Australian Bureau of Statistics

2003–04

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MINING OPERATIONS

AUSTRALIA

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CONTENTS

INQUIRIES

For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or John Ridley on Sydney (02) 9268 4541.

NOTES

ABOUT THIS PUBLICATION

This publication presents mining industry estimates for 2003–04 from the Economic Activity Survey, together with data on a comparable basis for 2001–02 and 2002–03.

Details of Australia's mining commodities produced shown in Chapter 4 are obtained from the various state and Northern Territory departments responsible for the collection of these statistics. See Explanatory Notes paragraphs 37–39 for more detail.

CHANGES TO THIS PUBLICATION

This publication includes the first release of employment estimates (and related ratios) using the new statistical infrastructure described in the previous issue of this publication. These were not included in the previous issue, due to methodological problems in deriving employment data from the taxation system data used. (See the Appendix for details.) A time series of employment estimates using the new statistical infrastructure is presented in table 1.1 at the national level and in table 3.1 for states and territories.

Estimates of most assets and liabilities items (and related ratios) are not available from the 2003–04 collection, and hence are not included in this issue.

REVISIONS

Data for 2001–02 and 2002–03 have been revised since the previous issue of this publication. All comparisons with earlier years are based on revised data. Revisions to key data items are presented in tables 1.1 and 3.1. Revised data for other items are available on-line in updated versions of the original datasets. Please see below.

INFORMATION AVAILABLE ON-LINE

The text components of this publication are available free on-line. A PDF publication and extended data spreadsheets are also available free on-line.

Other information is also available via the *Mining Statistics* theme page. To access the theme page, go to the ABS web site home page <http://abs.gov.au>. Access the *Themes* page by either opening the *Themes* hotlink from the top menu bar or opening the *Industry* hotlink shown under *Themes*, in the left-side navigator. Then open the *Mining* hotlink shown under *Industry*.

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Acting Australian Statistician

LIST OF TABLES

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COMMODITIES PRODUCED, STATES AND NORTHERN TERRITORY *continued*

CHAPTER 1 SUMMARY

INTRODUCTION

This publication continues the release of mining industry estimates based on new statistical infrastructure introduced for 2001–02.

KEY DATA

Table 1.1 presents a time series for selected items, from 2001–02 to 2003–04. All value data in this table are shown at current prices.

For more information about:

- employment estimates, see Appendix
- survey methodology, see Technical Note 1.

The Glossary provides definitions for terms used.

GROSS VALUE ADDED

Table 1.2 illustrates the growth of Australian industries over time using chain volume measures of their gross value added. Chain volume measures take into account the effects of price changes.

Of the seventeen industries shown in table 1.2, only MINING recorded negative growth (3.5%) in 2003–04. It ranked thirteenth in its average annual growth rate over the past 10 years and equal sixth over the past 25 years, with increases of 2.7% and 3.5% respectively. By comparison, the highest growth rates were recorded by COMMUNICATION SERVICES, with annualised rates of 6.1% and 6.7% for the 10 year and 25 year periods. AGRICULTURE, FORESTRY AND FISHING recorded the highest growth rate in 2003–04, of 31.3%.

FURTHER COMMENTARY

Please see:

- *Financial operations*: Chapter 2, page 8
- *State/territory summary*: Chapter 3, page 21
- *Commodities produced*: Chapter 4, page 25

1.1 KEY DATA, Mining industry

Industry / Reference year	Employment at end of June(a) no.	Wages and salaries(b) $m	Sales and service income(c) $m	Industry value added $m	Wages and salaries per person employed(d) $'000	Wages and salaries to sales and service income ratio
11 Coal mining						
2001–02	15 661	1 579.4	14 920.5	7 550.5	100.8	0.11
2002–03	17 593	1 835.9	16 130.7	7 759.1	104.4	0.11
2003–04	17 689	1 921.9	14 733.1	6 206.7	108.7	0.13
12 Oil and gas extraction						
2001–02	7 437	705.6	17 329.7	15 123.0	94.9	0.04
2002–03	7 596	757.7	17 021.3	15 293.3	99.7	0.04
2003–04	7 580	831.5	15 744.5	13 817.5	109.7	0.05
1311 Iron ore mining						
2001–02	4 740	410.0	5 461.1	4 035.8	86.5	0.08
2002–03	4 903	498.8	5 347.1	3 566.0	101.7	0.09
2003–04	5 393	518.7	5 622.5	3 393.7	96.2	0.09
1313 Copper ore mining						
2001–02	2 783	214.9	2 379.2	1 037.2	77.2	0.09
2002–03	2 941	215.1	2 311.0	808.8	73.1	0.09
2003–04	3 145	204.2	2 046.3	593.5	64.9	0.10
1314 Gold ore mining						
2001–02	9 470	566.1	4 893.4	1 715.8	59.8	0.12
2002–03	9 166	667.5	5 822.7	2 601.2	72.8	0.11
2003–04	9 377	664.1	5 042.9	1 940.5	70.8	0.13
1315 Mineral sand mining						
2001–02	1 855	107.3	880.7	399.7	57.8	0.12
2002–03	1 723	105.9	979.3	380.5	61.5	0.11
2003–04	1 731	106.2	927.8	349.3	61.3	0.11
1317 Silver-lead-zinc ore mining						
2001–02	1 694	249.5	1 700.3	346.4	147.3	0.15
2002–03	1 771	216.1	1 776.2	668.0	122.0	0.12
2003–04	2 075	189.8	1 986.1	949.6	91.4	0.10
1312, 1316 and 1319 Bauxite mining, nickel ore mining and metal ore mining n.e.c.						
2001–02	3 207	265.0	2 502.1	1 291.9	82.6	0.11
2002–03	3 415	238.1	2 679.4	1 431.3	69.7	0.09
2003–04	3 898	248.7	3 355.0	1 877.7	63.8	0.07
13 Total metal ore mining						
2001–02	23 749	1 812.8	17 816.8	8 826.9	76.3	0.10
2002–03	23 919	1 941.5	18 915.7	9 455.8	81.2	0.10
2003–04	25 621	1 931.7	18 980.7	9 104.3	75.4	0.10
11–13 Total coal mining, oil and gas extraction and metal ore mining						
2001–02	46 847	4 097.8	50 066.9	31 500.4	87.5	0.08
2002–03	49 109	4 535.1	52 067.7	32 508.2	92.3	0.09
2003–04	50 891	4 685.1	49 458.3	29 128.5	92.1	0.09
14 Other mining						
2001–02	10 859	466.7	3 284.7	1 527.8	43.0	0.14
2002–03	11 221	498.4	3 824.2	1 797.8	44.4	0.13
2003–04	11 308	546.8	4 025.9	1 908.3	48.4	0.14
15 Services to mining						
2001–02	25 169	1 529.9	6 252.2	2 336.3	60.8	0.24
2002–03	23 910	1 617.9	6 932.7	2 587.4	67.7	0.23
2003–04	24 969	1 723.1	6 656.1	2 823.9	69.0	0.26
11–15 Total mining						
2001–02	82 875	6 094.4	59 603.8	35 364.4	73.5	0.10
2002–03	84 240	6 651.4	62 824.5	36 893.4	79.0	0.11
2003–04	87 167	6 955.0	60 140.3	33 860.7	79.8	0.12

(a) Includes working proprietors.

(b) Excludes the drawings of working proprietors.

(c) Includes rent, leasing and hiring income.

(d) See Explanatory Note paragraph 21.

1.2 PRODUCTION VOLUMES(a), Gross value added

Industry	CHAIN VOLUME MEASURES 2002-03 $m	CHAIN VOLUME MEASURES 2003-04 $m	Change from 2002–03 to 2003–04 %	AVERAGE ANNUAL CHANGE OVER THE LAST 10 years %	AVERAGE ANNUAL CHANGE OVER THE LAST 25 years %
Agriculture, forestry and fishing	20 564	27 010	31.3	3.2	2.1
Mining	***35 608***	***34 366***	***–3.5***	***2.7***	***3.5***
Manufacturing	96 277	97 103	0.9	2.0	1.7
Electricity, gas and water	18 663	18 816	0.8	1.3	2.6
Construction	47 950	51 117	6.6	5.2	3.5
Wholesale trade	38 786	40 675	4.9	4.5	3.1
Retail trade	47 790	50 278	5.2	4.2	3.3
Accommodation, cafes and restaurants	16 625	17 560	5.6	4.2	3.5
Transport and storage	35 270	36 851	4.5	4.3	3.7
Communication services	22 092	22 756	3.0	6.1	6.7
Finance and insurance	54 984	57 496	4.6	4.1	4.2
Property and business services	94 679	97 997	3.5	5.2	5.0
Government administration and defence	31 879	32 392	1.6	2.5	2.5
Education	36 062	36 530	1.3	1.9	2.6
Health and community services	47 870	49 509	3.4	4.0	3.8
Cultural and recreational services	10 306	10 901	5.8	3.5	3.3
Personal and other services	14 626	14 834	1.4	3.7	3.1
Total all industries	**670 031**	**696 191**	**3.9**	**3.7**	**3.3**

(a) Reference year for chain volume measures is 2003–04.

Note: The volume estimates contained in this table are derived from quarterly Business Surveys.

Source: Australian National Accounts: National Income, Expenditure and Product, December Quarter 2005 (cat. no. 5206.0), table 45.

CHAPTER 2 FINANCIAL OPERATIONS

INTRODUCTION

Statistics in this Chapter relate to all subdivisions of the mining industry as classified by the Australian and New Zealand Standard Industrial Classification (ANZSIC) 1993 edition. These data are presented at the ABN unit / TAU level (see the Glossary for definitions) and, therefore, can contain data about activities normally associated with industries other than mining. Explanatory Notes paragraphs 5–20 provide further details. The commentary refers mainly to the tables in this chapter, as well as to the employment data presented in table 1.1.

SUMMARY

Major indicators for the Australian mining industry showed decreases, in current price terms, from 2002–03 to 2003–04. These decreases related to sales and service income (down 4.3%), industry value added (down 8.2%) and trading profit (down 8.4%).

