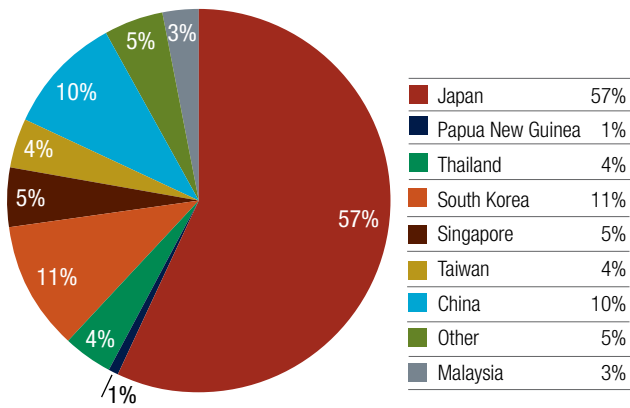


Figure 17. **Petroleum Exports**
Total Value \$24.9 billion Source: DMP and ABS

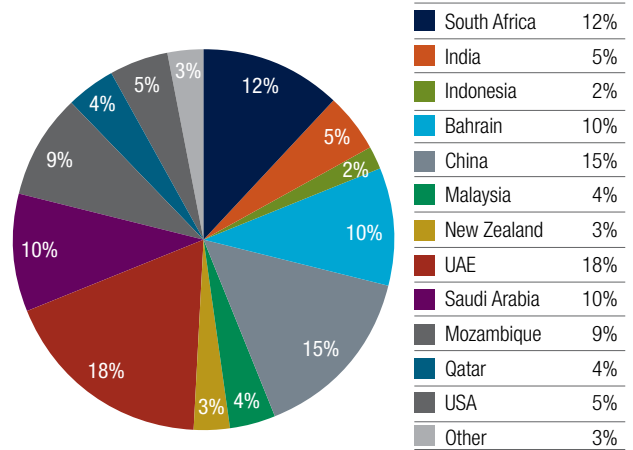


Figure 18. **Alumina Exports Total Value \$3.7 billion** Source: DMP estimate

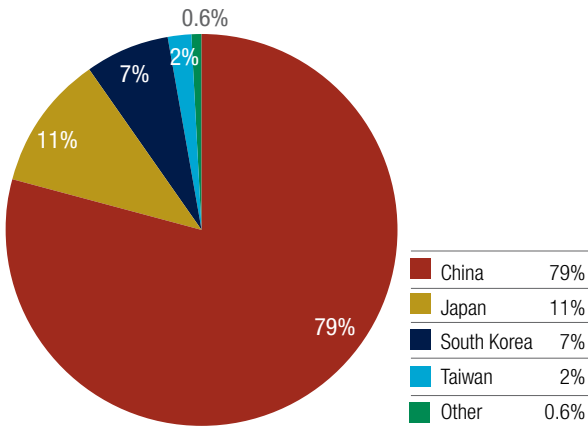


Figure 19. **Iron Ore Exports Total Value \$65.1 billion** Source: DMP

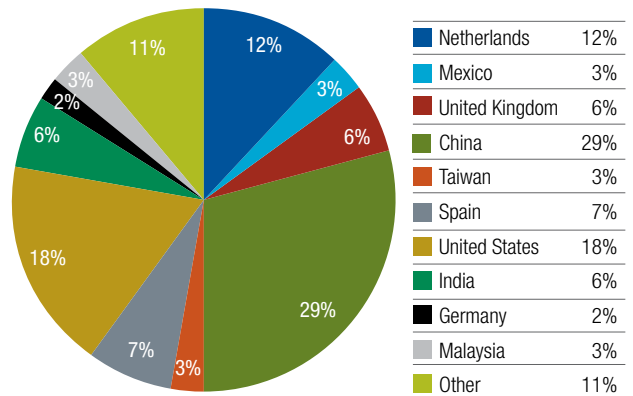


Figure 20. **Heavy Mineral Sands Exports**
Total Value \$620 million Source: DMP estimate
Note: Exports include titanium dioxide and product sourced from private land, overseas and other States and processed in Western Australia

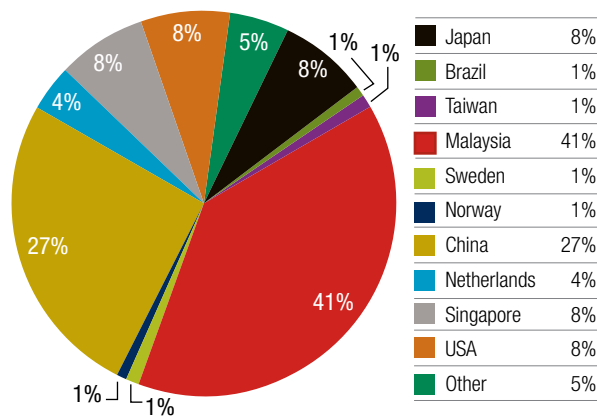


Figure 21. **Nickel Exports Total Value \$2.7 billion** Source: DMP

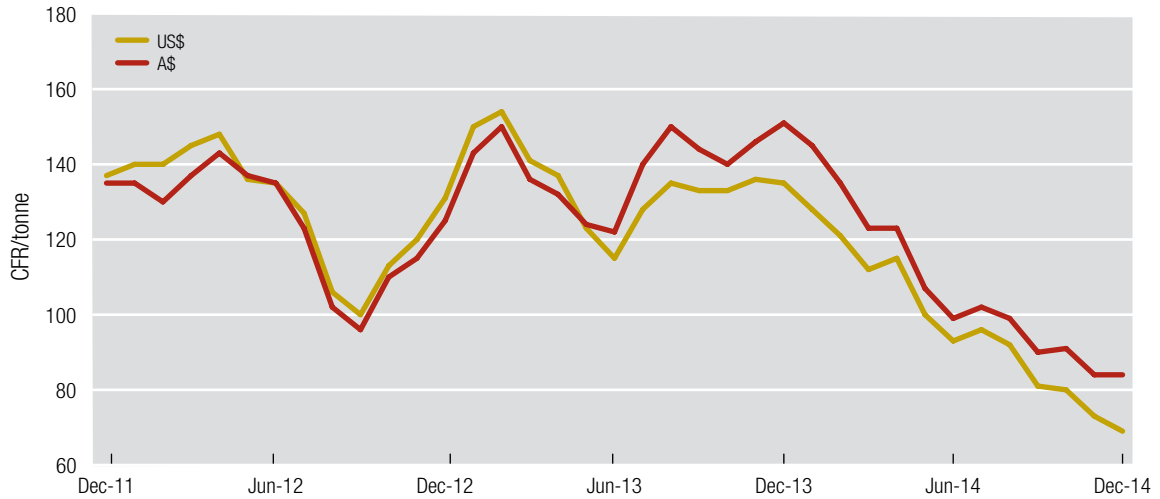


Figure 22. **Iron Ore Fines** Average TSI price 62% Fines Spot CFR China Source: Metalprices.com

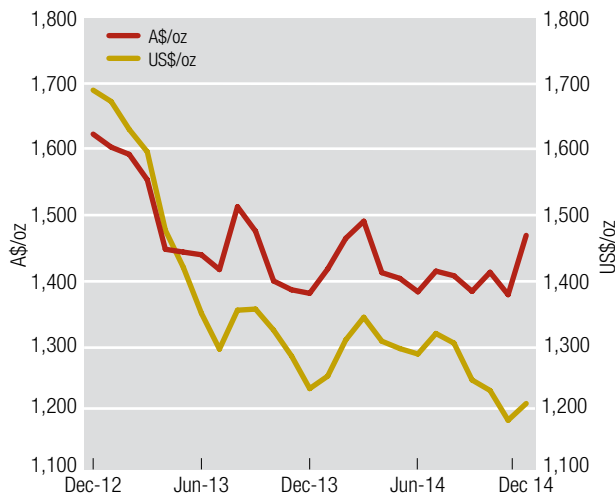


Figure 23. **Gold Price** Source: Perth Mint and London Fix



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

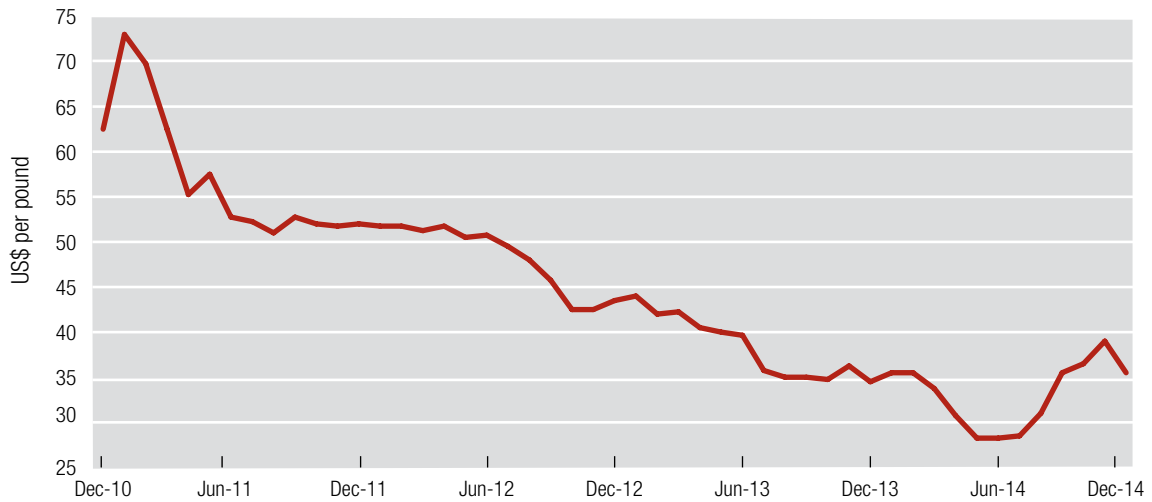


Figure 27. **Monthly Uranium Price**
Source: UXL Consulting

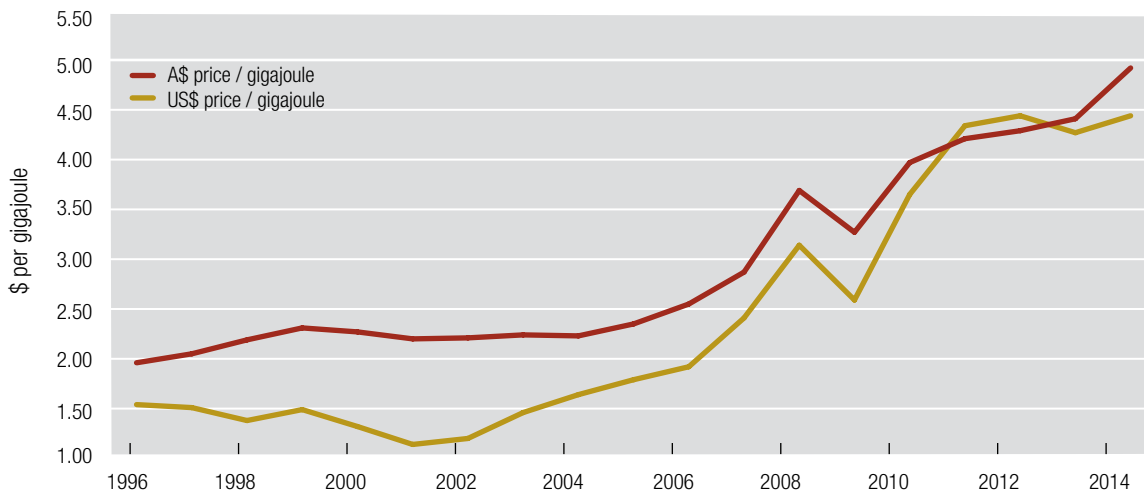


Figure 28. **Western Australian Average Domestic Natural Gas Price**
Source: DMP

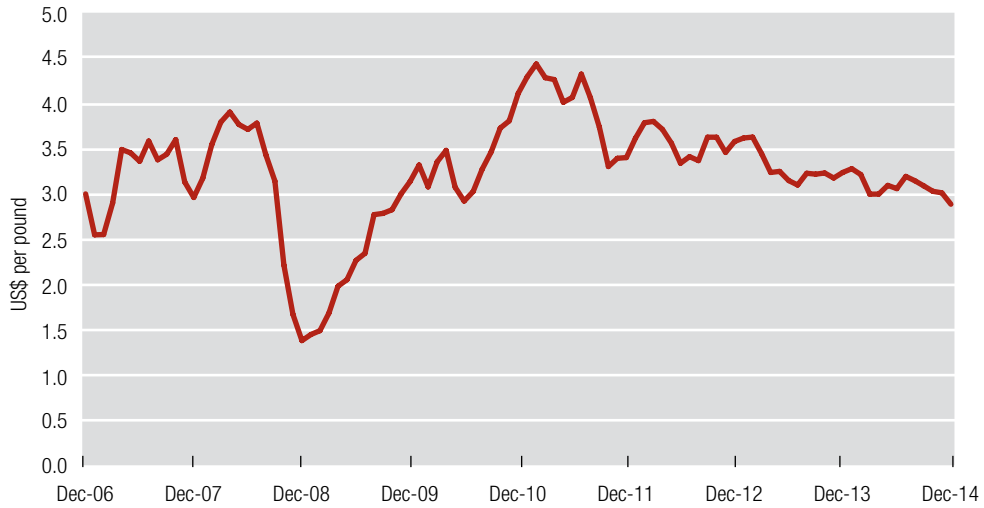


Figure 29. **Copper Price** Source: Metalprices.com

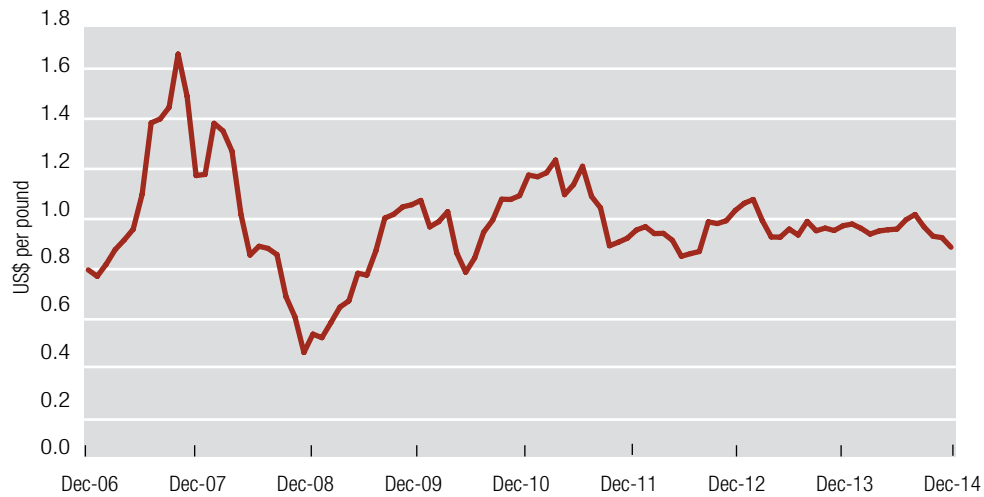


Figure 30. **Lead Price** Source: Metalprices.com



Figure 31. **Zinc Price** Source: Metalprices.com

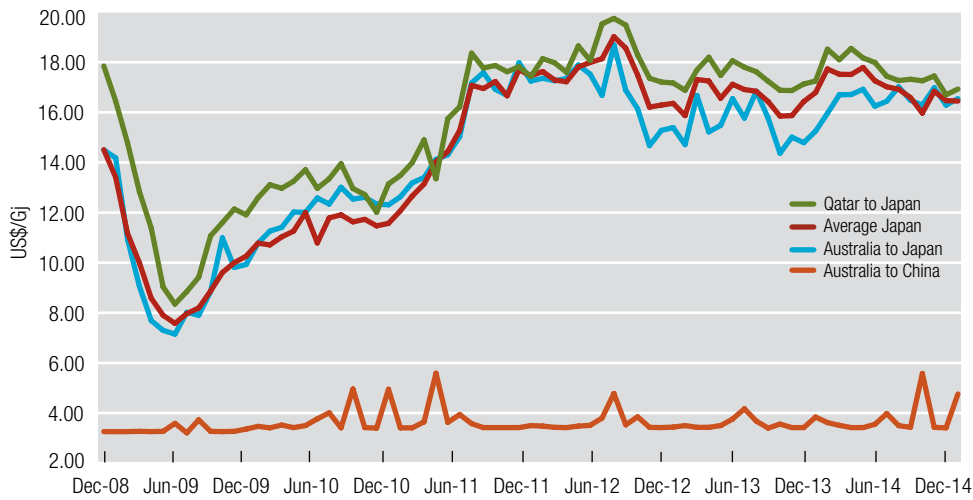


Figure 32. **LNG Import Prices** Source: Argus Monthly LNG (prices include freight and regassing)