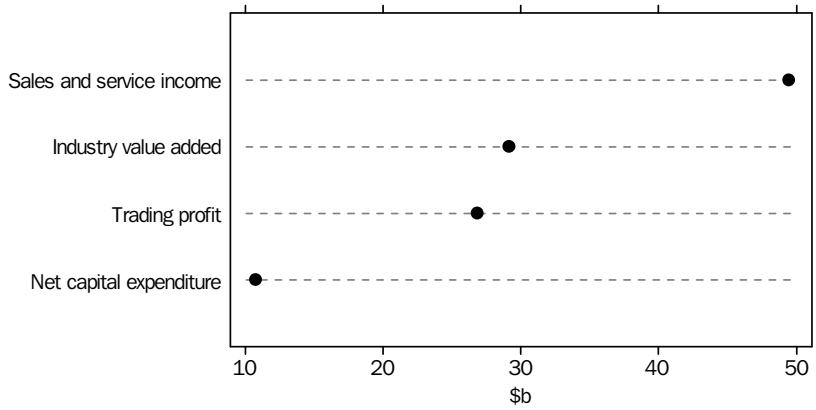
The Minerals Council of Australia's *Minerals Industry Survey Report, 2004* reported that average US dollar world mineral prices rose by 18% during 2003–04. This increase was partly related to an increase in commodity demand due to economic activity in Asia, particularly China. However, as the Australian dollar appreciated by around 22% between 2002–03 and 2003–04, the price increases, expressed in US dollar terms, translated into a 5% fall in the Reserve Bank of Australia's Australian dollar non-rural commodity price index for the same period.

As reported in ABARE's *Australian Mineral Statistics*, export earnings for black coal fell by 9% in 2003–04. The decrease was largely due to a 13% fall in export earnings for coking coal, reflecting a 16% decrease in the average export price in Australian dollar terms offset by a 4% increase in export volume. Crude oil export earnings fell by 21% during 2003–04. Economic recovery in the US, increased consumption by developing countries and concerns regarding security of supply resulted in world oil prices increasing by about 12%. However, the increased prices were more than offset by the stronger Australian dollar and decreased oil production from several Australian oil fields. Earnings from zinc exports decreased by 14%. Although the price of zinc in US dollar terms increased by 24%, export volumes fell by 12%, due in part to a mine in Western Australia suspending operations (Western Australian Department of Industry and Resources). Diamond export earnings decreased by 33%, resulting from reduced production and the Australian dollar appreciation.

Nickel export earnings grew by 33% in 2003–04. US dollar prices for nickel increased by 60% during the financial year, the result of a buoyant global market driven by Chinese demand and expanding stainless steel production. Export earnings from lead increased 10.8%. Lead prices in US dollar terms increased by 57%, more than offsetting the stronger Australian dollar and a 6% fall in export volume.

SUMMARY *continued*

SELECTED INDICATORS, Coal mining, Oil and gas extraction and Metal ore mining(a)



(a) ANZSIC subdivisions 11–13.

EMPLOYMENT

Employment in the Australian mining industry at the end of June 2004 was estimated at 87,167 persons, an increase of 3.5% compared to the estimate for June 2003. The major sources of this increase were METAL ORE MINING (up by 1,702 persons) and SERVICES TO MINING (by 1,059 persons). Apart from a decline of 0.2% in OIL AND GAS EXTRACTION, employment increased in all constituent industries for which data are shown. Employment in the 'core' mining industries of COAL MINING, OIL AND GAS EXTRACTION and METAL ORE MINING increased by 3.6% overall, closely resembling the rate of increase in total mining.

At the industry subdivision level, 20.3% of mining employment at the end of June 2004 was in COAL MINING, 8.7% in OIL AND GAS EXTRACTION, 29.4% in METAL ORE MINING, 13.0% in OTHER MINING, and 28.6% in SERVICES TO MINING. These proportions are quite stable over the three years presented in table 1.1.

WAGES AND SALARIES

The Australian mining industry paid $7.0b in wages and salaries in 2003–04, an increase of 4.6% (or $304m) on the previous year. Wages and salaries paid declined by 0.5% in METAL ORE MINING, but increased in the other four subdivisions. The 'core' mining industries of COAL MINING, OIL AND GAS EXTRACTION and METAL ORE MINING recorded a 3.3% increase in wages and salaries overall.

At the industry subdivision level, 27.6% of the value of wages and salaries for total mining in 2003–04 were paid in COAL MINING, 12.0% in OIL AND GAS EXTRACTION, 27.8% in METAL ORE MINING, 7.9% in OTHER MINING, and 24.8% in SERVICES TO MINING. As with their shares of employment, these proportions are quite stable over the three years presented in table 1.1.

The practice in several industry classes in METAL ORE MINING is to substitute employed with contract labour. In METAL ORE MINING, contract mining expenses exceeded selected labour costs by 19% (or $406m) whereas at the total mining level, selected labour costs were greater than contract mining expenses by 73% (or $3.3b).

SALES AND SERVICE INCOME

Sales and service income for total mining was $60.1b in 2003–04, a decrease of $2.7b (4.3%) over the previous year. Sales and service income for the 'core' mining industries of COAL MINING, OIL AND GAS EXTRACTION, and METAL ORE MINING decreased by $2.6b (5.0%) to $49.5b in 2003–04.

SALES AND SERVICE INCOME *continued*

Coal mining sales and service income decreased by $1.4b (8.7%) to $14.7b. Coal prices fell at a much greater rate in the year ended December 2003 (24.5% for steaming coal and 30.1% for coking coal) than in the year ended June 2004 (7.9% and 15.7% respectively). A significant number of coal producers report on a year ending December (see Explanatory Notes paragraph 21 for more details).

The value of sales and service income for the Oil and gas extraction industry decreased by $1.3b (7.5%) to $15.7b, attributed primarily to declining production from mature fields. Although oil prices rose in 2003–04 (West Texas Intermediate increased by 13%), the effect on sales and service income was tempered by the appreciation of the Australian dollar.

Sales and service income for Metal ore mining remained relatively unchanged at $19.0b. This result is the product of a diversity of movements for individual industries, ranging from an increase of $676m (25%) in the industry comprising Bauxite mining, nickel ore mining and metal ore mining n.e.c. to a decrease of $780m (13%) for Gold ore mining.

INDUSTRY VALUE ADDED

In 2003–04, national production of the mining industry as measured by IVA decreased by $3.0b (8.2%) to $33.9b. Decreases of $1.6b (20%) in IVA of Coal mining and $1.5b (9.7%) in Oil and gas extraction were moderated by a smaller decrease in Metal ore mining and increases in Other mining and Services to mining.

Contributing $13.8b (41%) to total mining IVA, the Oil and gas extraction industry was the most significant source of IVA in 2003–04.

In terms of IVA components, the main source of the decrease in IVA for total mining was the $2.7b (4.3%) decline in sales and service income. Purchases of goods and materials were relatively unchanged, increasing by $23m (or 0.3%). The value of capital work done by mining businesses for their own use increased by $465m (63%). Other intermediate input expenses increased by $781m (4.2%) reflecting, principally, increases of $441m in freight and cartage expenses and $266m in other contract, subcontract and commission expenses.

Note that the presentation of the components of industry value added in this issue differs from that of previous issues of this publication (see paragraph 32 of the Explanatory Notes and the relevant definitions in the Glossary).

TRADING PROFIT

Total trading profit for the mining industry in 2003–04 was $31.1b, a decrease of $2.9b (8.4%) over the previous year. The main contributors to this decline were Coal mining, where trading profit fell by $1.7b (or 24%), and Oil and gas extraction, which recorded a decline of $1.6b (or 11%). Trading profit for Metal ore mining decreased by a much smaller value ($140m) and percentage (1.7%). Within Metal ore mining, increases in Silver-lead-zinc ore mining (of $315m) and Bauxite mining, nickel ore mining ($435m) were outweighed by decreases in all other constituent industries, the largest of which was $558m in Gold ore mining.

NET CAPITAL EXPENDITURE

The capital expenditure data presented in this issue include intangible assets for the first time (see paragraph 31 of the Explanatory Notes and the relevant definitions in the Glossary).

NET CAPITAL EXPENDITURE *continued*

Net capital expenditure by the mining industry in 2003–04 was $12.1b, down by $116m (1.0%) on the previous year. Net capital expenditure by the COAL MINING, OIL AND GAS EXTRACTION and METAL ORE MINING industries increased by $689m (6.8%) to $10.8b.

Expansion and development of operations in METAL ORE MINING contributed to an increase in net capital expenditure in that industry of $836m (20%) to $5.0b. GOLD ORE MINING, IRON ORE MINING and, to a lesser extent, COPPER ORE MINING were the major contributors. Net capital expenditure in the OIL AND GAS EXTRACTION industry increased by $107m (2.6%) to $4.2b.

Acquisition of dwellings, other buildings and structures by the total mining industry declined by 9.6%, or $433m, between 2002–03 and 2003–04. An increase of 22.0%, or $1.0b, occurred in outlays on plant, machinery and equipment.

INDUSTRY PERFORMANCE MEASURES

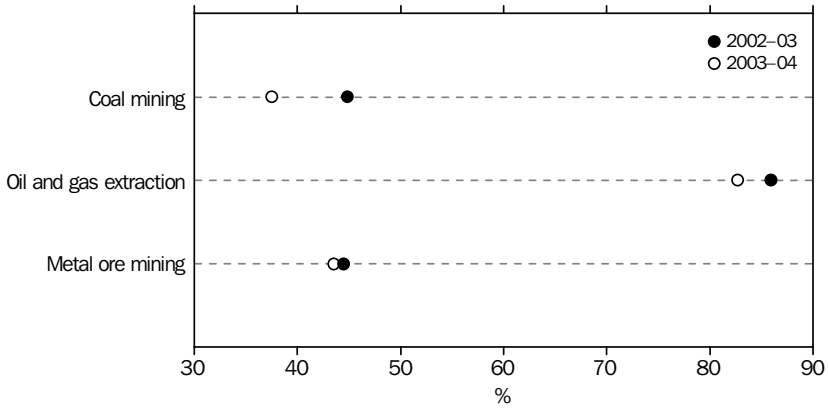
A range of performance measures, mainly expressed as ratios, can be produced from the data available from businesses' financial statements. A selection of these are presented in this Chapter for the various mining industries. Information about the uses and limitations of these measures can be found in Explanatory Notes paragraphs 24–30.