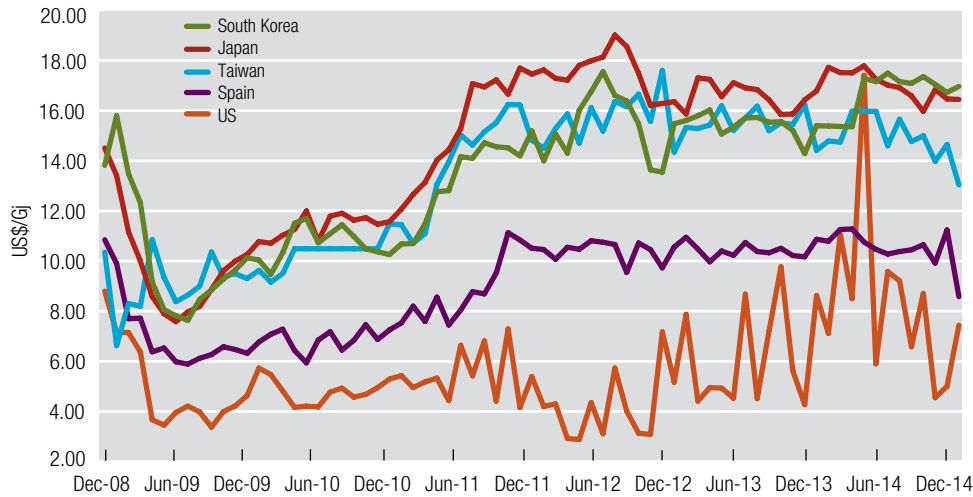


Figure 33. **Average LNG Import Prices** Source: Argus Monthly LNG (prices include freight and regassing)

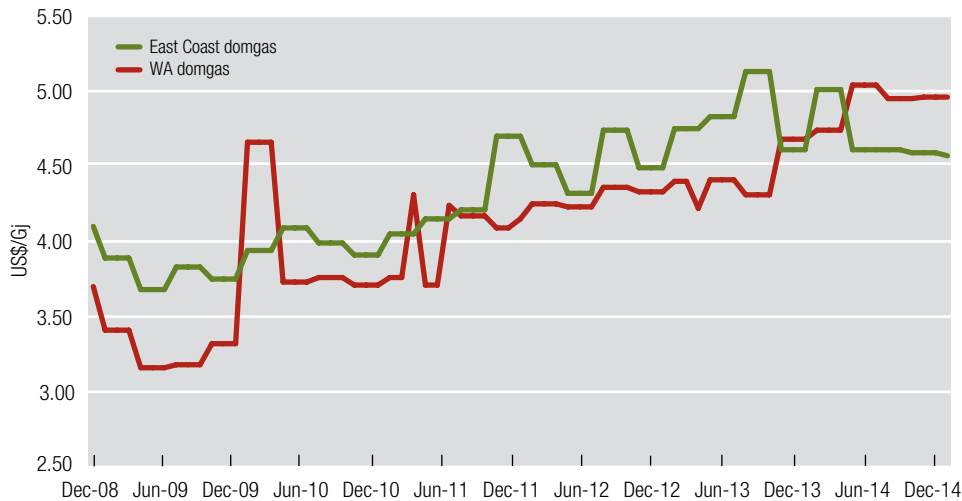


Figure 34. **Average Natural Gas Prices** Source: EnergyQuest and DMP

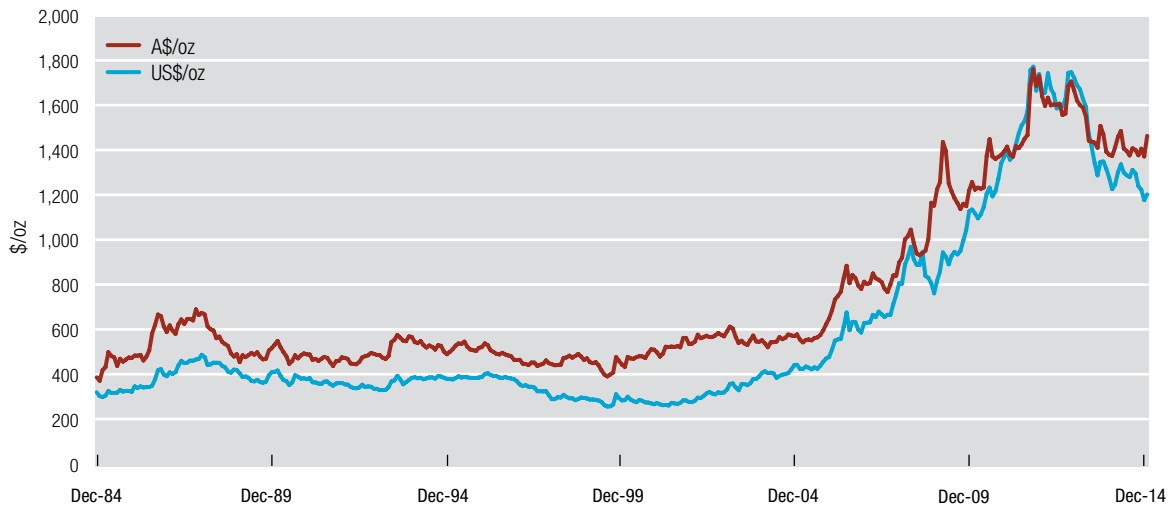


Figure 35. **Historic Gold Prices, US\$/A\$ per ounce** Source: Perth Mint and London PM Fix

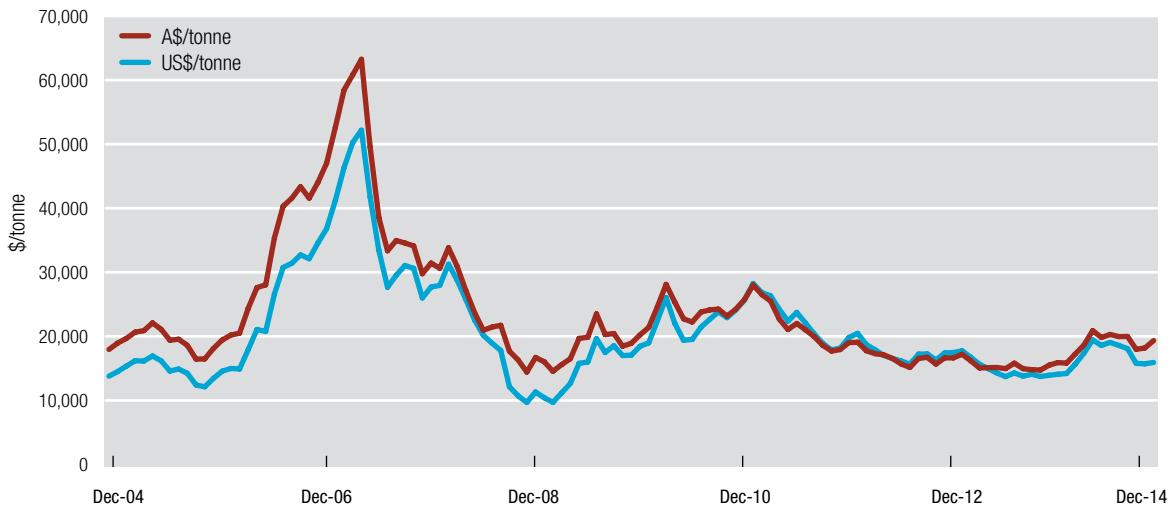


Figure 36. **Historic Nickel Prices** Source: LME

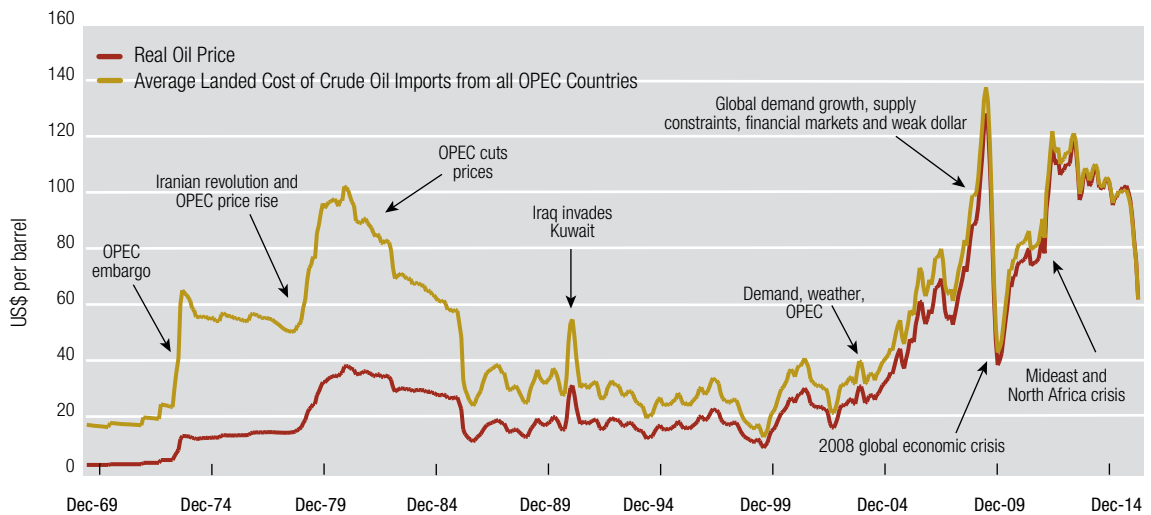


Figure 37. **Historic Oil Prices** Source: Energy Information Administration, US Department of Energy, DMP

HISTORIC PRICES

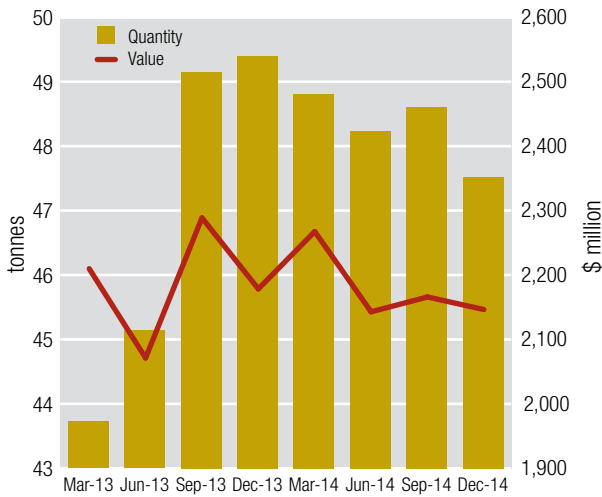


Figure 38. **Gold Quantity and Value by Quarter**
Source: DMP

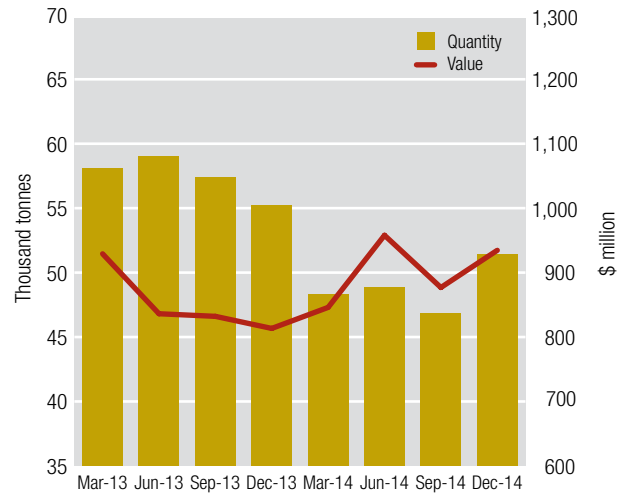


Figure 39. **Nickel Quantity and Value by Quarter**
Source: DMP

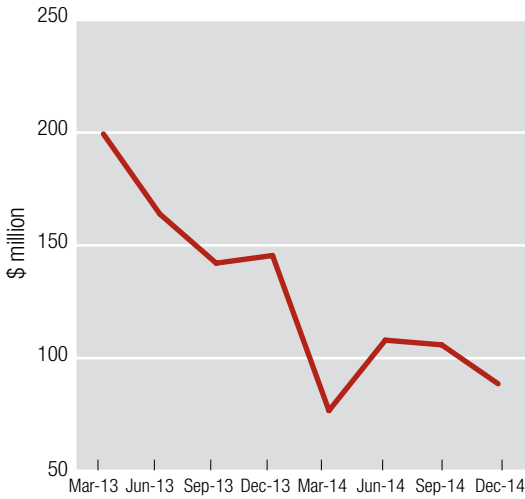


Figure 40. **Heavy Mineral Sands Value by Quarter**
Source: DMP

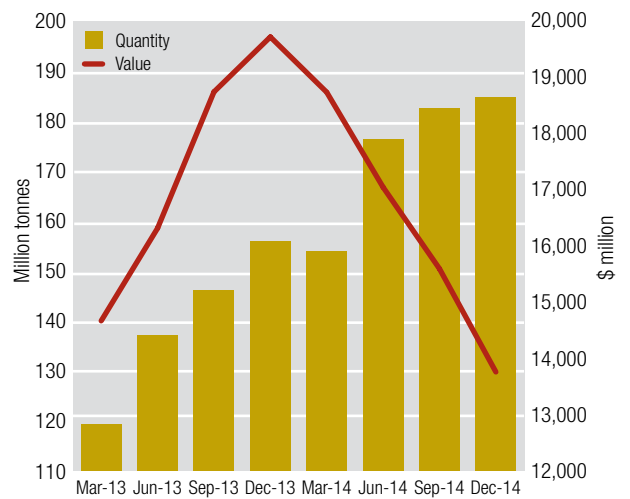


Figure 41. **Iron Ore Quantity and Value by Quarter**
Source: DMP

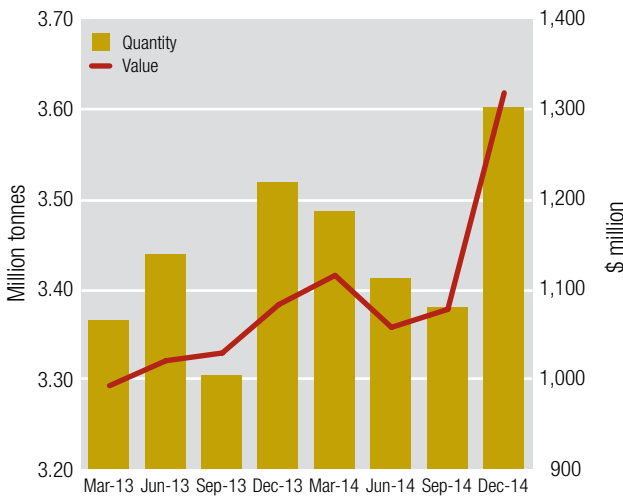


Figure 42. **Alumina Quantity and Value by Quarter**
Source: DMP

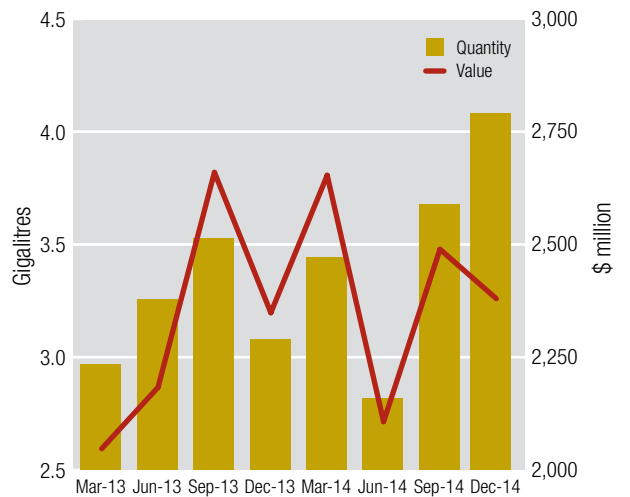


Figure 43. **Crude Oil and Condensate Quantity and Value by Quarter**
Source: DMP