Performance ratios

The following summarises the mining industry's performance ratios for 2003–04, which appear in detail in tables 2.11–2.13:

- Of all mining industries shown, COAL MINING (at $124,143) recorded the highest selected labour costs per person employed, slightly greater than OIL AND GAS EXTRACTION ($123,269). Both these values were more than double the lowest value ($54,240), which related to OTHER MINING.
- The highest value of IVA to selected labour costs occurs in the OIL AND GAS EXTRACTION industry, where IVA exceeds selected labour costs by 14.8 times. This is more than double the next highest value, which is for the industry consisting of BAUXITE MINING, NICKEL ORE MINING and METAL ORE MINING N.E.C. The SERVICES TO MINING industry shows the lowest value for this ratio.
- The highest trading profit margin (83%) was earned by OIL AND GAS EXTRACTION. COPPER ORE MINING was the lowest (27%).
- The interest coverage ratios of most of the industries presented declined between 2002–03 and 2003–04.

TRADING PROFIT MARGIN, selected industries(a)



(a) ANZSIC subdivisions 11–13.

2.1 SUMMARY, Financial performance and capital expenditure

INDUSTRY		*Trading profit*	*Earnings before interest and tax*	*Operating profit before tax*	*Acquisitions*	*Net capital expenditure*
ANZSIC code	*Description*	$m	$m	$m	$m	$m
11	Coal mining	5 531.9	2 579.4	1 688.1	2 382.1	1 592.3
12	Oil and gas extraction	13 016.5	9 619.7	8 771.0	4 317.4	4 208.3
13	Metal ore mining					
1311	Iron ore mining	3 169.5	2 539.2	2 230.8	1 642.7	1 594.4
1313	Copper ore mining	545.8	–86.2	–253.7	542.0	535.2
1314	Gold ore mining	1 508.3	*583.7	*379.0	2 045.6	2 024.5
1315	Mineral sand mining	329.8	145.1	118.1	175.9	171.3
1317	Silver-lead-zinc ore mining	908.3	–67.1	–87.7	190.2	182.9
1312, 1316 and 1319	Bauxite mining, nickel ore mining and metal ore mining n.e.c.	1 808.8	1 882.0	1 843.3	479.7	477.2
	Total metal ore mining	*8 270.6*	*4 996.7*	*4 229.8*	*5 076.0*	*4 985.5*
11–13	*Total coal mining, oil and gas extraction and metal ore mining*	*26 819.0*	*17 195.8*	*14 689.0*	*11 775.6*	*10 786.0*
14	Other mining	1 749.9	774.0	^625.6	455.0	386.2
15	Services to mining	2 542.2	^528.4	^461.7	1 146.2	901.9
11–15	**Total mining**	**31 111.2**	**18 498.2**	**15 776.3**	**13 376.8**	**12 074.1**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

2.2 FINANCIAL PERFORMANCE, Coal mining, and oil and gas extraction

	Coal mining	*Oil and gas extraction*
	$m	$m
Sales and service income(a)	14 733.1	15 744.5
Less		
Purchases of goods and materials	2 521.1	294.2
Rent, leasing and hiring expenses	^ 216.9	241.6
Freight and cartage expenses	2 089.9	174.4
Motor vehicle running expenses	8.1	3.3
Repair and maintenance expenses	859.9	241.9
Contract mining expenses	^ 1 281.6	256.0
Other contract, subcontract and commission expenses	665.8	141.4
Other selected expenses	1 760.0	1 328.4
Purchases and selected expenses	*9 403.4*	*2 681.3*
Plus		
Opening inventories	1 107.1	498.1
Less		
Closing inventories	1 079.7	449.0
Less		
Capitalised purchases	229.7	^ 2.5
Cost of sales	*9 201.2*	*2 727.9*
Trading profit	**5 531.9**	**13 016.5**
Plus		
Funding from government		
Energy grants credit	234.0	12.7
For other operational costs	0.7	0.7
Interest income	124.2	227.4
Other income	944.0	1 861.2
Less		
Wages and salaries(b)	1 921.9	831.5
Employer contributions into superannuation	168.5	99.8
Workers' compensation premiums/costs	105.6	3.1
Selected labour costs	*2 196.0*	*934.4*
Less		
Depreciation and amortisation	1 326.9	2 316.5
Insurance premiums	138.7	97.0
Natural resource royalty expenses	797.5	2 230.8
Bad and doubtful debts	2.7	0.4
Plus		
Capitalised wages and salaries	206.4	80.3
Earnings before interest and tax	**2 579.4**	**9 619.7**
Less		
Interest expenses	891.3	848.7
Operating profit before tax	**1 688.1**	**8 771.0**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

(a) Includes rent, leasing and hiring income.

(b) Excludes the drawings of working proprietors.

2.3 FINANCIAL PERFORMANCE, Metal ore mining

	Iron ore mining	*Copper ore mining*	*Gold ore mining*	*Mineral sand mining*	*Silver-lead-zinc ore mining*	*Other*(a)	*Total metal ore mining*
	$m	$m	$m	$m	$m	$m	$m
Sales and service income(b)	5 622.5	2 046.3	5 042.9	927.8	1 986.1	3 355.0	18 980.7
Less							
Purchases of goods and materials	648.3	632.7	1 078.1	208.7	387.4	800.7	3 756.0
Rent, leasing and hiring expenses	62.4	22.3	102.2	10.1	9.7	23.9	230.6
Freight and cartage expenses	186.5	101.8	^84.9	40.6	105.6	55.6	575.0
Motor vehicle running expenses	14.8	2.0	^16.9	2.0	1.2	4.5	41.3
Repair and maintenance expenses	175.4	37.2	164.5	43.5	44.6	99.0	564.1
Contract mining expenses	714.4	190.3	989.3	159.8	155.7	345.2	2 554.7
Other contract, subcontract and commission expenses	89.4	286.0	184.4	7.5	216.5	138.5	922.3
Other selected expenses	676.7	286.6	1 078.3	161.7	210.1	375.0	2 788.4
Purchases and selected expenses	*2 567.9*	*1 559.0*	*3 698.5*	*633.9*	*1 130.7*	*1 842.4*	*11 432.4*
Plus							
Opening inventories	425.5	286.4	454.6	177.5	99.5	430.1	1 873.7
Less							
Closing inventories	450.1	331.5	493.3	189.9	130.4	492.0	2 087.2
Less							
Capitalised purchases	90.3	13.5	125.1	23.6	22.0	234.3	508.8
Cost of sales	*2 453.0*	*1 500.5*	*3 534.7*	*598.0*	*1 077.8*	*1 546.3*	*10 710.1*
Trading profit	**3 169.5**	**545.8**	**1 508.3**	**329.8**	**908.3**	**1 808.8**	**8 270.6**
Plus							
Funding from government							
Energy grants credit	45.6	20.6	134.7	1.4	21.3	30.7	254.3
For other operational costs	—	—	0.6	0.4	—	0.3	1.3
Interest income	700.1	2.6	*30.5	4.8	2.2	11.5	751.8
Other income	–8.8	11.0	^803.3	81.4	73.9	865.3	1 826.3
Less							
Wages and salaries(c)	518.7	204.2	664.1	106.2	189.8	248.7	1 931.7
Employer contributions into superannuation	50.5	25.7	51.6	13.0	13.8	25.6	180.3
Workers' compensation premiums/costs	0.9	8.5	13.3	2.4	7.1	4.9	37.2
Selected labour costs	*570.1*	*238.5*	*729.0*	*121.7*	*210.7*	*279.2*	*2 149.2*
Less							
Depreciation and amortisation	458.8	357.2	1 038.3	118.8	810.0	383.7	3 166.8
Insurance premiums	27.9	38.6	32.3	6.4	12.5	22.2	139.8
Natural resource royalty expenses	339.2	34.7	136.3	28.6	40.6	150.0	729.3
Bad and doubtful debts	–0.1	0.5	*8.1	0.2	0.1	0.3	*9.0
Plus							
Capitalised wages and salaries	28.7	3.1	50.3	2.9	0.9	0.8	86.7
Earnings before interest and tax	**2 539.2**	**–86.2**	***583.7**	**145.1**	**–67.1**	**1 882.0**	**4 996.7**
Less							
Interest expenses	308.4	167.5	204.6	27.0	20.6	38.7	766.8
Operating profit before tax	**2 230.8**	**–253.7**	***379.0**	**118.1**	**–87.7**	**1 843.3**	**4 229.8**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

(a) Comprises BAUXITE MINING, NICKEL ORE MINING AND METAL ORE MINING N.E.C.

(b) Includes rent, leasing and hiring income.

(c) Excludes the drawings of working proprietors.