QUANTITY – WESTERN AUSTRALIA VERSUS AUSTRALIA

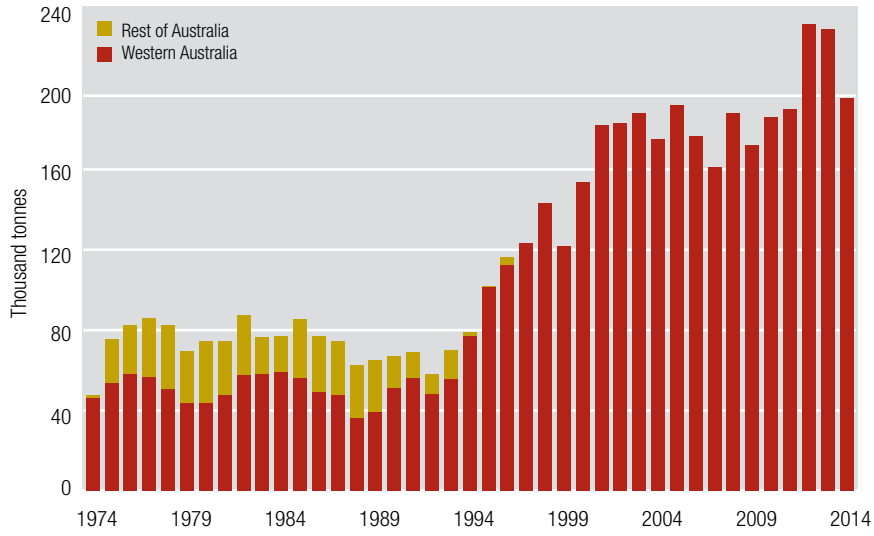


Figure 44. **Nickel Quantity** Source: DMP and BREE

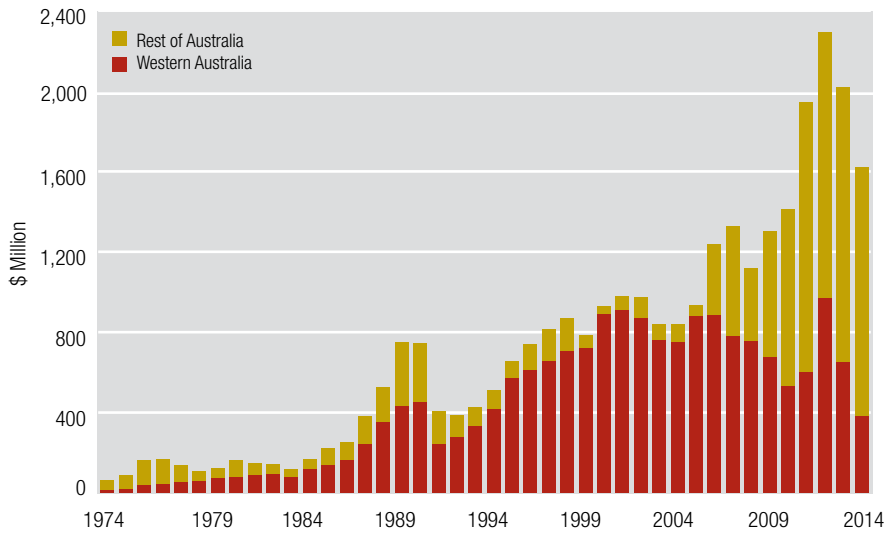


Figure 45. **Heavy Mineral Sands Value of Production**
Includes Ilmenite, Leucosene, Upgraded Ilmenite, Rutile, Zircon and Monazite
Source: DMP and BREE

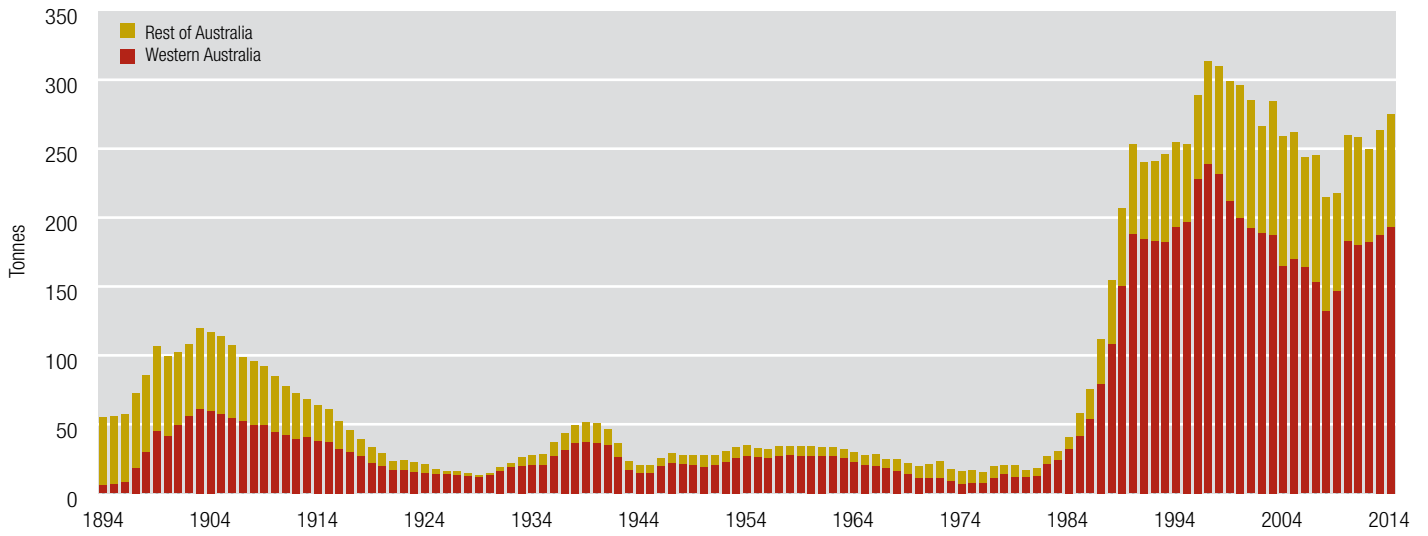


Figure 46. **Gold Production** Source: DMP and BREE

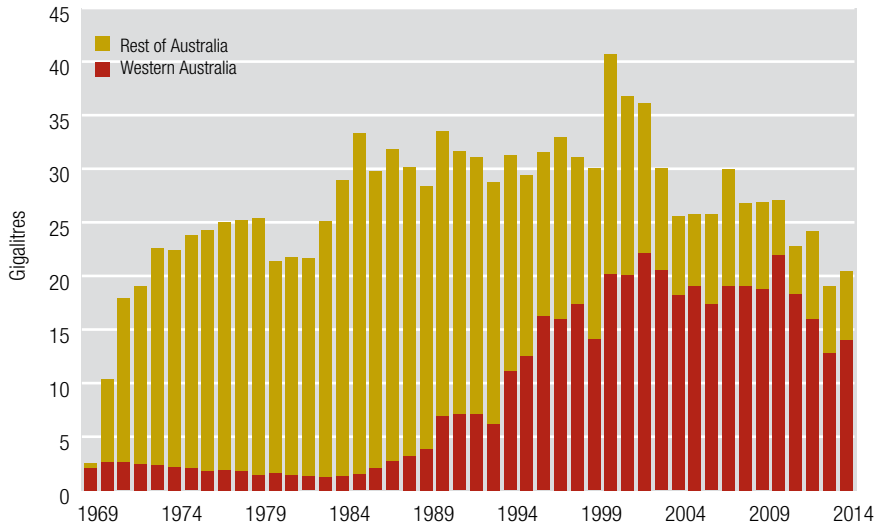


Figure 47. **Crude Oil and Condensate Quantity** Source: DMP, BREE and EnergyQuest

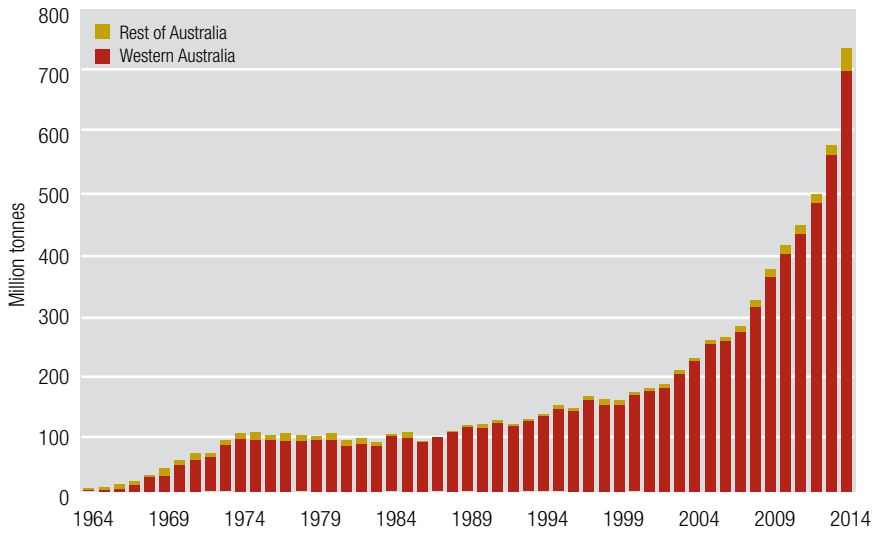


Figure 48. **Iron Ore Quantity** Source: DMP and BREE

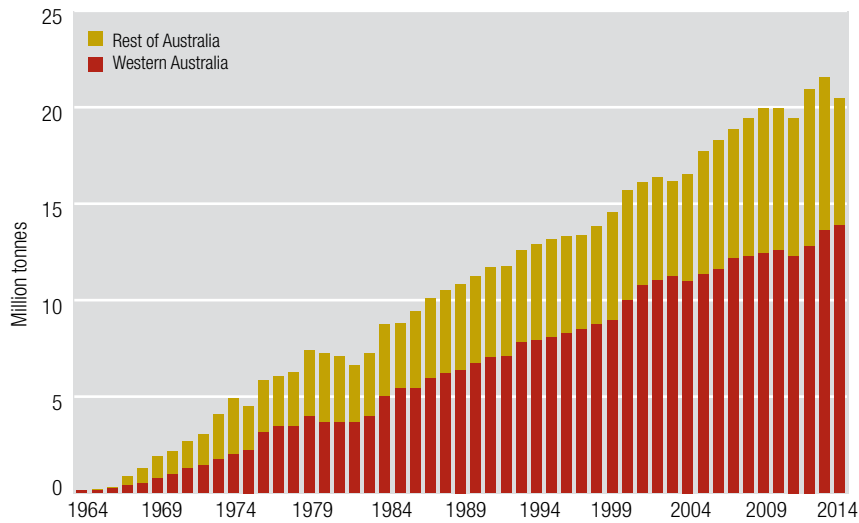


Figure 49. **Alumina Quantity** Source: DMP and BREE

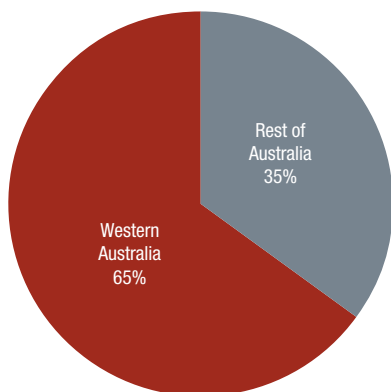


Figure 50. **Crude Oil and Condensate Production 2014** Source: EnergyQuest

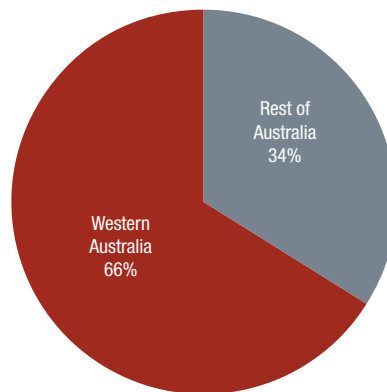


Figure 51. **Natural Gas Production 2014**
Source: EnergyQuest (Data includes domestic gas, coal seam gas and LNG feedstock)

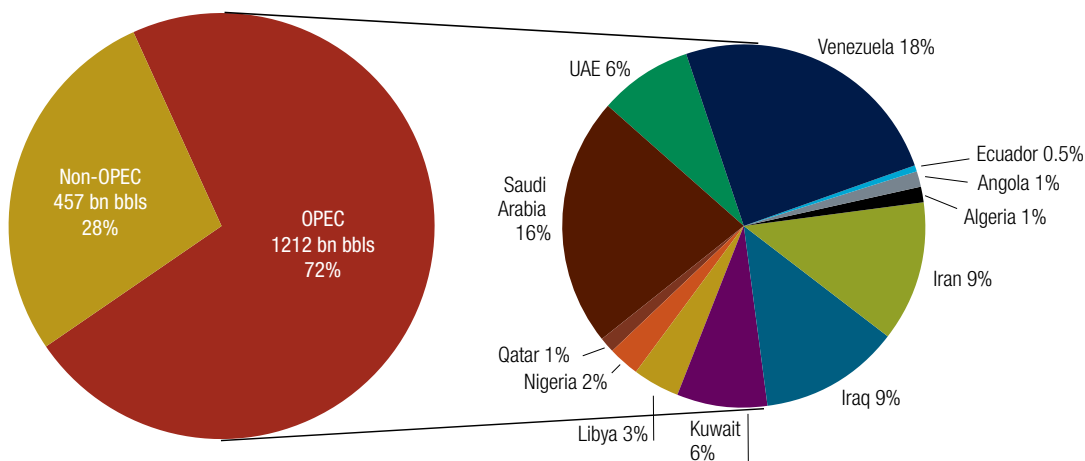


Figure 52. **OPEC Share of World Crude Oil Reserves 2013** Source: BP World Energy Statistics 2014

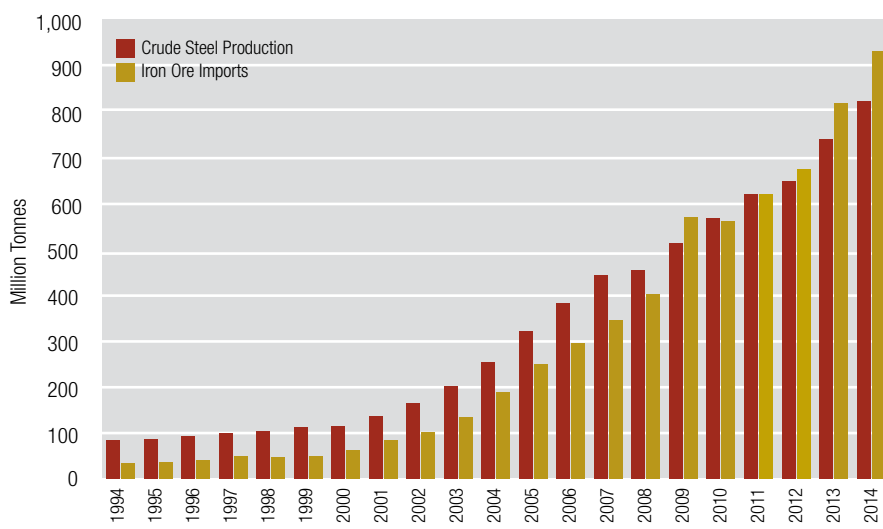


Figure 53. **China's Crude Steel Production and Iron Ore Imports**
Source: TEX Report and Interfax China Ltd and SteelHome

TABLE 2. MINERALS TENEMENTS IN FORCE 1978 ACT

	2009–10		2010–11		2011–12		2012–13		2013–14	
	Number	000 ha	Number	000 ha	Number	000 ha	Number	000 ha	Number	000 ha
Prospecting Licences	7,032	890	7,106	897	7,265	910	6,834	851	6,605	825
Exploration Licences	5,297	44,123	6,050	52,205	6,969	60,396	6,503	52,895	5,723	45,059
Mining Leases	5,764	2,125	5,845	2,233	5,897	2,285	6,195	2,451	6,020	2,400
Other	2,884	4,541	2,995	4,926	3,157	5,323	3,377	5,486	3,507	5,857
Mineral Claims & Other 1904 Act	186	21	186	21	186	21	186	21	186	21
Total	21,163	51,700	22,182	60,282	23,474	68,935	23,095	61,704	22,401	54,162