2.4 FINANCIAL PERFORMANCE, Other, services to, and total mining

	Total coal mining, oil and gas extraction and metal ore mining	*Other mining*	*Services to mining*	*Total mining*
	$m	$m	$m	$m
Sales and service income(a)	49 458.3	4 025.9	6 656.1	60 140.3
Less				
Purchases of goods and materials	6 571.2	900.1	1 405.3	8 876.7
Rent, leasing and hiring expenses	689.2	^ 101.7	284.7	1 075.6
Freight and cartage expenses	2 839.3	263.6	54.0	3 156.9
Motor vehicle running expenses	52.8	64.7	75.7	193.2
Repair and maintenance expenses	1 666.0	198.0	355.5	2 219.5
Contract mining expenses	4 092.4	^ 65.6	361.9	4 520.0
Other contract, subcontract and commission expenses	1 729.5	142.6	321.1	2 193.3
Other selected expenses	5 876.8	588.4	1 350.5	7 815.7
Purchases and selected expenses	*23 517.2*	*2 324.8*	*4 208.9*	*30 050.9*
Plus				
Opening inventories	3 479.0	420.1	184.2	4 083.2
Less				
Closing inventories	3 615.9	435.9	250.6	4 302.3
Less				
Capitalised purchases	741.0	33.0	28.7	802.7
Cost of sales	*22 639.2*	*2 276.0*	*4 113.9*	*29 029.1*
Trading profit	**26 819.0**	**1 749.9**	**2 542.2**	**31 111.2**
Plus				
Funding from government				
Energy grants credit	501.0	39.8	98.6	639.4
For other operational costs	2.7	0.5	1.0	4.1
Interest income	1 103.3	*78.4	^ 57.4	1 239.1
Other income	4 631.5	*65.5	^ 302.9	4 999.9
Less				
Wages and salaries(b)	4 685.1	546.8	1 723.1	6 955.0
Employer contributions into superannuation	448.6	49.9	141.7	640.2
Workers' compensation premiums/costs	145.9	16.7	59.7	222.2
Selected labour costs	*5 279.6*	*613.3*	*1 924.6*	*7 817.5*
Less				
Depreciation and amortisation	6 810.2	397.6	472.0	7 679.7
Insurance premiums	375.5	28.4	56.6	460.5
Natural resource royalty expenses	3 757.6	139.9	10.6	3 908.1
Bad and doubtful debts	*12.1	*4.9	12.6	^ 29.6
Plus				
Capitalised wages and salaries	373.3	24.1	^ 2.7	400.0
Earnings before interest and tax	**17 195.8**	**774.0**	**^ 528.4**	**18 498.2**
Less				
Interest expenses	2 506.8	148.4	66.7	2 721.9
Operating profit before tax	**14 689.0**	**^ 625.6**	**^ 461.7**	**15 776.3**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

(a) Includes rent, leasing and hiring income.

(b) Excludes the drawings of working proprietors.

2.5 INDUSTRY VALUE ADDED(a), Coal mining, and oil and gas extraction

	Coal mining	*Oil and gas extraction*
	$m	$m
Sales and service income(b)	14 733.1	15 744.5
Plus		
Funding from government		
Energy grants credits	234.0	12.7
For other operational costs	0.7	0.7
Capital work done for own use	436.0	82.8
Change in inventories	*–27.4	–49.2
Less		
Purchases of goods and materials	2 521.1	294.2
Other intermediate input expenses	6 648.7	1 679.8
Industry value added	**6 206.7**	**13 817.5**

* estimate has a relative standard error of 25% to 50% and should be used with caution

(a) For the definition of industry value added, see the Glossary term.

(b) Includes rent, leasing and hiring income.

2.6 INDUSTRY VALUE ADDED(a), Metal ore mining

	Iron ore mining	*Copper ore mining*	*Gold ore mining*	*Mineral sand mining*	*Silver-lead-zinc ore mining*	*Other*(b)	*Total metal ore mining*
	$m	$m	$m	$m	$m	$m	$m
Sales and service income(c)	5 622.5	2 046.3	5 042.9	927.8	1 986.1	3 355.0	18 980.7
Plus							
Funding from government							
Energy grants credits	45.6	20.6	134.7	1.4	21.3	30.7	254.3
For other operational costs	—	—	0.6	0.4	—	0.3	1.3
Capital work done for own use	119.0	16.6	175.4	26.5	22.9	235.1	595.4
Change in inventories	24.6	45.0	*38.7	12.3	30.9	61.9	213.5
Less							
Purchases of goods and materials	648.3	632.7	1 078.1	208.7	387.4	800.7	3 756.0
Other intermediate input expenses	1 769.8	902.3	2 373.7	410.3	724.2	1 004.6	7 184.9
Industry value added	**3 393.7**	**593.5**	**1 940.5**	**349.3**	**949.6**	**1 877.7**	**9 104.3**

* estimate has a relative standard error of 25% to 50% and should be used with caution

— nil or rounded to zero (including null cells)

(a) For the definition of industry value added, see the Glossary term.

(b) Comprises BAUXITE MINING, NICKEL ORE MINING and METAL ORE MINING N.E.C.

(c) Includes rent, leasing and hiring income.

2.7 INDUSTRY VALUE ADDED(a), Other, services to, and total mining

	Total coal mining, oil and gas extraction and metal ore mining	*Other mining*	*Services to mining*	*Total mining*
	$m	$m	$m	$m
Sales and service income(b)	49 458.3	4 025.9	6 656.1	60 140.3
Plus				
Funding from government				
Energy grants credits	501.0	39.8	98.6	639.4
For other operational costs	2.7	0.5	1.0	4.1
Capital work done for own use	1 114.3	57.1	31.3	1 202.7
Change in inventories	^ 137.0	** 15.8	66.3	^ 219.1
Less				
Purchases of goods and materials	6 571.2	900.1	1 405.3	8 876.7
Other intermediate input expenses	15 513.5	1 330.6	2 624.1	19 468.1
Industry value added	**29 128.5**	**1 908.3**	**2 823.9**	**33 860.7**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) For the definition of industry value added, see the Glossary term.

(b) Includes rent, leasing and hiring income.

2.8 ACQUISITION(a) AND DISPOSAL OF ASSETS, Coal mining, and oil and gas extraction

	Coal mining	*Oil and gas extraction*
	$m	$m
Capital expenditure		
on		
Plant, machinery and equipment	1 618.3	1 217.8
Dwellings, other buildings and structures	437.3	1 919.2
Other (including land and intangible assets)	326.6	1 180.4
Total	*2 382.1*	*4 317.4*
Disposal of assets	789.9	109.2
Net capital expenditure	**1 592.3**	**4 208.3**

(a) Items listed include value of capital work done for own use – reported in Table 2.5.

2.9 ACQUISITION(a) AND DISPOSAL OF ASSETS, Metal ore mining

	Iron ore mining	*Copper ore mining*	*Gold ore mining*	*Mineral sand mining*	*Silver-lead-zinc ore mining*	*Other*(b)	*Total metal ore mining*
	$m	$m	$m	$m	$m	$m	$m
Capital expenditure on							
Plant, machinery and equipment	1 105.1	428.8	311.0	87.8	116.9	156.5	2 206.1
Dwellings, other buildings and structures	341.8	93.6	984.1	30.0	52.0	150.5	1 652.0
Other (including land and intangible assets)	195.8	19.7	750.5	58.1	21.3	172.6	1 217.9
Total	*1 642.7*	*542.0*	*2 045.6*	*175.9*	*190.2*	*479.7*	*5 076.0*
Disposal of assets	48.3	6.9	21.1	4.5	7.2	2.5	90.5
Net capital expenditure	**1 594.4**	**535.2**	**2 024.5**	**171.3**	**182.9**	**477.2**	**4 985.5**

(a) Items listed include value of capital work done for own use – reported in Table 2.6.

(b) Comprises BAUXITE MINING, NICKEL ORE MINING and METAL ORE MINING N.E.C.

2.10 ACQUISITION(a) AND DISPOSAL OF ASSETS, Other, services to, and total mining

	Total coal mining, oil and gas extraction and metal ore mining	*Other mining*	*Services to mining*	*Total mining*
	$m	$m	$m	$m
Capital expenditure on				
Plant, machinery and equipment	5 042.2	^ 180.4	595.3	5 817.9
Dwellings, other buildings and structures	4 008.5	33.1	24.8	4 066.4
Other (including land and intangible assets)	2 724.9	241.4	526.0	3 492.4
Total	*11 775.6*	*455.0*	*1 146.2*	*13 376.8*
Disposal of assets	989.6	68.8	244.3	1 302.6
Net capital expenditure	**10 786.0**	**386.2**	**901.9**	**12 074.1**

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

(a) Items listed include value of capital work done for own use – reported in Table 2.7.

2.11 SELECTED PERFORMANCE MEASURES, Coal mining, and oil and gas extraction

		Coal mining	*Oil and gas extraction*
Labour			
Industry value added to selected labour costs	times	2.8	14.8
Selected labour costs per person employed(a)	$'000	124.1	123.3
Profitability			
Trading profit margin	%	37.5	82.7
Debt			
Interest coverage	times	2.9	11.3
Capital expenditure			
Acquisitions to disposals	times	3.0	39.5

(a) See Explanatory Notes paragraph 21.

2.12 SELECTED PERFORMANCE MEASURES, Metal ore mining

		Iron ore mining	*Copper ore mining*	*Gold ore mining*	*Mineral sand mining*	*Silver-lead-zinc ore mining*	*Other*(a)	*Total metal ore mining*
Labour								
Industry value added to selected labour costs	times	6.0	2.5	2.7	2.9	4.5	6.7	4.2
Selected labour costs per person employed(b)	$'000	105.7	75.8	77.7	70.3	101.5	71.6	83.9
Profitability								
Trading profit margin	%	56.4	26.7	29.9	35.5	45.7	53.9	43.6
Debt								
Interest coverage	times	8.2	–0.5	*2.9	5.4	–3.3	48.6	6.5
Capital expenditure								
Acquisitions to disposals	times	34.0	78.6	97.0	38.8	26.3	191.3	56.1

* estimate has a relative standard error of 25% to 50% and should be used with caution

(a) Comprises BAUXITE MINING, NICKEL ORE MINING and METAL ORE MINING N.E.C.

(b) See Explanatory Notes paragraph 21.

2.13 SELECTED PERFORMANCE MEASURES, Other, services to and total mining ....

		Total coal mining, oil and gas extraction and metal ore mining	*Other mining*	*Services to mining*	*Total mining*
Labour					
Industry value added to selected labour costs	times	5.5	3.1	1.5	4.3
Selected labour costs per person employed(a)	$'000	103.7	54.2	77.1	89.7
Profitability					
Trading profit margin	%	54.2	^ 43.5	38.2	51.7
Debt					
Interest coverage	times	6.9	*5.2	^ 7.9	6.8
Capital expenditure					
Acquisitions to disposals	times	11.9	6.6	4.7	10.3

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

* estimate has a relative standard error of 25% to 50% and should be used with caution

(a) See Explanatory Notes paragraph 21.

CHAPTER 3 STATE/TERRITORY SUMMARY

INTRODUCTION

This chapter contains key data of industry performance at the state and territory level, together with data illustrating the contribution of the mining industry in each state and territory. Data for the Australian Capital Territory are included with those for New South Wales and not are available separately. For convenience, the combined estimates are designated as New South Wales data in the commentary below.

KEY DATA

Table 3.1 presents a time series for selected items for all states and the Northern Territory, from 2001–02 to 2003–04. The data relate to the industry designated as 'SELECTED MINING', that is, ANZSIC subdivisions 11–14 (COAL MINING, OIL AND GAS EXTRACTION, METAL ORE MINING and OTHER MINING) only. ANZSIC subdivision 15 (SERVICES TO MINING) is excluded from the data in this table, because the design of the survey does not support production of data at the state and territory level. State and/or territory estimates for businesses which operate across more than one state or territory are based on additional data supplied by those businesses (see Explanatory Notes paragraph 33 for more details).

SALES AND SERVICE INCOME

Between 2002–03 and 2003–04, sales and service income of the SELECTED MINING industry decreased in all states and territories apart from South Australia and Tasmania. Queensland recorded the largest absolute decrease, falling $1.4b (10%) to $12.0b. In percentage terms the greatest decrease was experienced by the Northern Territory, falling 19% ($481m) to $2.1b. Tasmania's sales and service income rose by 9%, and South Australia's by 7%.

Over the period from 2001–02 to 2003–04, only New South Wales, South Australia and Western Australia recorded increases in the sales and service income of SELECTED MINING. The largest absolute increase occurred in Western Australia ($2.3b), and the largest percentage increase was in South Australia (22%). In dollar terms Victoria registered the largest decrease ($1.5b), and the largest percentage decrease was in the Northern Territory (32%).

In 2003–04, Western Australia accounted for 45% of sales and service income of the SELECTED MINING industry, followed by Queensland at 23%; New South Wales contributed 16% of the total.

INDUSTRY VALUE ADDED

Movements in sales and service income between 2002–03 and 2003–04 have been accompanied by changes in IVA in the same direction. In absolute terms Western Australia recorded the largest decrease, a $952m (6%) fall to $16.0b. IVA in New South Wales declined by $980m, or 23%, and Queensland fell by $937m or 15%. The largest percentage decline (26%) in IVA occurred in the Northern Territory. The only states in which IVA for this industry increased were South Australia (up 13% to $1.3b) and Tasmania (up 88% to $203m).

INDUSTRY VALUE ADDED *continued*

Increases in IVA were recorded over the period from 2001–02 to 2003–04 in South Australia, Western Australia and Tasmania. These were outweighed by decreases elsewhere, notably in Victoria (down $1.5b, or 30%) and the Northern Territory ($0.9b, or 40%), to reduce the Australian estimate of IVA for SELECTED MINING by 6%.

In 2003–04, Western Australia's $16.0b of industry value added represented 52% of the Australian total for SELECTED MINING; Queensland contributed 17%. At 11%, Victoria's contribution to IVA exceeds its share of sales and service income (8%).

EMPLOYMENT

The SELECTED MINING industry increased employment between 2002–03 and 2003–04 in all states and territories except Victoria, gaining 3.1% nationally. In absolute terms, employment increased most strongly in Queensland (1,046 persons, or 7%), followed by New South Wales (449 persons, or 3%). At 22% (or 307 persons), the Northern Territory's percentage increase was the highest. Employment in SELECTED MINING declined by 955 persons (or 23%) in Victoria.

Over the period from 2001–02 to 2003–04, Western Australia's increase in employment was greatest in number (2,275 persons or 11%) and Queensland had the largest increase in percentage terms (13% or 1,767 persons). Compared to 2001–02 there were 408 (or 11%) fewer persons employed in SELECTED MINING in Victoria, and 245 (17%) in Tasmania at the end of June 2004.

In 2003–04, 37% of employment in the SELECTED MINING industry was recorded against Western Australia, followed by Queensland with 25%; New South Wales contributed 22% of the total. This pattern differs from the shares of sales and service income and IVA among the major states as outlined above, largely reflecting differing labour intensities of the types of mining predominant in each state and territory.

COMPARISON ACROSS INDUSTRY

Table 3.2 shows the contribution of industries to the production (as measured by total factor income) of each state and territory, as well as Australia, in 2003–04. For the purposes of this table, the activity of general government and the ownership of dwellings are each treated as industries.

In 2003–04, the largest share of production on this basis was contributed by PROPERTY AND BUSINESS SERVICES, which generated 13.0% of total factor income. Of the nineteen industries shown, MINING ranked ninth nationally, contributing 4.6%. Its share of total factor income varied markedly among the states and territories. MINING was by far the dominant industry in the Northern Territory – where, at 19%, its share of total factor income is more than twice that of the next largest industry – and in Western Australia. In Queensland it ranked sixth.

3.1 KEY DATA, Selected mining(a)

	Employment at end of June	*Wages and salaries*(b)	*Sales and service income*(c)	*Industry value added*	*Wages and salaries per person employed*(d)
	no.	$m	$m	$m	$'000
NEW SOUTH WALES AND AUSTRALIAN CAPITAL TERRITORY					
2001–02	12 875	1 126.4	7 926.3	3 415.1	87.5
2002–03	13 292	1 196.3	8 553.1	4 287.8	90.0
2003–04	13 742	1 134.5	8 382.5	3 308.2	82.6
VICTORIA					
2001–02	3 619	^ 252.3	5 940.2	^ 4 977.3	69.7
2002–03	4 166	284.8	4 638.5	3 655.8	68.4
2003–04	3 211	279.4	4 425.5	3 496.1	87.0
QUEENSLAND					
2001–02	13 998	1 109.8	12 446.0	5 902.2	79.3
2002–03	14 718	1 262.1	13 408.3	6 238.8	85.8
2003–04	15 764	1 424.5	12 039.9	5 301.3	90.4
SOUTH AUSTRALIA					
2001–02	3 251	190.7	1 718.1	1 096.9	58.7
2002–03	3 070	173.4	1 953.5	1 186.3	56.5
2003–04	3 496	215.8	2 097.6	1 338.5	61.7
WESTERN AUSTRALIA					
2001–02	20 824	1 623.1	21 719.0	15 240.0	77.9
2002–03	22 673	1 882.3	24 348.5	16 941.5	83.0
2003–04	23 099	1 945.1	23 991.7	15 989.7	84.2
TASMANIA					
2001–02	^ 1 418	^ 96.3	**568.0	^ 66.6	67.9
2002–03	1 005	90.4	445.9	108.4	90.0
2003–04	1 173	65.7	484.4	203.4	56.0
NORTHERN TERRITORY					
2001–02	1 722	166.0	3 033.9	2 330.1	96.4
2002–03	1 404	144.2	2 544.1	1 887.3	102.7
2003–04	1 712	166.9	2 062.6	1 399.6	97.5
AUSTRALIA					
2001–02	57 706	4 564.5	53 351.6	33 028.1	79.1
2002–03	60 329	5 033.6	55 891.8	34 306.0	83.4
2003–04	62 198	5 231.9	53 484.1	31 036.8	84.1

^ estimate has a relative standard error of 10% to less than 25% and should be used with caution

** estimate has a relative standard error greater than 50% and is considered too unreliable for general use

(a) Total mining excluding ANZSIC subdivision 15 SERVICES TO MINING.

(b) Excludes the drawings of working proprietors.

(c) Includes rent, leasing and hiring income.

(d) See Explanatory Notes paragraph 21.

3.2 INDUSTRY CONTRIBUTION TO TOTAL FACTOR INCOME

Industry	NSW %	Vic. %	Qld %	SA %	WA %	Tas. %	NT %	ACT %	Aust. %
Agriculture, forestry and fishing	1.9	3.4	4.4	7.0	5.5	7.2	2.9	0.1	3.5
Mining	***1.7***	***1.7***	***6.5***	***2.0***	***18.2***	***1.5***	***19.0***	—	***4.6***
Manufacturing	12.5	15.7	10.9	16.7	9.8	16.7	8.1	2.3	12.8
Electricity, gas and water	2.0	2.8	2.1	2.9	3.0	5.2	1.8	2.5	2.5
Construction	6.9	6.1	7.8	5.9	6.9	4.9	8.0	6.8	6.8
Wholesale trade	5.5	5.9	5.3	4.4	4.2	3.5	2.2	1.9	5.2
Retail trade	6.2	6.3	8.0	6.4	5.8	7.8	5.0	5.4	6.5
Accommodation, cafes and restaurants	2.6	1.7	3.1	2.2	1.6	2.7	2.7	2.4	2.3
Transport and storage	4.2	3.8	4.9	4.2	4.7	4.2	3.9	2.2	4.2
Communication services	2.9	3.6	2.8	2.7	2.6	2.7	2.8	2.8	3.0
Finance and insurance	10.0	8.4	5.0	6.1	4.2	5.6	2.6	3.2	7.5
Property and business services	15.4	13.9	10.4	10.2	11.1	6.0	8.7	13.8	13.0
Government administration and defence	3.3	2.3	4.3	3.1	2.2	5.3	7.8	26.9	3.7
Education	4.3	4.9	4.5	4.9	3.3	5.0	4.0	5.9	4.4
Health and community services	6.1	6.5	6.2	7.5	6.0	8.7	5.8	5.9	6.3
Cultural and recreational services	1.5	1.5	1.1	1.3	1.0	1.1	1.8	2.6	1.4
Personal and other services	1.8	1.7	2.0	2.3	1.7	2.0	2.1	2.7	1.9
Ownership of dwellings	9.4	8.1	8.2	8.4	6.6	7.3	7.9	8.4	8.4
General government(a)	1.9	1.7	2.5	1.9	1.6	2.7	3.1	4.3	2.0

— nil or rounded to zero (including null cells)

(a) State details for general government gross operating surplus by industry are not available.

Note: Australian National Accounts: State Accounts, 2003–04 (Reissue) (cat.no. 5220.0), Analysis of results (page 6).

CHAPTER 4 COMMODITIES PRODUCED

INTRODUCTION

This Chapter presents information about mineral production in Australia based on data produced by the various state and Northern Territory departments as part of their administrative responsibilities. Minerals are tabulated in four major categories: metallic minerals; coal, oil and gas; construction materials; and other non-metallic minerals.