Source: DMP

TABLE 3. PETROLEUM TITLES AREA – BY TITLE TYPE

Legislation	Title Type	Area	Blocks	Number of Titles
Petroleum (Submerged Lands) Act, 1982		5,413.2000 km²	102	45
	Exploration Permit	2,290.1500 km ²	53	5
	Pipeline Licence	614.9500 km		25
	Production Licence	2,041.4300 km ²	29	10
	Retention Lease	1,081.6200 km ²	20	5
Petroleum and Geothermal Energy Resources Act 1967		302,642.2423 km²	3,973	138
	Access Authority to Deviated Well	0.0000 km ²	0	3
	Drilling Reservation	223.1000 km ²	3	1
	Exploration Permit	223,508.1964 km ²	2,866	78
	Geothermal Exploration Permit	55,651.8879 km ²	782	33
	Petroleum Lease	260.1000 km ²	9	1
	Production Licence	3,003.4580 km ²	48	16
	Retention Lease	411.8900 km ²	8	5
	Special Prospecting Authority with Acreage Option	19,583.6100 km ²	257	1
Petroleum Pipelines Act 1969		6,001.5263 km		90
	Pipeline Licence	6,001.5263 km		90
		308,055.4423 km²	4,075	273

Source: DMP

TABLE 4. QUANTITY AND VALUE OF MINERALS AND PETROLEUM

COMMODITY	UNIT	CALENDAR YEAR 2013		CALENDAR YEAR 2014	
		QUANTITY	VALUE	QUANTITY	VALUE
ALUMINA	t	13,625,703 (r)	4,117,177,598 (r)	13,876,846	4,559,599,538
BASE METALS					
Copper Metal	t	202,117 (r)	1,502,977,696 (r)	196,619	1,435,623,006
Lead Metal	t	52,262 (r)	116,056,679 (r)	80,793	186,570,238
Zinc Metal	t	47,986 (r)	96,281,335 (r)	72,574	172,568,455
TOTAL BASE METALS			1,715,315,710 (r)		1,794,761,699
CHROMITE	t	137,702 (r)	n/a	10,519	n/a
CLAYS		36,417 (r)	1,163,527 (r)	42,199	1,524,032
COAL	t	7,087,325	296,605,242 (r)	6,211,048	268,144,198
CONSTRUCTION MATERIALS					
Aggregate	t	5,527,502 (r)	199,427,190 (r)	4,418,829	154,168,440
Gravel	t	395,242 (r)	7,852,434 (r)	221,799	4,490,678
Rock	t	1,223,152 (r)	20,701,086 (r)	1,513,100	40,338,527
Sand	t	6,116,613 (r)	80,210,842 (r)	7,221,544	81,069,070
TOTAL CONSTRUCTION MATERIALS			308,191,552 (r)		280,066,714
DIAMONDS	ct	10,694,365	387,605,113 (r)	10,629,381	365,499,266
DIMENSION STONE		4,956	1,133,213	6,013	2,786,398
GEM & SEMI-PRECIOUS STONES	kg	360,315 (r)	437,312 (r)	604,221	470,758
GOLD	kg	187,416 (r)	8,740,797,530 (r)	193,169	8,715,112,888
GYPSUM	t	465,764 (r)	8,823,945 (r)	621,211	12,465,037
HEAVY MINERAL SANDS					
Garnet	t	395,841 (r)	n/a	277,662	n/a
Ilmenite	t	199,987 (r)	49,257,052 (r)	14,218	3,275,391
Leucoxene	t	33,398 (r)	29,130,672 (r)	22,090	17,845,724
Zircon	t	231,508 (r)	157,591,112 (r)	177,015	95,984,843
Other	t		414,942,887 (r)		262,129,220
TOTAL HEAVY MINERAL SANDS			650,921,723 (r)		379,235,178
IRON ORE	t	558,177,368 (r)	69,354,762,340 (r)	696,827,377	65,057,257,852
LIMESAND-LIMESTONE-DOLOMITE	t	4,719,723 (r)	65,813,962 (r)	4,866,523	68,783,670
MANGANESE ORE	t	718,296 (r)	n/a	819,900	n/a

COMMODITY	UNIT	CALENDAR YEAR 2013		CALENDAR YEAR 2014	
		QUANTITY	VALUE	QUANTITY	VALUE
NICKEL INDUSTRY					
Cobalt	t	6,410 (r)	171,736,194 (r)	5,978	197,126,928
Nickel	t	229,732 (r)	3,409,823,760 (r)	195,423	3,614,470,682
Palladium and Platinum By-Product	kg	788 (r)	20,502,208 (r)	766	22,571,671
TOTAL NICKEL INDUSTRY			3,602,062,162 (r)		3,834,169,281
PETROLEUM					
Condensate	kl	5,957,271	4,116,922,037	6,075,978	3,964,486,628
Crude Oil	kl	6,870,977 (r)	5,111,092,673 (r)	7,936,731	5,654,144,752
LNG	t	19,220,443	13,287,960,818	21,076,362	15,639,833,542
LPG – Butane and Propane	t	685,934	600,135,301	586,384	531,643,254
Natural Gas	'000m ³	9,297,667 (r)	1,559,456,330 (r)	9,590,200	1,793,059,831
TOTAL PETROLEUM			24,675,567,159 (r)		27,583,168,007
SALT	t	12,900,184 (r)	415,086,487 (r)	12,997,748	418,704,888
SILICA–SILICA SAND	t	438,688 (r)	15,325,433 (r)	487,248	17,353,328
SILVER	kg	126,269 (r)	91,674,470 (r)	145,619	93,798,955
TIN–TANTALUM–LITHIUM		n/a	173,039,737 (r)	n/a	167,211,172
OTHER (Includes Vanadium, Manganese, Rare Earths, Spongolite and Talc)			533,653,526 (r)		503,579,742
TOTAL VALUE			115,155,157,741 (r)		114,123,692,600

Note: Quantities used in this table only apply to Minerals and Petroleum covered by the *Mining Act 1978*, the *Petroleum and Geothermal Energy Resources Act 1967*, the *Petroleum (Submerged Lands) Act 1982*, the *Offshore Petroleum Act 2006* and relevant State Agreement Acts.

(r) Revised from previous edition

n/a Breakdown of chromite, garnet, manganese, talc, spodumene, vanadium, rare earths, tin, tantalite and lithium not available.

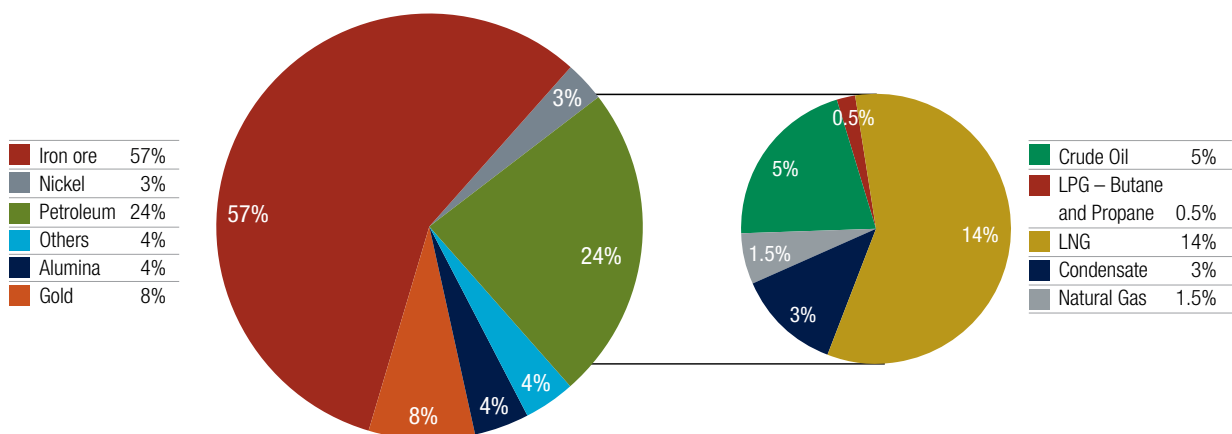


Figure 54. **Sales by Commodity 2014**
Total \$114 billion Source: DMP

TABLE 5. QUANTITY AND VALUE OF SELECTED MAJOR COMMODITIES

	Unit	2005		2006		2007		2008	
		Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M
ALUMINA	Mt	11.35	3,655.84	11.87	4,767.05	12.17	4,704.33	12.25	4,901.12
BASE METALS									
Copper Metal	kt	83.88	434.71	99.96	917.78	119.41	1,018.75	129.53	1,041.60
Lead Metal	kt	30.27	41.17	74.85	130.61	42.02	115.57	13.78	32.61
Zinc Metal	kt	63.61	118.91	138.84	607.12	180.73	685.54	156.01	329.13
TOTAL BASE METALS			594.79		1,655.50		1,819.86		1,403.34
COAL	Mt	6.41	283.26	7.25	317.90	5.81	265.15	6.73	305.50
COBALT	kt	4.59	166.95	5.13	220.4	4.73	343.08	4.78	378.7
DIAMONDS	M ct	34.31	740.15	17.07	446.90	23.54	555.02	21.24	490.71
GOLD	t	169.83	3,146.54	163.84	4,234.61	152.69	4,073.29	131.82	4,391.32
HEAVY MINERAL SANDS									
Ilmenite	Mt	0.67	74.00	0.74	84.44	0.73	79.80	0.60	76.95
Rutile	kt	100.45	63.79	102.21	64.39	92.92	56.30	n/a	n/a
Zircon	kt	416.92	329.80	370.18	358.82	289.88	263.93	356.39	309.50
Other HMS			412.78		376.01		380.25		411.44
TOTAL HEAVY MINERAL SANDS			880.37		883.67		780.28		797.89
IRON ORE	Mt	244.64	11,308.57	250.40	14,751.69	264.45	16,165.25	305.72	31,896.03
MANGANESE ORE	kt	785.01	184.39	906.68	195.25	430.45	185.71	270.71	n/a
NICKEL METAL	kt	191.71	3,484.39	175.18	5,844.17	161.01	6,958.08	187.79	4,059.16
PETROLEUM									
Condensate	Gl	5.88	2,576.86	5.61	2,940.19	5.86	3,236.76	5.73	3,512.42
Crude oil	Gl	13.18	6,168.82	11.95	6,602.75	13.20	7,384.29	13.32	9,737.62
LNG	Mt	11.03	4,320.27	11.96	4,550.76	12.38	4,448.58	12.38	8,157.48
LPG – Butane **	kt	870.73	544.22	862.23	613.83	893.91	686.64	764.67	731.50
LPG – Propane	kt								
Natural Gas	Gm ³	7.41	661.61	8.36	816.67	9.17	1,002.47	8.50	1,191.44
TOTAL PETROLEUM			14,397.85		15,524.20		16,758.73		23,330.46
SALT	Mt	11.48	213.78	10.72	241.64	10.39	229.60	11.49	276.72
OTHER			579.55		605.10		638.27		833.74
TOTAL			39,452.04		49,492.86		53,290.94		73,064.70

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

2009		2010		2011		2012		2013		2014	
Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M	Quantity	Value \$M
12.42	3,593.46	12.56	3,984.50	12.29	4,127.28	12.81	3,648.94	13.63	4,117.18	13.88	4,559.60
149.04	992.51	153.86	1,286.70	148.59	1,222.89	179.31	1,347.62	202.12	1,502.98	196.62	1,435.62
22.76	46.32	52.63	120.36	8.34	19.60	8.14	16.53	52.26	116.06	80.79	186.57
101.65	213.80	81.52	191.88	74.40	153.04	57.11	107.30	47.99	96.28	72.57	172.57
	1,252.62		1,598.94		1,395.53		1,471.45		1,715.32		1,794.76
6.56	308.16	7.00	319.12	6.98	283.50	7.29	304.59	7.09	296.61	6.21	268.14
4.34	182.76	3.85	168.9	3.85	127.59	5.87	155.4	6.41	171.74	5.98	197.1
11.90	231.80	14.42	345.54	7.63	291.18	9.88	346.10	10.69	387.61	10.63	365.50
146.43	5,814.75	182.85	7,846.34	179.54	8,789.00	181.82	9,409.67	187.42	8,740.80	193.17	8,715.11
0.46	63.50	0.50	66.69	0.38	56.85	0.28	68.41	0.20	49.26	0.01	3.28
n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
253.50	214.49	333.47	229.84	217.30	210.01	175.16	195.24	231.51	157.59	177.02	95.98
	394.39		233.11		332.03		706.84		444.07		279.97
	672.37		529.64		598.90		970.49		650.92		379.24
356.07	28,149.03	393.85	48,758.75	426.53	62,720.52	478.38	52,798.00	558.18	69,354.76	696.83	65,057.26
630.32	282.39	579.30	421.52	839.15	n/a	693.66	n/a	718.30	n/a	819.90	n/a
171.18	3,373.73	185.74	4,294.25	190.02	3,947.38	232.01	3,796.04	229.73	3,409.82	195.42	3,614.47
7.49	3,232.73	7.22	3,705.43	6.28	4,093.92	6.00	3,862.30	5.96	4,116.92	6.08	3,964.49
11.25	5,505.45	14.73	8,247.31	12.05	8,485.94	9.99	7,099.59	6.87	5,111.09	7.94	5,654.14
15.25	6,320.74	16.53	8,754.68	16.03	9,344.02	18.26	11,271.62	19.22	13,287.96	21.08	15,639.83
950.52	612.78	988.72	763.33	861.48	745.88	809.88	729.16	685.93	600.14	586.38	531.64
9.31	1,156.24	9.23	1,391.17	8.87	1,421.13	9.01	1,470.54	9.30	1,559.46	9.59	1,793.06
	16,827.94		22,861.92		24,090.89		24,433.21		24,675.57		27,583.17
10.06	447.59	11.54	386.67	12.25	335.77	12.50	364.51	12.90	415.09	13.00	418.70
	397.41		395.36		945.74		1,002.98		1,219.76		1,170.61
	61,533.99		91,911.50		107,653.27		98,701.44		115,155.16		114,123.69

TABLE 6. VALUE OF MINERALS AND PETROLEUM BY REGION BY COMMODITY

PILBARA REGION		2014
Iron Ore	62,281,573,864	
Gold and Silver	990,573,334	
Manganese and Salt	613,368,326	
Copper	388,466,010	
Construction Materials	206,613,324	
Other	4,078,836	
TOTAL	64,484,673,694	

OFFSHORE PETROLEUM		
Crude Oil and Condensate	9,579,925,176	
Liquefied Natural Gas	15,639,833,542	
Natural Gas	1,740,465,880	
LPG Butane and Propane	531,643,254	
TOTAL	27,491,867,852	

GOLDFIELDS-ESPERANCE REGION		
Gold	5,800,228,873	
Nickel, Platinum and Palladium	2,981,548,971	
Cobalt	182,413,207	
Copper and Zinc	186,729,381	
Silver and Rare Earths	174,284,242	
Gypsum and Limesand	16,428,067	
Construction Materials	11,290,392	
Other	9,500	
TOTAL	9,352,932,633	

PEEL REGION		
Alumina	4,559,599,538	
Gold, Silver and Copper	1,179,338,045	
TOTAL	5,738,937,583	

MID WEST REGION		
Iron ore	995,164,620	
Copper, Lead and Zinc	983,855,144	
Gold	819,059,943	
Heavy Mineral Sands	107,835,125	
Chromite and Natural Gas	44,517,889	
Silver and Vanadium	36,660,075	
Talc and Attapulgitic	15,740,248	
Gypsum and Limesand	4,671,420	
Gems and Saponite	778,870	
Crude Oil and Condensate	485,837	
Construction Materials	279,674	
TOTAL	3,009,048,845	

WHEATBELT REGION		2014
Iron ore	1,369,369,929	
Gypsum and Heavy Mineral Sands	275,882,929	
Nickel, Copper and Salt	511,347,328	
Gold, Silver Condensate and Natural Gas	150,414,842	
Construction Materials	18,938,674	
TOTAL	2,325,953,702	

KIMBERLEY REGION		
Iron Ore	411,149,439	
Diamonds and Crude Oil	395,867,084	
Nickel, Copper, Cobalt	219,281,817	
Construction Materials	9,584,317	
Gold, silver and gems	1,160,242	
TOTAL	1,037,042,899	

SOUTH WEST REGION		
Coal	268,144,198	
Clay, Limesand/Limestone and Spodumene	166,771,545	
Heavy Mineral Sands	1,674,249	
TOTAL	436,589,992	

GASCOYNE REGION		
Salt and Gems	141,754,902	
Gypsum and Limesand-Limestone	5,268,084	
Construction Materials	516,073	
TOTAL	147,539,059	

PERTH METROPOLITAN REGION		
Construction Materials, Silica Sand and Limesand-Limestone	93,303,554	