Readers should exercise caution when using these data, as:

- definitional requirements vary, as does the range of commodities upon which royalties are payable: the states and Northern Territory do not necessarily apply common definitions and standards when compiling the statistics;
- significant variations exist between jurisdictions in the way in which value of production is attributed, particularly for metallic minerals. For example, New South Wales and South Australia estimate the value based on metallic content. Tasmania provides only a breakdown of the value of its mining production by major group, and so details about the value of each commodity are not available;
- the level of information available for construction materials and other non-metallic minerals varies considerably. For products such as crushed and broken stone, some states are unable to provide a breakup. Production and value of construction materials may be understated in several states, because royalties are not always collected and/or the activity occurs on private land.

Footnotes have been provided to clarify the data, and highlight those areas where treatment or data availability vary across the states and Northern Territory. Any offshore production is attributed to the state or territory which controls that particular offshore area or administers on behalf of the Australian Government. No data are recorded in this chapter for the Australian Capital Territory.

For further information, see Explanatory Notes paragraphs 37–39. Paragraph 39 also includes website and publication details of the sources.

SUMMARY

The recorded value of mineral production (including oil and gas) for Australia was $49.9b for 2003–04 (subject to the qualifications described above).

The mineral commodity with the largest value of production in 2003–04 was bituminous black coal. Production was valued at $11.6b, or 23.2% of the total value of all minerals shown. This was followed by crude oil ($6.7b, or 13.5%), and iron ore and concentrate ($5.3b, or 10.7%).

In 2003–04, the largest producer was Western Australia (with 45.1% of the Australian total value of production), followed by Queensland (25.2%), and New South Wales (13.4%).

4.1 VALUE OF MINERAL COMMODITIES PRODUCED(a), States, Northern Territory and Australia, 2003–04

	NSW	*Vic.*	*Qld*	*SA*	*WA*	*Tas.*	*NT*	*Aust.*
Major categories	$m	$m	$m	$m	$m	$m	$m	$m
Metallic minerals	1 472.3	78.0	4 787.0	820.4	12 160.6	462.8	1 107.7	20 888.9
Coal, oil and gas	4 790.0	3 398.5	7 067.8	692.4	9 547.5	(b). .	758.3	26 254.4
Construction materials	346.4	419.8	458.5	118.4	19.7	34.3	12.3	1 409.5
Other non-metallic minerals	88.4	38.4	273.7	83.5	779.0	48.3	3.4	1 314.8
Total mineral commodities	**6 697.1**	**3 934.7**	**12 587.1**	**1 714.8**	**22 506.8**	**545.5**	**1 881.6**	**49 867.6**

. . not applicable

(a) Reported by state and Northern Territory departments with responsibility for mineral production statistics (see Explanatory Notes 37–39). Values of some commodities are not available, and are not included in these data (see tables 4.3, 4.5, 4.7 and 4.9 for details).

(b) Included in Other non-metallic minerals.

New South Wales

Of New South Wales's total value of production in 2003–04, 71.5% was represented by black coal. The next largest commodities by value were copper concentrate ($535.6m, or 8.0% of the state total) and gold bullion (doré) ($493.0m, or 7.4%).

Victoria

Victoria's main mineral commodities produced in 2003–04 were crude oil (including natural gas condensate) ($1,939.5m, or 49.2% of the state total), natural gas ($928.2m, or 23.6%), and brown coal ($530.7m, or 13.5%).

Queensland

Black coal, copper concentrate and zinc concentrate were Queensland's major mineral products in 2003–04, contributing 51.3% (or $6,454.0m), 22.2% ($2,792.8m) and 6.4% (or $804.9m) respectively of the value of its mineral production. Queensland is Australia's major coal producer in terms of quantity and value.

South Australia

South Australia's major mineral commodities in 2003–04 were copper concentrate ($514.6m, or 30.0% of the total value of mineral commodity production), natural gas ($334.7m, or 19.5%), and uranium oxide ($194.9m or 11.4%), closely followed by crude oil ($192.5m, or 11.2%). South Australia produced 51.4% of Australia's total value of production of uranium oxide in 2003–04.

Western Australia

The most important minerals by value in 2003–04 were iron ore and concentrate ($5.3b, or 23.9% of the state total), crude oil ($3.8b, or 16.9%), gold bullion (doré) ($3.1b, or 14.0%), liquefied natural gas ($2.8b, or 12.5%), and nickel concentrate ($2.5b, or 11.2%.

Tasmania

Tasmanian mineral production was dominated by gold bullion (doré) (29.0% of the state total, or $158.3m), copper concentrate (18.8%, or $102.5m), and zinc concentrate (11.8%, or $64.5m) in 2003–04.

Northern Territory

Of the Northern Territory's value of mineral production in 2003–04, 38.0% ($715.1m) related to crude oil and 20.0% ($376.1m) to gold bullion (doré). The 10.6% ($199.9m) represented by manganese ore barely exceeded the contribution of zinc-lead concentrate (10.4%, or $196.6m). At $184.1m, uranium oxide provided 9.8% of the value of the Northern Territory's mineral production for the year.

4.2 METALLIC MINERALS PRODUCED, Quantity

Mineral		*NSW*(a)	*Vic.*	*Qld*(b)	*SA*	*WA*(c)	*Tas.*	*NT*
Bauxite								
Bauxite (including calcined and beneficiated)	'000 t	—	—	12 071	—	na	—	6 018
Copper								
Copper concentrate	'000 t	163	—	1 654	172	135	108	—
Copper precipitate	'000 t	—	—	—	—	—	—	—
Gold								
Gold bullion (doré)	kg	28 000	3 240	39 922	4 025	177 384	11 934	19 349
Iron ore								
Iron ore and concentrate	'000 t	—	—	—	(d)3 084	202 041	6	—
Iron oxide								
For coal washing (magnetite)	t	42 051	—	—	—	—	62 538	—
For other purposes (eg paint manufacture)	t	—	—	—	25	2 070	—	—
Iron ore pellets (gross weight)	'000 t	—	—	—	(d)na	—	2 203	—
Mineral sands								
Synthetic rutile/beneficiated ilmenite	'000 t	—	—	—	—	592	—	—
Ilmenite concentrate	'000 t	1	20	122	—	763	—	—
Leucoxene concentrate	'000 t	—	—	—	—	52	—	—
Rutile concentrate	'000 t	1	11	39	—	139	—	—
Zircon concentrate	'000 t	1	5	34	—	433	—	—
Nickel								
Nickel concentrate	'000 t	—	—	—	—	1 535	—	—
Silver-lead-zinc								
Lead concentrate	'000 t	105	—	756	—	42	43	—
Zinc concentrate	'000 t	225	—	1 386	—	390	155	—
Zinc ore	t	—	—	—	36 747	—	—	—
Silver concentrate	t	78	—	—	19	—	(e)73	2
Zinc-lead concentrate	'000 t	—	—	—	—	—	—	356
Tin-Tantalum-lithium								
Tin concentrate	t	978	—	10	—	—	7	—
Tantalite-columbite concentrate	t	—	—	—	—	873	—	—
Lithium ores (petalite, amblygonite, spodumene)	'000 t	—	—	—	—	115	—	—
Metallic minerals n.e.c.								
Antimony concentrate	t	—	—	—	—	—	—	—
Chromite ore (Cr_2O_3 content)	t	—	—	—	—	86 324	—	—
Manganese ore/manganese fines	'000 t	—	—	—	—	—	—	2 482
Metallurgical grade greater than 48% manganese	'000 t	—	—	—	—	585	—	—
Uranium oxide (U_3O_8)	t	—	—	—	4 866	—	—	4 668
Other metallic minerals	t	—	—	—	—	(f)239	—	—

— nil or rounded to zero (including null cells)
na not available
(a) Named metal content of doré or concentrate except for iron ore and concentrate, iron oxide for coal washing, ilmenite concentrate, rutile concentrate (contained titanium dioxide), and zircon concentrate (contained zircon).
(b) Named metal content of doré or concentrate.
(c) Quantity of sales during the year.
(d) Iron ore and concentrate includes iron ore pellets and fines.
(e) Assayed silver content from lead and zinc concentrates, also copper concentrate and gold bullion (doré).
(f) Quantity shown is Vanadium (V_2O_5).
Source: See Explanatory Notes paragraph 39.

4.3 METALLIC MINERALS PRODUCED, Value

Mineral	NSW(a) $m	Vic. $m	Qld $m	SA $m	WA(b) $m	Tas.(c) $m	NT(d) $m
Bauxite							
Bauxite (including calcined and beneficiated)	—	—	232.3	—	na	—	150.5
Copper							
Copper concentrate	(e)535.6	—	2 792.8	514.6	78.7	102.5	—
Copper precipitate	—	—	—	—	—	—	—
Gold							
Gold bullion (doré)	493.0	59.4	386.5	74.1	3 114.9	158.3	376.1
Iron ore							
Iron ore and concentrate	—	—	—	(f)27.8	5 331.5	—	—
Iron oxide							
For coal washing (magnetite)	5.8	—	—	—	—	7.6	—
For other purposes (eg paint manufacture)	—	—	—	—	0.7	—	—
Iron ore pellets	—	—	—	(f)na	—	99.4	—
Mineral sands							
Synthetic rutile/beneficiated ilmenite	—	—	—	—	307.0	—	—
Ilmenite concentrate	—	1.9	na	—	91.0	—	—
Leucoxene concentrate	—	—	—	—	20.3	—	—
Rutile concentrate	0.6	12.5	na	—	84.6	—	—
Zircon concentrate	0.4	4.2	—	—	252.0	—	—
Total mineral sands	*1.0*	*18.6*	*50.2*	—	*754.9*	—	—
Nickel							
Nickel concentrate	—	—	—	—	2 520.0	—	—
Silver-lead-zinc							
Lead concentrate	103.0	—	520.3	—	11.0	30.7	—
Zinc concentrate	305.0	—	804.9	—	80.8	64.5	—
Zinc ore	—	—	—	4.1	—	—	—
Silver concentrate	20.0	—	—	5.0	—	—	0.6
Zinc-lead concentrate	—	—	—	—	—	—	196.6
Tin-tantalum-lithium							
Tin concentrate	9.0	—	—	—	—	—	—
Tantalite-columbite concentrate	—	—	—	—	(g)157.1	—	—
Lithium ores (petalite, amblygonite, spodumene)	—	—	—	—	(g)na	—	—
Metallic minerals n.e.c.							
Antimony concentrate	—	—	—	—	—	—	—
Chromite ore (Cr_2O_3 content)	—	—	—	—	26.7	—	—
Manganese ore/manganese fines	—	—	—	—	—	—	199.9
Metallurgical grade greater than 48% manganese	—	—	—	—	81.8	—	—
Uranium oxide (U_3O_8)	—	—	—	194.9	—	—	184.1
Other metallic minerals	—	—	—	—	(h)2.6	—	—
Total metallic minerals	**1 472.3**	**78.0**	**4 787.0**	**820.4**	(i)**12 160.6**	**462.8**	**1 107.7**