GREAT SOUTHERN REGION		
Spongolite, Silica Sand and Limesand	5,802,788	

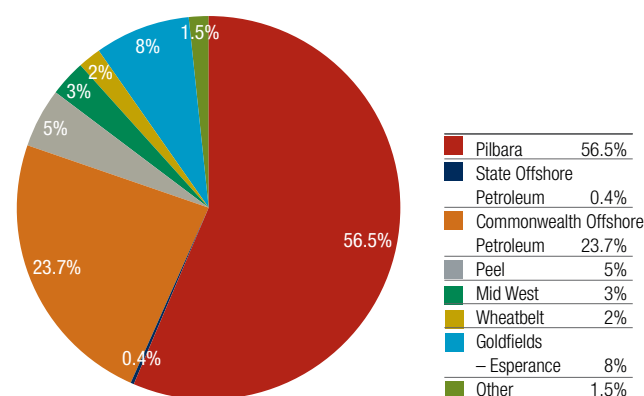


Figure 55. Value of Minerals and Petroleum by Region 2014
\$114 billion Source: DMP

TABLE 7. VALUE OF MINERALS AND PETROLEUM BY REGION BY LOCAL GOVERNMENT AREA

PILBARA REGION	2014
East Pilbara	32,840,707,654
Ashburton	30,769,777,980
Port Hedland and Marble Bar	701,993,894
Roebourne and Karratha	172,194,166
Total	64,484,673,694

OFFSHORE PETROLEUM	27,491,867,852
---------------------------	-----------------------

GOLDFIELDS-ESPERANCE REGION	
Coolgardie	2,566,329,441
Kalgoorlie-Boulder	2,407,519,630
Leonora	1,487,241,934
Laverton	1,872,326,668
Ravensthorpe and Dundas	800,345,200
Menzies and Esperance	219,169,761
TOTAL	9,352,932,633

PEEL REGION	
Waroona and Boddington	5,738,937,583

MID WEST REGION	
Meekatharra and Morawa	915,102,136
Yalgoo	663,647,444
Wiluna and Three Springs	544,275,165
Cue, Coorow and Geraldton	493,406,997
Mullewa and Mt Magnet	195,899,196
Northampton and Perenjori	118,153,778
Irwin	43,205,096
Carnimah	35,359,033
TOTAL	3,009,048,845

WHEATBELT REGION	2014
Yilgarn	1,379,337,473
Kondinin	501,475,441
Dandaragan	272,354,167
Lake Grace and Westonia	131,624,674
Gingin and Koorda	32,552,609
Moora and Wyalkatchem	6,282,209
Dalwallinu	1,825,919
Northam and Kellerberrin	501,210
TOTAL	2,325,953,702

KIMBERLEY REGION	
Derby-West Kimberley	407,256,735
Wyndham-East Kimberley	404,332,018
Halls Creek	220,442,059
Broome	5,012,087
TOTAL	1,037,042,899

SOUTH WEST REGION	
Bridgetown-Greenbushes and Collie	437,766,881
Bunbury, Dardanup, Manjimup, Donnybrook	1,823,111
TOTAL	436,589,992

GASCOYNE REGION	
Carnarvon	103,150,163
Exmouth, Shark Bay and Upper Gascoyne	44,388,896
TOTAL	147,539,059

PERTH METROPOLITAN REGION	
Kalamunda and Swan	27,902,871
Wanneroo	20,456,180
Cockburn, Kwinana and Rockingham	44,944,503
TOTAL	93,303,554

GREAT SOUTHERN REGION	
Albany, Denmark and Plantagenet	5,802,788

TABLE 8. ROYALTY RECEIPTS AND NORTH WEST SHELF GRANTS 2013 AND 2014

COMMODITY	2013	2014	2014 Growth	
	Total A\$	Total A\$	A\$	%
ALUMINA	66,744,770	71,724,531	4,979,761	7%
DIAMONDS	18,137,585	19,137,696	1,000,111	6%
GOLD	222,800,476	216,559,360	-6,241,116	-3%
HEAVY MINERAL SANDS	20,032,661	13,867,439	-6,165,222	-31%
IRON ORE	4,344,015,779	5,226,596,516	882,580,737	20%
NICKEL	84,413,621	84,339,057	-74,564	0%
PETROLEUM *	14,427,177	11,123,224	-3,303,953	-23%
OTHER	142,803,504	143,148,683	345,179	0%
TOTAL ROYALTY RECEIPTS	4,913,375,573	5,786,496,506	873,120,933	18%
NORTH WEST SHELF GRANTS	1,039,190,307	1,079,461,374	40,271,067	4%
TOTAL REVENUE	5,952,565,880	6,865,957,880	913,392,000	15%

Note: All royalty revenue shown above is paid into the State's Consolidated Revenue Fund. Added to the table, shown separately, is the State's share of the North West Shelf project royalty payments to the Commonwealth (which are provided as a grant from the Commonwealth to the State).

* Includes the Commonwealth's share of royalties collected under the *Western Australian Petroleum Submerged Land Act (PSLA)*.

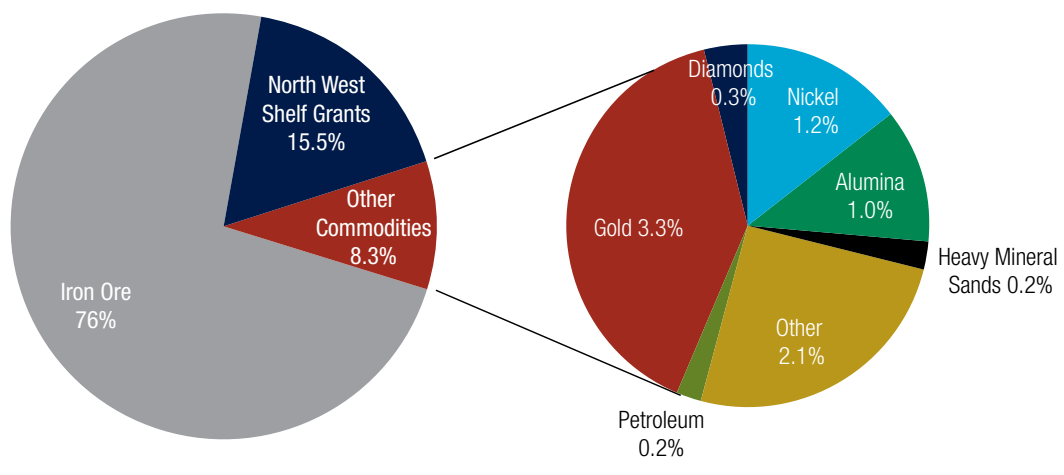


Figure 56. **Royalty Receipts 2014 and North West Shelf Grants \$6.9 Billion** Source: DMP and WA Treasury

TABLE 9. AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS INDUSTRY
MINING EMPLOYMENT DATA SOURCES

The Department of Mines and Petroleum (DMP) collects mining employment data from monthly accident reports which are required to be submitted by all operating mines and companies carrying out exploration on mineral and mining leases under the *Mines Safety and Inspection Act 1994*. The Resources Safety Division's AXTAT reporting system identifies the number of direct employees and contractors (including exploration personnel) working on operating mining leases. In March 2008 legislation was introduced to capture exploration personnel working on greenfield sites.

This employment data includes sites under State Agreement Acts.

Employment data collected and published by the Australian Bureau of Statistics (ABS) is classified using reference to the Australian and New Zealand Standard Industrial Classification (ANZSIC). This data is therefore not directly comparable with that collected by DMP.

Under ANZSIC guidelines not all mining employment is reflected in ABS's Mining industry classification.

For example:

- Catering personnel working on mine sites are reflected in the Accommodation and Food Services classification and transport personnel (truck and train drivers) working on mine sites are reflected in the Postal and Warehousing industries.
- Contractors employed in site preparation and removing overburden at a mine site on a contract or fee basis are listed under Site Preparation Services.
- Employees engaged in production of pig iron, hot briquetted iron, alumina, the smelting and refining of metals are included in Manufacturing.
- Employees providing geophysical surveying services on a contract or fee basis are included in Surveying and Mapping Services.

MINERAL/Company	Operating Site	2013	2014
BAUXITE – ALUMINA			
Doral Fused Materials Pty Ltd	Rockingham Fused Alumina Plant	80	78
Alcoa World Alumina Australia	Huntly	958	890
	Kwinana Alumina Refinery	1,288	1,321
	Pinjarra Refinery	1,298	1,657
	Wagerup Alumina Refinery	1,015	1,026
	Willowdale	325	333
Worsley Alumina Pty Ltd	Boddington Bauxite	352	387
	Worsley Refinery	1,835	1,839
TOTAL BAUXITE – ALUMINA		7,151	7,531
BASE METALS			
Aditya Birla Minerals Ltd	Nifty Copper Operation	758	422
Blackrock Metals Pty Ltd	Whim Creek Copper Mine	10	10
Independence Jaguar Ltd	Jaguar	350	336
Minerals and Metals Group	Golden Grove	911	843
Qube Ports Pty Ltd	Geraldton Container Facility / Qube	0	6
Rosslyn Hill Mining Pty Ltd	Paroo Station Mine	136	122
Sandfire Resources NL	DeGrussa Mine	640	696
TOTAL BASE METALS		2,805	2,435
COAL			
Griffin Coal Mining Co. Pty Ltd	Muja Open Cut	234	658
Premier Coal Ltd	Premier	209	238
TOTAL COAL		443	896
DIAMONDS			
Argyle Diamond Mines Pty Ltd	Argyle Diamond Mine	1621	1173
Kimberley Diamond Company NL	Ellendale / Kimberley Diamonds	288	190
Merlin Diamonds Ltd	Wangarra Laboratory	3	2
TOTAL DIAMONDS		1,912	1,365

TABLE 9. AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS INDUSTRY

MINERAL/Company	Operating Site	2013	2014
GOLD			
Agnew Gold Mining Company Pty Limited	Agnew-Emu	450	667
Andy Well Mining Pty Ltd	Andy Well	65	93
AngloGold Ashanti Australia Ltd	Sunrise Dam	953	816
	Tropicana Gold Mine	646	400
Avoca Resources Ltd	Higginsville Gold Project	590	476
Barrick Gold	Lawlers	473	0
Beacon Minerals Ltd	Halleys East	0	11
Big Bell Gold Operations Pty Ltd	Meekatharra Gold Operations	0	5
Blackham Resources Ltd	Wiluna Group	97	3
Blue Tiger Mining Pty Ltd	Burbanks – Birthday Gift underground mine	1	4
	Gunga West Open Pit	11	0
Bullabulling Operations Pty Ltd	Bullabulling	7	6
Central Norseman Gold Corporation Ltd	Central Norseman Gold	129	81
Dacian Gold Ltd	Mt Morgans Gold Mine	25	15
Darlot Mining Company Pty Ltd	Darlot Gold Mine	437	427
Evolution Mining Ltd	Edna May Gold Project	190	180
Focus Minerals Ltd	Laverton Gold Project	73	9
	The Mount	30	0
	Three Mile Hill	74	6
	Tindals	62	0
FMR Investments Pty Ltd	Gordon Sirdar Project	20	9
	Greenfields Mill	54	28
GMK Exploration Pty Ltd	Meekatharra Gold Operations	104	0
GMS Mining and Infrastructure	Granny Smith	858	795
Hanking Gold Mining Pty Ltd	Southern Cross Operations	16	114
Haoma Mining NL	Bamboo Creek	13	6
HBJ Minerals Pty Ltd	South Kal Operations	214	141
Kalgoorlie Consolidated Gold Mines Pty Ltd	Super Pit / KCGM	1,808	1,995
Kalgoorlie Mining Company (Bullant) Pty Ltd	Bullant Mine	6	0
Kalnorth Gold Mines Ltd	Lindsays – Eastern	19	1
Kentor Minerals (WA) Pty Ltd	Burnakura	49	0
La Mancha Resources Australia Pty Ltd	Frogs Leg	262	269
	White Foil	131	260
Millennium Minerals Ltd	Nullagine Gold Operations	211	243
Minjar Gold Pty Ltd	Minjar Gold Project	124	280
Monument Gold Operations Pty Ltd	Burnakura	0	14
Mt Magnet Gold Pty Ltd	Mt Magnet	152	116
	Western Queen South	34	10
Mt Magnet South NL	Kirkalocka	3	2
Navigator (Bronzewing) Pty Ltd	Bronzewing	66	0
Newcrest Australia Ltd	Telfer	2,424	1,674
Newmont Boddington Gold Pty Ltd	Boddington	3,012	2,282
Nex Metals Explorations Ltd	Kookynie Gold Project	4	5
Northern Star Resources Ltd	Paulsens	301	316
	Plutonic East	532	412
	Jundee Gold Mine	539	570
	Kalgoorlie Operations	619	509

TABLE 9. AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS INDUSTRY

MINERAL/Company	Operating Site	2013	2014
GOLD continued			
Northwest Nonferrous Australia	Indee Gold Mine	7	2
Northwest Resources Ltd	Blue Spec – Golden Spec Mine	5	1
Paddington Gold Pty Ltd	Paddington Gold	634	753
	Binduli	90	0
Phoenix Gold Ltd	Blue Funnel Open Pit	8	0
	Kintore West Mine	0	9
Ramelius Milling Services Pty Ltd	Burbanks Treatment Plant	50	37
Ramelius Resources Ltd	Coogee	22	8
Reed Resources Ltd	Sand Queen	1	0
Regis Resources Ltd	Duketon Gold Project	143	196
	Garden Well Gold Project	568	441
	Rosemont Gold Project	12	178
Sand Queen Gold Mines Pty Ltd	Sand Queen	0	1
Saracen Gold Mines Pty Ltd	Carosue Dam	237	200
Silver Lake Resources Ltd	Daisy-Milano	189	201
	Lakewood – Fimtails Plant	48	29
	Murchison Operations	232	37
	Randalls	162	116
St Barbara Mines Ltd	Southern Cross – Marvel Loch	9	0
	Leonora Operations – Sons of Gwalia	581	508
	King of the Hills	195	152
St Ives Gold Mining Company Pty Ltd	Kambalda / St Ives	1,234	1,068
Stone Resources Aust Ltd	Brightstar-Mikado	7	5
Swan Gold Mining Ltd	Carnegie Gold Project	9	5
	Mt Ida Group	3	2
Tanami Gold NL	Coyote Minesite	87	9
The Perth Mint	Perth Airport Refinery / Perth Mint	102	102
Vector Resources Ltd	Gwendolyn East Cutback Project	0	5
Other	Various	18	22
TOTAL GOLD		20,541	17,337
HEAVY MINERAL SANDS			
BHP Titanium Minerals Pty Ltd	Beenup	7	6
Cristal Mining Aust	Bunbury	164	139
Doral Mineral Sands Pty Ltd	Dardanup	550	218
Mintech Chemical Industries Pty Ltd	Mintech Chemical Industries	72	105
GMA Garnet Pty Ltd	Narngulu Garnet Plant	71	84
	Port Gregory	56	67
Iluka Resources Limited	Capel	374	350
	Eneabba	85	64
	Narngulu Synthetic Rutile Plants	229	271
	Gingin/Iluka	9	11
Tronox Management Pty Ltd	Chandala-Muchea	361	575
	Cooljarloo	409	430
	Bunbury Port	12	23
TOTAL HEAVY MINERAL SANDS		2,399	2,343

TABLE 9. AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS INDUSTRY

MINERAL/Company	Operating Site	2013	2014	
IRON ORE				
Air Liquide WA Pty Ltd	Hismelt Demolition	0	2	
Atlas Iron Ltd	Abydos DSO Project	171	165	
	Mt Dove	56	42	
	Mt Webber Mine – Fender	50	230	
	Pardoo	71	16	
	Wodgina	199	185	
	BC Iron Limited	Nullagine	470	544
BHP Billiton Iron Ore Pty Ltd	Boodarie HBI Plant	24	31	
	Eastern Ridge Operation	990	1,950	
	Jimblebar Construction Site	1,502	279	
	Jimblebar Hub	806	1,988	
	Mining Area C	2,427	3,244	
	Mt Whaleback	2,814	4,142	
	Nelson Point	2,650	3,465	
	Orebody 18 – Wheelarra	0	317	
	Yandi	2,244	3,430	
	Yarnima Power Station	466	418	
	Yarrie Group	405	226	
	Calibre Projects Pty Ltd	Brockman 4 – Phase 2	75	0
		Orebody 24 Rail	61	12
West Angelas Deposit B Project		0	161	
Western Turner Syncline		660	116	
Citic Pacific Mining Management Pty Ltd		Sino Iron Project	2,422	2,785
Cliffs Natural Resources Pty Ltd	Koolyanobbing	1,353	1,140	
Crosslands Resources Ltd	Jack Hills	6	7	
Fast JV (Fluor and SKM team)	Eastern Ridge Orebody 24 Construction	404	9	
Fortescue Metals Group Ltd	Anderson Point Port Facility	1,311	1,606	
	AP5 Expansion	12	128	
	Christmas Creek	3,738	3,720	
	Cloudbreak	4,248	3,732	
	Rail Ballast Quarry	6	0	
	Solomon Construction Project / FMGL	1,328	314	
	Solomon Operations	1,811	3,663	
	GHD Pty Ltd	Jimblebar Non Process Infrastructure	487	0
	Hamersley HMS Pty Ltd	Hope Downs 1-3 Group	888	832
Hope Downs 4 Operations		718	967	
Hamersley Iron Pty Ltd	Brockman	877	1,316	
	Brockman 4 Operations	1,359	1,458	
	Dampier Port Operations	2,109	1,708	
	Dampier Power Plant	3	6	
	Marandoo	677	896	
	Nammuldi Below Water Table	387	824	
	Greater Paraburdoo	1,656	1,338	
	Tom Price	1,913	2,115	
	Yandicoogina	1,233	1,069	
Hismelt (Operations) Pty Ltd	Hismelt Operations	95	58	

TABLE 9. AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS INDUSTRY

MINERAL/Company	Operating Site	2013	2014
IRON ORE continued			
IB Operations Pty Ltd	North Star Magnetite	8	490
Karara Mining Limited	Karara – Blue Hills Group	984	616
	Karara Export Terminal – Gindalbie	48	71
Kellogg Brown & Root Pty Ltd	West Angelas Fuel Hub	123	41
	Parker Point Fuel Farm	60	38
Kimberley Metals Group Pty Ltd	Ridges Iron Ore	155	145
Lycopodium Minerals Pty Ltd	Marandoo Phase 2 – Construction	480	11
MacMahon Holdings Pty Ltd	Orebody 18 – Wheelarra	434	0
Mine and Port Developments JV	RGP4/5 Port Hedland Pace Project	1,094	592
Mineral Resources Ltd	Iron Valley	0	61
Moly Metals Australia Pty Ltd	Spinifex Ridge Rehabilitation	0	28
Mt Gibson Mining Limited	Extension Hill – Hematite	72	124
	Geraldton Port Storage Facility	41	52
	Koolan Island	523	647
	Perenjori Siding	108	137
	Ruvidini Rail Terminal	90	62
	Tallering Peak	196	194
	Cockatoo Island – Homer (and Seawall)	84	101
	Carina Iron Ore Mine	195	191
Process Minerals International Pty Ltd	Phils Creek	63	63
	Poondano Iron Ore Project	49	8
Rio Tinto Iron Ore Pty Ltd	Cape Lambert Power Station	3	0
	Cape Lambert Expansion	728	1,112
	Kangaroo Hill Village	32	29
	West Angelas Power Plant	128	74
	West Pilbara Village	66	48
Robe River Mining Co. Pty Ltd	Cape Lambert Port Operations	1,452	1,470
	Pannawonica	770	880
	West Angelas Plant	1,588	1,503
Roy Hill Iron Ore Pty Ltd	Roy Hill	506	1,292
Rutila Resources	Balla Balla Group	6	4
Sinosteel Midwest Corporation Ltd	Koolanooka	19	0
	Blue Hills Iron Ore Project	31	74
Top Iron Pty Ltd	Geraldton Port Storage Facility	0	1
	Mummaloo Iron Ore Project	5	31
TOTAL IRON ORE		55,323	60,844
MANGANESE			
Auvex Resources Limited	Ant and Sunday Hill		
Pilbara Manganese Pty Ltd	Woodie Woodie	531	519
	Woodie Woodie Tailings Treatment Plant	35	22
TOTAL MANGANESE		566	541

TABLE 9. AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS INDUSTRY

MINERAL/Company	Operating Site	2013	2014
NICKEL			
BHP Billiton (Nickel West)	Cliffs	219	217
	Kalgoorlie Nickel Smelter	457	420
	Kambalda Nickel Concentrator	118	130
	Kwinana Refinery	329	324
	Leinster Nickel Operation	929	414
	Mt Keith Operations	807	724
Consolidated Nickel Pty Ltd	Beta-Hunt Nickel Group	5	0
First Quantum Minerals (Australia) Pty Ltd	Ravensthorpe	1,026	921
Focus Minerals Ltd	Nepean	1	0
Fox Radio Hill Pty Ltd	Radio Hill	19	6
Lake Johnston Ltd	Emily Ann	113	0
Independence Long Pty Ltd	Long Shaft	184	151
Mincor Operations Pty Ltd	Mincor Operations	166	189
	Otter Juan – Coronet	54	14
Murrin Murrin Operations Pty Ltd	Murrin Murrin	1,375	1,321
Norilsk Nickel Avalon Pty Ltd	Avalon	7	6
	Black Swan	11	12
	Cawse	12	8
	Waterloo – Thunderbox – Bannockburn	7	5
Panoramic Resources Ltd	Lanfranchi	249	295
	Savannah Nickel Project	332	349
Poseidon Nickel Ltd	Lake Johnston Operations	0	24
	Windarra Nickel Project	22	20
Xstrata Nickel Australasia Operations Pty Ltd	Cosmos	10	3
	Sinclair Nickel Project	40	4
Salt Lake Mining Pty Ltd	Beta-Hunt Kambalda	2	79
Western Areas NL	Forrestania	492	524
TOTAL NICKEL		6,986	6,160
SALT			
Dampier Salt Ltd	Dampier	271	230
	Lake MacLeod	224	245
	Port Hedland	218	201
WA Salt Supply Koolyanobbing Pty Ltd	Lake Deborah	11	11
Onslow Salt Pty Ltd	Onslow Salt	357	242
Shark Bay Solar Salt JV	Shark Bay Resources	83	82
Western Salt Refinery Pty Ltd	Pink Lake	1	1
TOTAL SALT		1,165	1,012
TIN, TANTALUM AND LITHIUM			
Alliance Mineral Assets Limited	Bald Hill Tantalite Project	0	9
Galaxy Resources Ltd	Mt Catlin (Spodumene)	25	10
Global Advanced Metals Greenbushes Pty Ltd	Greenbushes	11	12
	Wodgina	53	51
Nagrom and Co.	Kelmscott	89	79
Talison Lithium Aust Pty Ltd	Greenbushes	212	299
TOTAL TIN, TANTALUM AND LITHIUM		390	460

TABLE 9. AVERAGE NUMBER OF PERSONS EMPLOYED IN THE WA MINERALS INDUSTRY

MINERAL/Company	Operating Site	2013	2014
TOTAL CHROMITE		54	10
TOTAL CLAYS		114	132
TOTAL CONSTRUCTION MATERIALS		918	1,295
TOTAL DIMENSION STONE		106	168
TOTAL GYPSUM		29	34
TOTAL INDUSTRIAL PEGMATITE MINERALS		19	22
TOTAL LIMESTONE – LIMESAND		221	251
TOTAL MINERAL EXPLORATION		2,469	2,235
TOTAL PHOSPHATE		176	178
TOTAL RARE EARTHS		151	143
TOTAL SILICA – SILICA SAND		554	561
TOTAL SILVER		46	60
TOTAL TALC		45	57
TOTAL TUNGSTEN AND MOLYBDENUM		107	90
TOTAL VANADIUM		150	119
TOTAL VARIOUS PORTS		1,027	735
ALL OTHER MATERIALS		107	199
TOTAL MINERALS		105,974	107,213

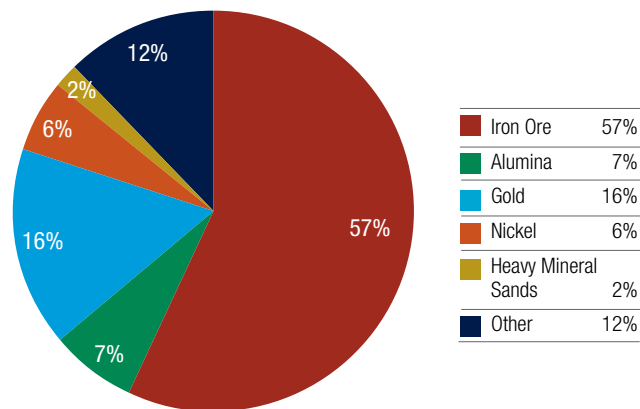


Figure 57. **Western Australian Mining Employment 2014**
Total Value 107,213 Source: DMP

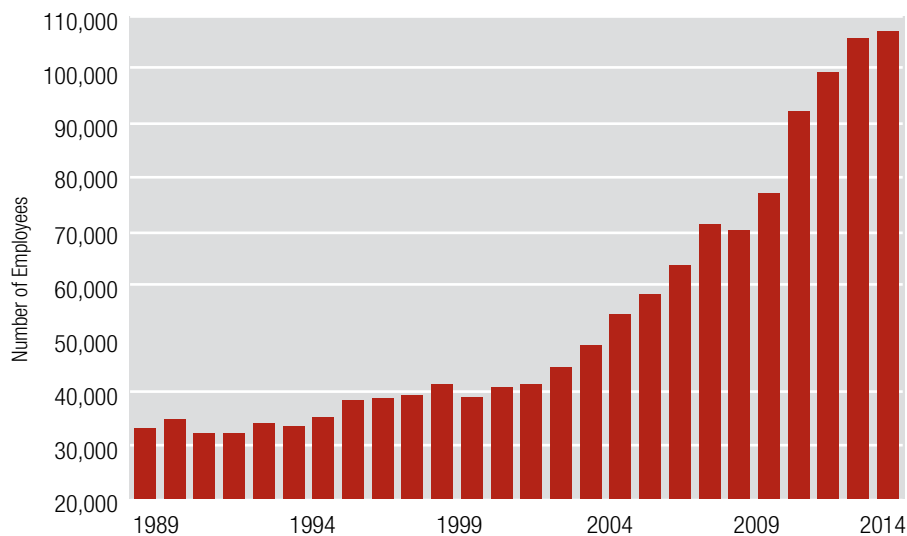


Figure 58. **Western Australian Mining Employment**

Source: DMP Resources Safety Division AXIAT Reporting System
Petroleum employment data discontinued from 2012 and is not included in above graph.

TABLE 10. PETROLEUM EMPLOYMENT – STATE LEGISLATION
PETROLEUM EMPLOYMENT

On 1 January 2012, the administrative responsibility for compliance and operations support for petroleum activities in Commonwealth waters, (previously carried out by the Department of Mines and Petroleum), transferred to the National Offshore Petroleum Titles Administrator (NOPTA).

Also from 1 January 2012, the responsibility for administering safety regulation for coastal waters under the Petroleum (Submerged Lands) Act 1982 reverted back to the Department of Mines and Petroleum. This service had previously been provided by the National Offshore Petroleum Safety Authority (NOPSA) which is now known as the National Offshore Petroleum Safety and Environment Management Authority (NOPSEMA). NOPSEMA is also responsible for administering safety regulation in Commonwealth waters.

Employment data shown in the Statistics Digest for the Western Australia petroleum industry therefore only encompasses operations subject to State petroleum legislation. For these areas under State jurisdiction, petroleum employment data is provided in petroleum operators' monthly safety reports submitted to the Department of Mines and Petroleum. This is for Western Australian petroleum facilities and pipelines both onshore and in coastal waters. It does not cover LNG and land based service facilities.

MINERAL/Company	Operating Site	2013	2014
PETROLEUM (onshore facilities and pipelines covered under <i>Petroleum Pipelines Act 1969</i> , <i>Petroleum (Submerged Lands) Act 1982</i> and <i>Petroleum Geothermal Energy Resources Act 1967</i>)			
APA Group	various laterals and pipelines	179	156
Apache Energy Ltd	Devil Creek and Varanus	149	162
APT Parmelia Pty Ltd	Mondarra Gas Storage Facility	61	214
ARC Energy Ltd	Dongara and Hovea Production Facilities, Mt Horner, Woodada and Well Intervention Activities	22	47
Barrick Gold	Plutonic Lateral	7	7
BHP Billiton Petroleum	Macedon Gas Project	307	18
Buru Energy	includes Ungani, Blina and Ensign Fields	52	72
Calenergy Resources (Aust) Ltd	Whicher Range-4 ST1	8	4
Chevron (Aust) Pty Ltd	Gorgon, WA Oil Asset and Drilling and Wheatstone	752	775
DBNGP (WA) Transmission Pty Ltd	Dampier-Bunbury Natural Gas Pipeline	209	507
Empire Oil Company (WA) Ltd	Red Gully Pipeline and Processing Facility	24	7
Goldfields Gas Transmission Pty Ltd	Goldfields Gas Pipeline	151	121
Midwest Joint Venture	Mid West Pipeline	10	12
New Standard Onshore Pty Ltd	MB Century Rig-14	7	0
Newgen Neerabup Partnership	Neerabup Pipeline-PL75	13	12
Newmont Yandal Operations Pty Ltd	Jundee Lateral	5	6
Norilsk	Cawse Lateral	4	4
Norwest Energy NL	P00084	4	1
Origin Energy	Cockburn Lateral, Jingemia and Beharra Springs	20	19
Pilbara Iron	Cape Lambert and Paraburdoo Gas Laterals	11	12
Redback Pipeline Pty Ltd	Magellan Lateral	7	6
Roc Oil	Arrowsmith Stabilisation Facility	15	17
Southern Cross Pipelines Aust Pty Ltd	Mt Keith, Parkeston, Kambalda and Leinster Laterals	22	27
The Esperance Pipeline Company Pty Ltd	KEGP	4	4
WA Gas Networks	Mandurah Gas Lateral PL83 Area	4	4
Other	various laterals and pipelines	19	28
TOTAL WA ONSHORE AND COASTAL WATERS		2,066	2,242

SOURCE: AXTAT Reporting System, Resources Safety Division, Department of Mines and Petroleum for minerals data and monthly status reports submitted to the department for Western Australia onshore petroleum facilities and pipelines data. Figures include employees as well as contractors.