— nil or rounded to zero (including null cells)
na not available
(a) Value of production is ex-mine value for mineral sands and annual market prices for all other minerals in this table.
(b) Estimated f.o.b. value except for gold ore (based on London PM Gold Fix price as supplied by WA Treasury Corporation) and nickel concentrate (estimated f.o.b. value based on the current price of nickel-containing products).
(c) Lead and zinc (also copper and gold) include value of silver.
(d) Values of production are estimates based on sales figures provided by mining companies.
(e) Includes the value of cathode copper.
(f) Iron ore and concentrate includes iron ore pellets and fines.
(g) Value shown for tantalite-columbite concentrate includes both lithium ore (spodumene) and (classified in table 4.9) garnet concentrate.
(h) Value shown is Vanadium (V_2O_5).
(i) Includes the value of garnet concentrate (classified in table 4.9); excludes the value of bauxite.

Source: See Explanatory Notes paragraph 39.

4.4 COAL, OIL AND GAS PRODUCED, Quantity

Mineral		*NSW*	*Vic.*	*Qld*	*SA*	*WA*(a)	*Tas.*	*NT*
Black coal								
Saleable – type								
Bituminous	'000 t	114 200	—	131 507	—	—	323	—
Semi-anthracite	'000 t	—	—	8 795	—	—	—	—
Sub-bituminous	'000 t	—	—	19 760	3 192	5 984	—	—
Saleable – source								
Underground	'000 t	40 700	—	23 866	—	—	323	—
Open cut	'000 t	73 500	—	136 197	3 192	5 984	—	—
Washery rejects	'000 t	23 807	—	45 200	na	na	159	—
Brown coal								
Brown coal (lignite)	'000 t	—	66 343	—	—	—	—	—
Peat	t	—	—	1 167	—	—	—	—
Crude petroleum (including natural gas)								
Crude oil	ML	—	(b)6 841	(c)512	627	13 223	—	2 517
Natural gas	Mm^3	—	7 973	(d)5 255	2 846	8 061	—	470
Natural gas condensate	ML	—	(b)na	252	165	6 181	—	—
Other derivatives – ethane	'000 t	—	—	—	12	—	—	—
Liquefied petroleum gas (LPG)								
Propane	ML	—	—	132	219	610	—	—
Butane	ML	—	—	88	68	660	—	—
Total LPG	ML	—	—	*220*	*287*	*1 271*	—	—
Methane gas	PJ	—	—	(d)na	—	—	—	—
Liquefied natural gas (LNG)	'000 t	—	—	—	—	7 832	—	—

— nil or rounded to zero (including null cells)
na not available
(a) Includes production in offshore areas administered by WA on behalf of the Australian Government.
(b) Crude oil includes natural gas condensate.
(c) Includes oil shale.
(d) Natural gas includes coal seam methane.
Source: See Explanatory Notes paragraph 39.

4.5 COAL, OIL AND GAS PRODUCED, Value

Mineral	*NSW* $m	*Vic.* $m	*Qld* $m	*SA* $m	*WA*(a) $m	*Tas.* $m	*NT*(b) $m
Black coal							
Saleable – type							
Bituminous	(c)4 790.0	—	5 581.3	—	—	na	—
Semi-anthracite	—	—	374.1	—	—	—	—
Sub-bituminous	—	—	498.6	48.1	274.3	—	—
Saleable – source							
Underground	na	—	na	—	—	na	—
Open cut	na	—	na	48.1	274.3	—	—
Washery rejects	. .	. .	. .	. .	. .	. .	. .
Brown coal							
Brown coal (lignite)	—	530.7	—	—	—	—	—
Peat	—	—	0.1	—	—	—	—
Crude petroleum (including natural gas)							
Crude oil	—	(d)1 939.5	(e)118.0	192.5	3 773.6	—	715.1
Natural gas	—	(c)928.2	(f)380.4	334.7	694.1	—	43.1
Natural gas condensate	—	(d)na	59.2	47.8	1 747.5	—	—
Other derivatives – ethane	—	—	—	2.0	—	—	—
Liquefied petroleum gas (LPG)							
Propane	—	—	33.7	51.0	128.0	—	—
Butane	—	—	22.5	16.3	154.1	—	—
Total LPG	—	—	*56.2*	*67.2*	*282.2*	—	—
Methane gas	—	—	(f)na	—	—	—	—
Liquefied natural gas (LNG)	—	—	—	—	2 775.9	—	—
Total coal, oil and gas	**4 790.0**	**3 398.5**	**7 067.8**	**692.4**	**9 547.5**	(g)na	**758.3**

. . not applicable
— nil or rounded to zero (including null cells)
na not available
(a) Delivered/shipped value except for sub-bituminous coal (estimated ex-mine value). Includes production in offshore areas administered by WA on behalf of the Australian Government.
(b) Values of production are estimates based on sales figures provided by mining companies.
(c) Value of production is at average annual market prices.
(d) Crude oil includes natural gas condensate. Value of production is at average market prices for the year.
(e) Includes oil shale.
(f) Natural gas includes coal seam methane.
(g) Included in value of other non-metallic mineral production for Tasmania (table 4.9).

Source: See Explanatory Notes paragraph 39.

4.6 CONSTRUCTION MATERIALS PRODUCED, Quantity

Mineral		*NSW*	*Vic.*	*Qld*	*SA*	*WA*(a)	*Tas.*	*NT*
Sand and gravel								
Sand								
For concrete	'000 t	na	4 328	3 627	1 598	na	213	na
For other purposes	'000 t	na	2 079	2 749	2 058	na	272	na
Total sand	'000 t	*8 632*	*6 407*	*6 376*	*3 656*	*2 240*	*485*	*146*
Gravel	'000 t	(b)4 355	3 542	2 322	67	137	40	408
Crushed and broken stone								
Basalt	'000 t	na	14 103	na	278	na	854	na
Dacite, rhyodacite, rhyolite and toscanite	'000 t	na	913	na	—	na	—	na
Dolerite	'000 t	na	621	na	—	na	907	na
Dolomite	'000 t	na	—	na	—	na	6	na
Gneiss	'000 t	na	13	na	76	na	—	na
Granite	'000 t	na	2 894	na	282	na	—	na
Hornfels	'000 t	na	3 516	na	—	na	—	na
Limestone	'000 t	(c)na	709	na	—	(c)na	41	na
Quartzite	'000 t	na	62	na	—	na	—	na
Sandstone	t	na	—	na	—	na	202	na
Other crushed and broken stone	'000 t	na	(d)1 604	na	3 491	na	128	na
Total crushed and broken stone	'000 t	*11 679*	*24 435*	*31 224*	*4 127*	(e)*826*	*1 937*	*765*
Dimension stone								
Basalt	t	—	13 864	—	—	—	—	na
Granite	t	1 445	1 600	192	12 528	2 685	—	na
Limestone	t	—	—	—	14 056	—	—	na
Sandstone	t	27 606	150	34 603	5 748	—	1 872	na
Other dimension stone (incl. slate)	t	—	(f)548	13 742	7 540	397	2 746	na
Total dimension stone	t	*29 051*	*16 162*	*48 537*	*39 872*	*3 082*	*4 618*	*3 815*
Other construction materials (decomposed rock, etc.)								
Earth and soil	'000 t	na	72	1 444	na	na	na	na
Filling	'000 t	na	—	na	na	na	na	na
Scoria	'000 t	na	707	na	na	na	na	na
Shale	'000 t	na	—	na	na	na	na	na
Tuff	'000 t	na	448	na	na	na	na	na
Construction materials n.e.c. (incl. shell grit and decomposed rock)	'000 t	na	—	na	na	na	na	na
Total other construction materials	'000 t	*2 739*	*1 227*	*4 413*	*5 797*	(e)na	*1 761*	*22*

— nil or rounded to zero (including null cells)
na not available
(a) Quantity of sales during the year.
(b) Includes decorative aggregate.
(c) Included in table 4.8 (Other non-metallic minerals produced).
(d) Includes sedimentary rock.
(e) Crushed and broken stone includes other construction materials (decomposed rock, etc.).
(f) Slate only.
Source: See Explanatory Notes paragraph 39.