TABLE 11. PRINCIPAL MINERAL AND PETROLEUM PRODUCERS EFFECTIVE MARCH 2015

BASE METALS

Copper–Lead–Zinc

Aditya Birla Minerals Ltd,
Level 3, 256 Adelaide Terrace,
Perth WA 6000,
(08) 9366 8800,
Nifty.
www.adityabirlaminerals.com.au

BHP Billiton Nickel West Pty Ltd,
Level 41, City Square,
125 St George’s Terrace,
Perth WA 6000,
(08) 6321 0000,
Kambalda.
www.bhpbilliton.com

MMG Golden Grove Pty Ltd,
Level 23,
28 Freshwater Place,
Southbank Vic 3001,
(03) 9288 0888,
Golden Grove.
www.mmg.com

Independence Group NL,
Level 5, South Shore Centre,
85 South Perth Esplanade,
South Perth WA 6151,
(08) 9238 8300,
Teutonic Bore – Jaguar,
Long Nickel.
www.igo.com.au

Newcrest Mining Ltd,
193 Great Eastern Highway,
Belmont WA 6104,
(08) 9270 7070,
Telfer.
www.newcrest.com.au

Newmont Boddington Pty Ltd,
388 Hay Street,
Subiaco WA 6008,
(08) 9423 6100,
Boddington Gold.
www.newmont.com

Panoramic Resources Limited,
Level 9, 553 Hay Street,
Perth WA 6000,
(08) 6266 8600,
Savannah, Lanfranchi Tramways.
www.panoramicresources.com

Sandfire Resources NL,
Level 1, 31 Ventnor Avenue,
West Perth WA 6005,
(08) 6430 3800,
DeGrussa–Dulgunna.
<http://www.sandfire.com.au/>

Venturex Resources Ltd,
Level 2, 91 Havelock Street,
West Perth WA 6005,
(08) 6389 7400,
Whim Creek,
www.venturexresources.com

Western Areas Limited,
Level 2, Kings Park Road,
West Perth WA 6005,
(08) 9334 7777,
Forrestania.
www.westernareas.com.au

BAUXITE–ALUMINA

Alumina

Alcoa of Australia Limited,
181–205 Davy Street,
Booragoon WA 6154,
(08) 9316 5111,
Willowdale, Huntly–Del Park.
www.alcoa.com/australia

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

CLAY

Attapulgit

Hudson Resources Ltd,
2 Kemp Street, Narngulu,
Geraldton WA 6530,
(08) 9923 3604,
Lake Nerramyne.
www.hudsonresources.com

Clay Shale

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

Saponite

Watheroo Minerals Pty Ltd,
PO Box 353,
Dunsborough WA 6281,
0418 140 929,
Watheroo Clays.
www.bentonitewa.com.au

COAL

Griffin Coal Mining Company Pty Limited,
1sr Floor, 677 Murray Street,
West Perth WA 6005,
(08) 6188 2200,
Collie.
www.griffincoal.com.au

Premier Coal Limited,
Premier Road,
Collie WA 6225,
(08) 9780 2222,
Collie.
www.premiercoal.com.au

CONSTRUCTION MATERIALS

Aggregate

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

Hanson Construction Materials,
123 Burswood Road,
Burswood WA 6100,
(08) 9311 8811,
Turner River.
www.hanson.com.au

Holcim (Australia) Pty Ltd,
Technology Park,
18–20 Brodie–Hall Drive,
Bentley WA 6102,
(08) 9212 2000,
Burrup–Dampier, Newman, Turner River.
www.holcim.com.au

Northwest Quarries Pty Ltd,
PO Box 828,
Karratha WA 6714,
0419 873 357,
Pippingarra.
<http://northwestquarries.com.au/>

TABLE 11. PRINCIPAL MINERAL AND PETROLEUM PRODUCERS EFFECTIVE MARCH 2015

Onslow Metals Pty Ltd,
18a Orchid Street,
Joondana WA 6060,
(08) 9242 1853,
Range.
www.onslowmetals.com.au

Gravel

Leahy Haulage Pty Ltd,
PO Box 1484,
West Kalgoorlie WA 6430,
(08) 9022 7746,
Eight Mile Rock Hole.
www.mlgoz.com.au

NTC Contracting,
Lot 550 Onslow Road,
Onslow WA 6710,
(08) 9184 6025
Onslow.
www.ntc.net.au

Scorpion Mining Pty Ltd,
PO Box 10047,
Kalgoorlie WA 6433,
(08) 9091 3586,
Cawse Sand.

WA Limestone Co.,
401 Spearwood Avenue,
Bibra Lake WA 6163,
(08) 9434 7777,
Pickering Brook.
www.walimestone.com

Sand

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

Rocla Quarry Products,
130 Fauntleroy Avenue,
Redcliffe WA 6104,
(08) 9475 2500,
Various sites.
www.rocla.com.au

Holcim (Australia) Pty Ltd,
Technology Park,
18–20 Brodie–Hall Drive,
Bentley WA 6102,
(08) 9212 2000,
Various sites.
www.holcim.com.au

Leahy Haulage Pty Ltd,
PO Box 1484,
West Kalgoorlie WA 6430,
(08) 9022 7746,
Canegrass, Eight Mile Rock Hole,
Jonah Bore.
www.mlgoz.com.au

Tuma Holdings Pty Ltd,
Unit 16, 32 Jubilee Street,
South Perth WA 6152,
Mobile: 0408 923 801,
Chidlow.

DIAMONDS

Argyle Diamonds Ltd,
1 William Street,
Perth WA 6000,
(08) 9168 4900,
Argyle.
www.argylediamonds.com.au

Kimberley Diamonds Ltd,
Level 38 Australia Square Tower,
264–278 George Street,
SYDNEY NSW 2000,
(02) 8243 7500,
Ellendale.
www.kdc.com.au

DIMENSION STONE

Granite

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

Marble

Stone Dimensions Australia Pty Ltd,
PO Box 342,
South Perth WA 3951,
(08) 9474 3355, or
(08) 9943 0704 minesite
Nanutarra Marbles.
www.stonemarble.com.au

GOLD

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

AngloGold Ashanti Australia Limited,
Level 13, St Martins Tower,
44 St Georges Terrace,
Perth WA 6000,
(08) 9425 4600,
Sunrise Dam, Tropicana.
www.anglogoldashanti.com

Barra Resources Limited,
Ground Floor, 6 Thelma Street,
West Perth WA 6005,
(08) 9481 3911,
Burbanks.
www.barraresources.com.au

Doray Minerals Limited,
Level 3, 41–43 Ord Street,
West Perth WA 6005,
(08) 9226 0600,
Andy Well.
www.dorayminerals.com.au

Evolution Mining Limited,
Level 3, 1 Altona Street,
West Perth WA 6005,
(08) 6216 9700,
Edna May.
www.evolutionmining.com.au

Gold Fields Australia Pty Ltd,
Level 5, 50 Colin Street,
West Perth WA 6005,
(08) 9211 9200,
Agnew (08) 9088 3822,
Darlot (08) 9080 3500,
Granny Smith (08) 9088 2105,
St Ives (08) 9088 1111.
www.goldfields.co.za

**Kalgoorlie Consolidated Gold Mines
Pty Ltd,**
Private Mail Bag 27,
Kalgoorlie WA 6433,
(08) 9022 1100,
Super Pit Gold Operation.
www.superpit.com.au

La Mancha Resources Inc.,
Level 1, 12 St Georges Terrace,
Perth WA 6000,
(08) 9268 4000,
Mungari East, White Foil.
www.lamancha.ca/en/home

Metals X Limited,
Level 3, 18–32 Parliament Place,
West Perth WA 6005,
(08) 9220 5700,
Higginsville, South Kal Mines.
www.metalsx.com.au

TABLE 11. PRINCIPAL MINERAL AND PETROLEUM PRODUCERS EFFECTIVE MARCH 2015

Millennium Minerals Limited,
10 Kings Park Road,
West Perth WA 6005,
(08) 9216 9011,
Nullagine.
www.millenniumminerals.com.au

Newcrest Mining Limited,
193 Great Eastern Highway,
Belmont WA 6104,
(08) 9270 7070,
Telfer.
www.newcrest.com.au

Newmont Mining Corporation,
Level 1, 388 Hay Street,
Subiaco WA 6008,
(08) 9423 6100,
Boddington, Kalgoorlie, Tanami.
www.newmont.com

Northern Star Resources Limited,
Level 1, 388 Hay Street,
Subiaco WA 6008,
(08) 6188 2100,,
Paulsens, East Kundana, Jundee,
Kanowna Belle, Plutonic.
www.nsr ltd.com

Norton Gold Fields Limited,
Level 36, Exchange Plaza,
2 The Esplanade,
Perth WA 6000,
(08) 9263 9700,
Paddington.
www.nortongoldfields.com.au

Paddington Gold Pty Ltd,
PO Box 1653,
Kalgoorlie WA 6430,
(08) 9080 6800,
Paddington.
www.nortongoldfields.com.au

Ramelius Resources Limited,
Level 1, 130 Royal Street,
East Perth WA 6004,
(08) 9202 1127,
Mt Magnet.
www.rameliusresources.com.au

Regis Resources Limited,
Level 1, 1 Alvan Street,
Subiaco WA 6008,
(08) 9442 2200,
Moolart, Garden Well, Rosemount.
www.regisresources.com.au

Sandfire Resources NL,
Level 1, 31 Ventnor Avenue,
West Perth WA 6005,
(08) 6430 3800,
DeGrussa–Dulgunna.
<http://www.sandfire.com.au/>

Saracen Mineral Holdings Limited,
Level 4, 89 St Georges Terrace,
Perth WA 6000,
(08) 9229 9100,
Carosue Dam.
www.saracen.com.au

Silver Lake Resources Limited,
Suite 4, Level 3,
85 South Perth Esplanade,
South Perth WA 6151,
(08) 6313 3800,
Mt Monger, Murchison, Randalls.
www.silverlakeresources.com.au

St Barbara Limited,
1205 Hay Street,
West Perth WA 6005,
(08) 9476 5555,
King of the Hills, Sons of Gwalia.
www.stbarbara.com.au

GYPSUM
CSR Ltd,
Locked Bag 1345,
North Ryde NSW 2113,
1800 028 327 Head Office,
Juren Bay.
www.csr.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,
1800 644 951,
Lake Cowcowing.
www.aglime.com.au

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

Wandhill Gypsum,
626 Beckworth Road,
Esperance WA 6450,
(08) 9072 0055,
Scaddan.

Whitfield Minerals Pty Ltd,
PO Box 1363,
Mandurah WA 6210,
(08) 9535 9299,
Lake Cowan.

HEAVY MINERAL SANDS
Garnet Sand

GMA Garnet Pty Ltd,
Lot 122 Goulds Road,
Narngulu,
Geraldton WA 6532,
(08) 9923 6000,
Port Gregory.
www.garnetsales.com

Ilmenite, Leucoxene, Rutile and Zircon
Cristal Mining Australia Limited,
Koombana Drive, North Shore,
Bunbury WA 6230,
(08) 9721 0200,
Gwindinup Mine, Kemerton Plant.
www.bemax.com.au

Doral Mineral Sands Pty Ltd,
Lot 7, 1 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, Narngulu, Eneabba.
www.iluka.com

Tronox Limited,
Technology Park,
1 Brodie–Hall Drive,
Bentley WA 6102,
(08) 9365 1333,
Cooljarloo.
www.tiwest.com.au

TABLE 11. PRINCIPAL MINERAL AND PETROLEUM PRODUCERS EFFECTIVE MARCH 2015

IRON ORE

Atlas Iron Ltd,

Raine Square,
Level 18, 300 Murray Street,
Perth WA 6000.
(08) 6228 8000,
Abydos, Wodgina,
Mt Webber.
www.atlasiron.com.au

BC Iron Limited,

Level 1, 15 Rheola Street,
West Perth WA 6005,
(08) 6311 3400,
Nullagine.
www.bcion.com.au

BHP Billiton Iron Ore (Goldsworthy) Ltd,

125 St Georges Terrace,
Perth WA 6000,
(08) 6224 4444,
Mining Area C.
www.bhpbilliton.com

BHP Billiton Iron Ore Pty Ltd,

125 St Georges Terrace,
Perth WA 6000,
(08) 6224 4444,
Jimblebar, Marillana Creek,
Mt Whaleback,
Newman, Yarri.
www.bhpbilliton.com

Channar Mining Pty Ltd,

152 St Georges Terrace,
Perth WA 6000,
(08) 9327 2000,
Channar.

Citic Pacific Mining Management Pty Ltd,

45 St Georges Terrace,
Perth WA 6000,
(08) 9226 8888,
Sino Iron.
www.citicpacificmining.com

Cliffs Natural Resources Pty Ltd,

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

Fortescue Metals Limited,

Level 2, 87 Adelaide Terrace,
East Perth WA 6004,
(08) 6218 8888,
Cloud Break, Christmas Creek,
Solomon, Nullagine.
www.fmgil.com.au

Gindalbie Metals Ltd,

Level 9, London House,
216 St Georges Terrace,
Perth WA 6000,
(08) 9480 8700,
Karara–Blue Hills.
www.gindalbie.com.au

Hamersley Iron Pty Ltd,

152 St Georges Terrace,
Perth WA 6000,
(08) 9327 2000,
Brockman, Namuldi, Mesa J, Channar,
Eastern Range, Hope Downs, Marandoo,
Mesa A–Waramboo, Paraburdoo,
Tom Price, West Angelas, Western
Turner Syncline, Yandicoogina.
www.hamersleyiron.com

Hope Downs Management Services Pty Ltd,

152 St Georges Terrace,
Perth WA 6000,
(08) 9327 2000,
Hope Downs.
www.riotintoironore.com

Mineral Resources Limited,

1 Sleat Road,
Applecross WA 6153,
(08) 9329 3600,
Poondano, Carina, Phils Creek.
www.mineralresources.com.au

Moly Mines Limited,

46-50 Kings Park Road,
West Perth WA 6005,
(08) 9429 3300,
Spinifex Ridge.
www.molymines.com

Mt Gibson Iron Limited,

Level 1, 2 Kings Park Road,
West Perth WA 6005,
(08) 9426 7500,
Mt Gibson.
www.mtgibsoniron.com.au

Pluton Resources Limited,

Level 1, 5 Ord Street,
West Perth WA 6005,
(08) 6145 1800,
Cockatoo Island.
www.plutonresources.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

Sinosteel Midwest Corporation Limited,

7 Rheola Street,
West Perth WA 6005,
(08) 9429 4888,
Koolanooka.
www.smcl.com.au

LIMESAND–LIMESTONE

Cockburn Cement Ltd,

Lot 242, Russell Road,
Munster WA 6163,
(08) 9411 1000,
Various sites.
www.cockburncement.com.au

Gypsum Industries of Australia,

Suite 1, 110 Robinson Avenue,
Belmont WA 6104,
1800 644 951,
Dongara–Denison,
Lancelin, Jurien.
www.aglime.com.au/

Limestone Resources Australia Pty Ltd,

25-29 Frobisher Street,
Osborne Park WA 6017,
(08) 9340 0011,
Wanneroo, Moore River, Carabooda.
www.limestone-resources.com.au

WA Limestone Co.,

16 Quarimor Road,
Bibra Lake WA 6163,
(08) 9434 5666,
Various sites throughout State.
www.walimestone.com/

TABLE 11. PRINCIPAL MINERAL AND PETROLEUM PRODUCERS EFFECTIVE MARCH 2015

MANGANESE

Pilbara Manganese Pty Ltd,
 Lot 2524 North West Coastal Highway,
 South Hedland WA 6722,
 (08) 6314 3801,
 Woodie Woodie.
www.consminerals.com.au

NICKEL

BHP Billiton (Nickel West),
 125 St George's Terrace,
 Perth WA 6845,
 (08) 6321 0000,
 Kambalda, Leinster, Mt Keith,
 Kalgoorlie, Kwinana.
www.bhpbilliton.com

First Quantum Minerals (Australia) Pty Ltd,

Level 1, 24 Outram Street,
 West Perth WA 6005,
 (08) 9346 0100,
 Ravensthorpe.
www.first-quantum.com

Independence Group NL,

Suite 4, Level 5, South Shore Centre,
 85 South Perth Esplanade,
 South Perth WA 6151,
 (08) 9238 8300,
 Long Nickel.
www.igo.com.au

Minara Resources Limited,

Level 10, 58 Mounts Bay Road,
 Perth WA 6000,
 (08) 9212 8400,
 Murrin Murrin.
www.minara.com.au

Mincor Resources NL,

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

Panoramic Resources Ltd,

Level 9, 553 Hay Street,
 Perth WA 6000,
 (08) 6266 8600,
 Savannah, Lanfranchi Tramways.
www.panoramicresources.com

Western Areas Limited,
 Level 2, Kings Park Road,
 West Perth WA 6005,
 (08) 9334 7777,
 Forrestania, Flying Fox,
 Lounge Lizard, Spotted Quoll.
www.westernareas.com.au

PALLADIUM

BHP Billiton (Nickel West),
 125 St George's Terrace,
 Perth WA 6845,
 (08) 6321 0000,
 Kambalda.
www.bhpbilliton.com

PETROLEUM

Apache Energy Ltd,
 Level 9, 100 St Georges Terrace,
 Perth WA 6000,
 (08) 6218 7100,
 Various sites covering 18
 production licenses.
www.apachecorp.com

AWE Ltd,

679 Murray Street,
 West Perth WA 6005,
 (08) 9480 1300,
 Corbyas, Dongara.
www.awexp.com.au

Buru Energy Limited,

Level 2, 88 William Street,
 Perth WA 6000,
 Freecall: 1800 337 330,
 Ungani.
www.buruenergy.com.au

BHP Billiton Petroleum Pty Ltd,

Brookfield Place,
 125 St Georges Terrace,
 Perth WA 6000,
 (08) 6321 0000,
 Pyrenees, Stybarrow, Macedon.
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.
www.chevron.com

Empire Oil & Gas NL,
 229 Stirling Highway,
 Claremont WA 6010,
 (08) 9284 6422,
 Red Gully.
www.empireoil.com.au

ENI Australia Limited,

ENI House,
 266 Adelaide Terrace,
 Perth WA 6000,
 (08) 9320 1111,
 Blacktip.

Origin Energy Resources Ltd,

34 Colin Street,
 West Perth WA 6005,
 (08) 9324 6111,
 Beharra Springs.
www.originenergy.com.au

Roc Oil (WA) Pty Limited,

Suite 2, Ground Floor,
 100 Havelock Street,
 West Perth WA 6005,
 (08) 9219 7111,
 Cliff Head.
www.rocoil.com.au

Santos Limited,

Level 1, 40 The Esplanade,
 Perth WA 6000,
 (08) 9333 9500,
 Mutineer-Exeter.
www.santos.com.au

Vermilion Oil and Gas Australia Pty Ltd,

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

Woodside Energy Ltd,

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

TABLE 11. PRINCIPAL MINERAL AND PETROLEUM PRODUCERS EFFECTIVE MARCH 2015**PLATINUM**

BHP Billiton (Nickel West),
125 St George's Terrace,
Perth WA 6845,
(08) 6321 0000,
Kambalda.
www.bhpbilliton.com

RARE EARTHS

Lynas Corporation,
Level 1, 7 Tully Road,
East Perth WA 6004,
(08) 6241 3800,
Mount Weld.
www.lynascorp.com

SALT

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

Onslow Salt Pty Ltd,
Level 16, 2 The Esplanade,
Perth WA 6000,
(08) 9265 8000,
Onslow Salt.

Shark Bay Salt Pty Ltd,
Level 16, 2 The Esplanade,
Perth WA 6000,
(08) 9265 8000,
Useless Loop.
www.salt.com.au

WA Salt Supply Ltd,
Lot 102–103 Cockburn Road,
North Coogee WA 6163,
(08) 9431 9431,
Lake Deborah East.
www.wasalt.com.au

SILICA – SILICA SAND**Silica**

Simcoa Operations Pty Ltd,
973 Marriott Road,
Wellesley WA 6233,
(08) 9780 6666,
Dalaroo, Kemerton.
www.simcoa.com.au

Silica Sand

Austsand Mining,
570 Mindijup Road,
Manypeaks WA 6328,
(08) 9846 1222,
Mindijup.

Kemerton Silica Sand Pty Ltd,
Suite 5, 363-367 Albany Highway,
Victoria Park WA 6100,
(08) 9355 0266,
Kemerton.
www.ksspl.com.au

Rocla Quarry Products,
3 Casella Place,
Kewdale WA 6105,
(08) 9353 9800,
Gnangara.
www.rocla.com.au

SPONGOLITE

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

TALC

Luzenac Australia Pty Ltd,
PO Box 116,
Perenjori Road,
Three Springs WA 6519,
(08) 9954 5047,
Three Springs.
www.luzenac.com.au

IMI FABI (Australia) Pty Ltd,
9 Cleaver Street,
West Perth WA 6005,
(08) 9228 0255,
Mt Seabrook.

TIN–TANTALUM–LITHIUM**Spodumene**

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

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, BREE, NOPTA and EnergyQuest.

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
Iron Ore
Manganese
Nickel Industry (Nickel, Cobalt, Platinum and Palladium)
Petroleum
Rare Earths
Salt
Silver
Spongolite
Tin–Tantalum–Lithium
Vanadium

ABBREVIATIONS

A\$	Australian dollar	Mboe	millions of barrels of oil equivalent
ABS	Australian Bureau of Statistics	Mtoe	million tonnes of oil equivalent
bbl	barrels of oil	Mt/a	million tonnes per annum
Bcm	billion cubic metres	Mct	million carats
BREE	Bureau of Resources and Energy Economics	Moz	million ounces
Btu	British Thermal Units	Mt	million tonnes
ct	carat	oz	ounce
GDP	Gross Domestic Product	oz/a	ounce per annum
GJ	Gigajoule	OPEC	Organization of Petroleum Exporting Countries
Gm ³	billion cubic metres	RBA	Reserve Bank of Australia
ha	hectares	t/a	tonnes per annum
km	kilometres	Tcf	trillion cubic feet
km ²	square kilometres	TJ/d	terajoules per day
kt	thousand tonnes	US\$	United States dollar
LME	London Metal Exchange		

WEIGHTS AND MEASURES

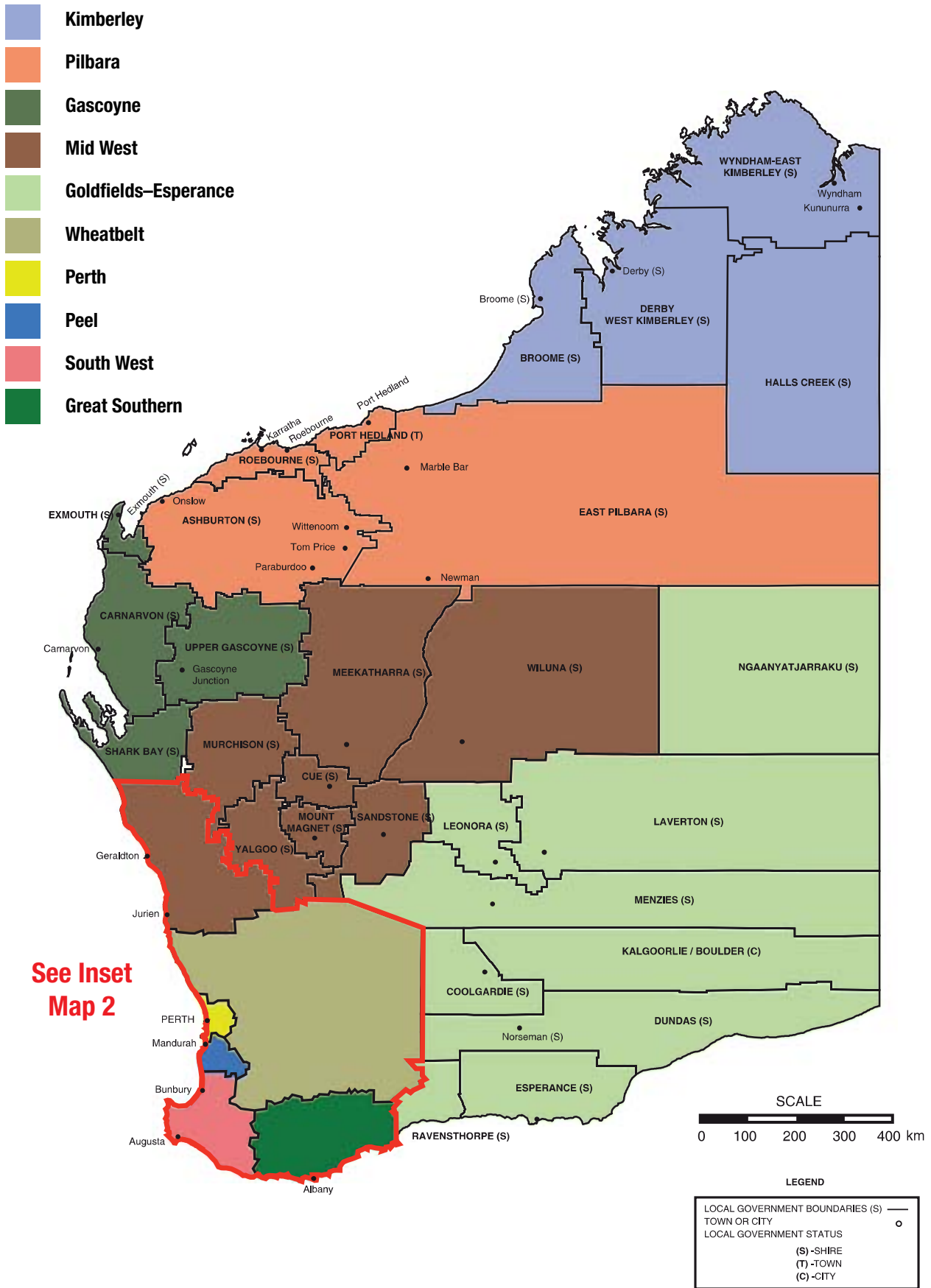
kilo	10 ³	1,000
mega	10 ⁶	1,000,000
giga	10 ⁹	1,000,000,000
tera	10 ¹²	1,000,000,000,000
peta	10 ¹⁵	1,000,000,000,000,000
exa	10 ¹⁸	1,000,000,000,000,000,000
zetta	10 ²¹	1,000,000,000,000,000,000,000
yotta	10 ²⁴	1,000,000,000,000,000,000,000,000

UNITS AND CONVERSION FACTORS

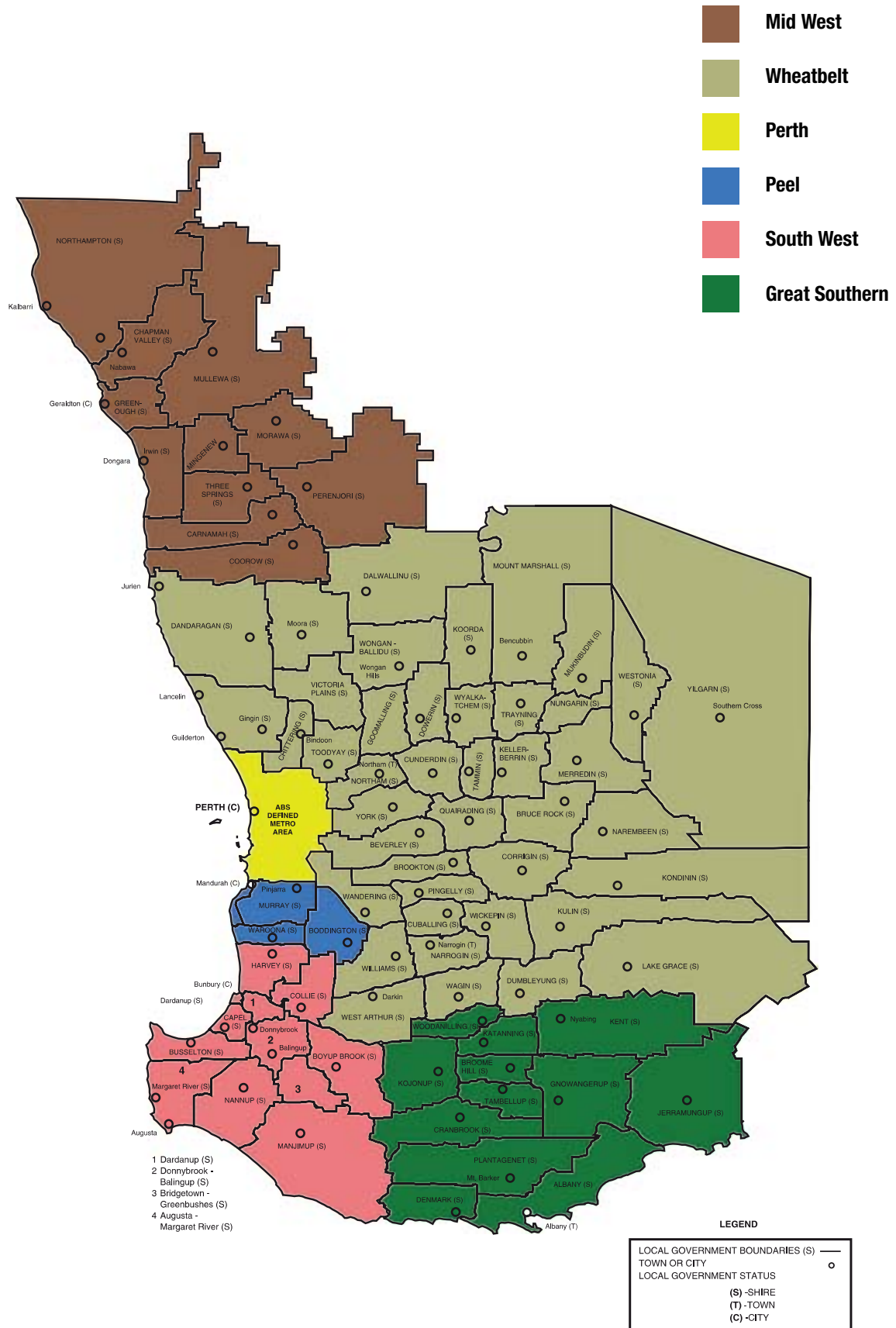
	Metric Unit	Symbol	Imperial Unit
Mass	1 gram	g	= 0.032151 troy (fine) ounce (oz)
	1 kilogram	kg	= 2.204624 pounds (lb)
	1 tonne	t	= 1.10231 United States short ton [1 US short ton = 2,000 lb]
	1 tonne	t	= 0.98421 United Kingdom long ton [1 UK long ton = 2,240 lb]
	1 tonne LNG	t	= 52,000,000 British Thermal 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)	

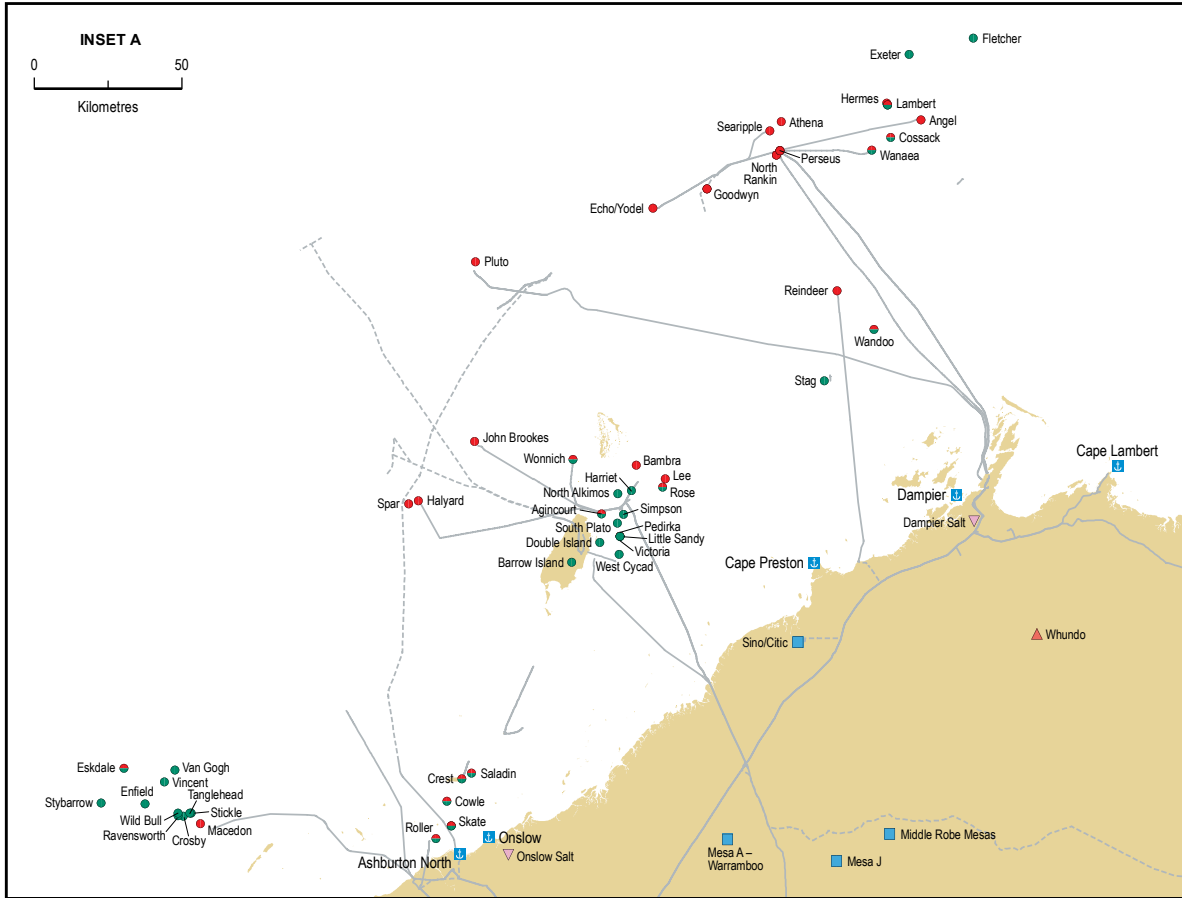
MAP 1. LOCAL GOVERNMENT BOUNDARIES



MAP 2. LOCAL GOVERNMENT BOUNDARIES – INSET 2



MAP 4. MAJOR MINERAL AND PETROLEUM PROJECTS IN WESTERN AUSTRALIA – INSET A & B



MINERAL SYMBOLS

- ◆ Precious metal
- Speciality metal
- Iron
- Alumina
- Energy
- ▽ Industrial mineral

PETROLEUM SYMBOLS

- Gas field
- Oil field
- Oil and gas field
- Oil / gas pipeline, operating
- - - Oil / gas pipeline, proposed

INFRASTRUCTURE

- Port



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

Published May 2015
DMPAPR15_3596