4.7 CONSTRUCTION MATERIALS PRODUCED, Value

Mineral	NSW(a) $m	Vic. $m	Qld $m	SA $m	WA(b) $m	Tas. $m	NT(c) $m
Sand and gravel							
Sand							
For concrete	na	55.4	na	15.0	na	1.6	na
For other purposes	na	19.8	na	15.6	na	2.4	na
Total sand	*90.8*	*75.2*	na	*30.6*	*11.1*	*4.1*	*1.3*
Gravel	78.3	33.9	na	0.6	0.9	0.3	1.7
Crushed and broken stone							
Basalt	na	(d) 173.1	na	4.0	na	9.7	na
Dacite, rhyodacite, rhyolite and toscanite	na	15.0	na	—	na	—	na
Dolerite	na	6.9	na	—	na	12.0	na
Dolomite	na	—	na	—	na	0.2	na
Gneiss	na	0.2	na	0.9	na	—	na
Granite	na	(d) 40.2	na	3.8	na	—	na
Hornfels	na	44.8	na	—	na	—	na
Limestone	(e) na	5.0	na	—	(e) na	0.3	na
Quartzite	na	0.6	na	—	na	—	na
Sandstone	na	—	na	—	na	—	na
Other crushed and broken stone	na	(d) 12.6	na	28.3	na	1.4	na
Total crushed and broken stone	*157.0*	(f) *297.8*	na	*37.1*	(g) *6.7*	*23.5*	*8.9*
Dimension stone							
Basalt	—	(d) na	—	—	—	—	na
Granite	0.4	(d) na	—	1.0	0.9	—	na
Limestone	—	—	—	0.5	—	—	na
Sandstone	4.0	(d) na	5.2	0.2	—	0.1	na
Other dimension stone (incl. slate)	—	(d) na	1.5	2.1	0.1	—	na
Total dimension stone	*4.4*	*0.7*	*6.7*	*3.8*	*1.0*	*0.1*	*0.1*
Other construction materials (decomposed rock, etc.)							
Earth and soil	na	0.7	na	na	na	na	na
Filling	na	—	na	na	na	na	na
Scoria	na	9.3	na	na	na	na	na
Shale	na	—	na	na	na	na	na
Tuff	na	2.4	na	na	na	na	na
Construction materials n.e.c. (incl. shell grit and decomposed rock)	na	—	na	na	na	na	na
Total other construction materials	*15.9*	*12.4*	na	*46.3*	(g) na	*6.4*	*0.3*
Total construction materials	**346.4**	**419.8**	**458.5**	**118.4**	**19.7**	**34.3**	**12.3**

— nil or rounded to zero (including null cells)
na not available
(a) Values are estimates using 1994–95 unit values.
(b) Value at works.
(c) Values of production are estimates based on sales figures provided by mining companies.
(d) Each of crushed and broken basalt and granite includes the corresponding type of dimension stone. Other crushed and broken stone includes sandstone and slate dimension stone.
(e) Limestone is included in table 4.9 (Other non-metallic minerals produced).
(f) Excludes dimension stone (which is included in components as indicated in footnote (d)).
(g) Crushed and broken stone includes other construction materials (decomposed rock, etc.).

Source: See Explanatory Notes paragraph 39.

4.8 OTHER NON-METALLIC MINERALS PRODUCED, Quantity

Mineral		*NSW*	*Vic.*	*Qld*	*SA*	*WA*(a)	*Tas.*	*NT*
Limestone (including shell and coral) for								
Agriculture	'000 t	na	405	22	95	na	135	na
Lime (by burning)	'000 t	na	122	160	—	na	47	na
Cement	'000 t	na	674	1 925	883	na	1 669	na
Chemicals	'000 t	na	—	—	897	na	—	na
Flux (incl. in metal industries)	'000 t	na	—	127	—	na	62	na
Other purposes(b)	'000 t	na	—	520	109	na	11	na
Total limestone	'000 t	(c)*4 561*	*1 201*	*2 754*	*1 983*	(c)*4 614*	*1 924*	*40*
Clays								
Bentonite	'000 t	37	—	226	—	—	—	—
Brick clay and shale	'000 t	(d)2 381	1 310	1 372	285	—	30	—
Cement clay and shale	'000 t	—	—	293	—	—	47	—
Fireclay n.e.c.	t	—	343	—	126 099	43	—	—
Kaolin (incl. ball clay)	'000 t	(e)14	251	19	1	—	14	—
Pipe and tile clay (incl. terra cotta for roofing tiles)	'000 t	(d)na	34	—	—	—	—	—
Pottery clay (incl. moulder's clay)	'000 t	—	—	—	123	—	—	—
Stoneware clay	'000 t	—	4	—	—	—	—	—
Other clays	'000 t	(e)na	178	5	(f)448	24	—	—
Gems (precious stones)								
Chrysoprase	kg	—	—	na	—	10 000	—	na
Diamonds	'000 ct	—	—	—	—	32 499	—	—
Opal	..	. .	. .	. .	. .	. .	. .	. .
Rhodonite	..	. .	. .	. .	. .	. .	. .	. .
Sapphire	..	. .	. .	. .	. .	. .	. .	. .
Zircon	..	. .	. .	. .	. .	. .	. .	. .
Gems n.e.c.(g)	kg	—	—	na	50	223 957	na	na
Other non-metallic minerals								
Barite	t	—	—	—	15 678	—	—	2 000
Diatomite (diatomaceous earth)	t	20 060	—	4 555	—	—	—	—
Dolomite	'000 t	13	—	28	743	11	—	—
Feldspar (incl. cornish stone)	t	1 739	69 552	—	2 397	35 222	—	—
Garnet concentrate	t	1	—	—	—	118 929	—	—
Gypsum	'000 t	230	572	69	1 903	1 534	—	—
Magnesite, crude	'000 t	43	—	540	1	—	—	—
Mica	t	—	—	—	529	—	—	—
Perlite	t	—	—	9 952	—	—	—	—
Phosphate rock	'000 t	—	—	1 889	2	—	—	—
Salt (incl. solar salt)	'000 t	—	—	187	566	9 882	—	—
Silica for industrial purposes								
Glass	'000 t	na	418	1 723	na	na	28	—
Flux	'000 t	na	—	—	na	na	—	—
Foundries	'000 t	na	41	512	54	na	—	—
Other purposes	'000 t	na	18	275	na	na	107	—
Total silica for industrial purposes	'000 t	*158*	*477*	*2 510*	*293*	*538*	*135*	—
Sillimanite	t	—	—	—	210	—	—	—
Talc (incl. steatite)	t	—	—	—	6 440	116 640	—	—
Vermiculite	t	—	—	—	—	—	—	9 676
Non-metallic minerals n.e.c.	t	91 178	—	1 731	—	9 956	—	—

. . not applicable
— nil or rounded to zero (including null cells)
na not available
(a) Quantity of sales during the year.
(b) For Qld: includes limestone for lime, for industrial fillers and other or unspecified purposes. For SA: includes limestone for fines, whiting and limesand.
(c) Includes limestone produced for construction purposes.
(d) Brick clay and shale includes pipe and tile clay.
(e) Kaolin includes flint clay, ball clay and other clays.
(f) Comprises attapulgite clay and clay shale.
(g) Includes unspecified gems and semi-precious stones.
Source: See Explanatory Notes paragraph 39.

4.9 OTHER NON-METALLIC MINERALS PRODUCED, Value

Mineral	NSW(a) $m	Vic. $m	Qld $m	SA $m	WA(b) $m	Tas. $m	NT(c) $m
Limestone (including shell and coral) for							
Agriculture	—	9.4	na	0.9	—	na	na
Lime (by burning)	—	2.1	na	—	—	na	na
Cement	—	4.7	na	6.8	—	na	na
Chemicals	—	—	—	16.8	—	—	na
Flux (incl. in metal industries)	(d)na	—	na	—	(d)na	na	na
Other purposes	(d)na	—	na	1.3	(d)na	na	na
Total limestone	*32.5*	*16.2*	*32.9*	*25.8*	*33.7*	na	na
Clays							
Bentonite	2.8	—	12.1	—	—	—	—
Brick clay and shale	(e)10.6	5.0	4.6	1.4	—	0.2	—
Cement clay and shale	—	—	1.5	—	—	0.2	—
Fireclay n.e.c.	—	—	—	0.9	0.7	—	—
Kaolin (incl. ball clay)	(f)0.8	1.2	1.0	0.1	—	0.1	—
Pipe and tile clay (incl. terra cotta for roofing tiles)	(e)na	0.2	—	—	—	—	—
Pottery clay (incl. moulder's clay)	—	—	—	0.5	—	—	—
Stoneware clay	—	0.1	—	—	—	—	—
Other clays	(f)na	0.4	—	1.6	1.3	—	—
Gems (precious stones)							
Chrysoprase	—	—	0.2	—	—	—	na
Diamonds	—	—	—	—	519.7	—	—
Opal	29.0	—	1.0	33.0	—	—	na
Rhodonite	—	—	—	—	—	—	na
Sapphire	—	—	0.5	—	—	—	na
Zircon	—	—	—	—	—	—	na
Gems n.e.c.(g)	—	—	0.1	—	0.2	0.1	na
Non-metallic minerals							
Barite	—	—	—	0.9	—	—	0.9
Diatomite (diatomaceous earth)	3.7	—	0.7	—	—	—	—
Dolomite	0.6	—	1.1	7.0	0.2	—	—
Feldspar (incl. cornish stone)	0.4	4.8	—	—	1.8	—	—
Garnet concentrate	—	—	—	—	(h)na	—	—
Gypsum	2.5	6.0	1.9	4.7	24.2	—	—
Magnesite, crude	1.6	—	27.3	—	—	—	—
Mica	—	—	—	0.1	—	—	—
Perlite	—	—	1.7	—	—	—	—
Phosphate rock	—	—	129.2	—	—	—	—
Salt (incl. solar salt)	—	—	25.7	5.4	179.8	—	—
Silica for industrial purposes							
Glass	na	4.2	na	na	na	1.7	—
Flux	na	—	—	na	na	—	—
Foundries	na	0.4	na	0.6	na	—	—
Other purposes	na	0.1	na	na	na	1.0	—
Total silica for industrial purposes	*2.0*	*4.7*	*32.4*	*1.7*	*5.7*	*2.7*	—
Sillimanite	—	—	—	—	—	—	—
Talc (incl. steatite)	—	—	—	0.2	10.2	—	—
Vermiculite	—	—	—	—	—	—	2.4
Non-metallic minerals n.e.c.	1.9	—	—	—	1.4	—	—
Total other non-metallic minerals	**88.4**	**38.4**	**273.7**	**83.5**	**779.0**	(i)**48.3**	(j)**3.4**

— nil or rounded to zero (including null cells)
na not available
(a) Ex-mine value.
(b) Estimated f.o.b. value except for limestone, kaolin and dolomite (all value at works), feldspar (estimated free on rail value), garnet concentrate (includes both ex-mine value and free on truck value), and talc (ex-mine value).
(c) Values of production are estimates based on sales figures provided by mining companies.
(d) Comprises limestone produced for construction purposes and for flux.
(e) Brick clay and shale includes pipe and tile clay.
(f) Kaolin includes flint clay, ball clay and other clays.
(g) Includes unspecified gems and semi-precious stones.
(h) Excludes the value of garnet concentrate, which is included with tantalite-columbite concentrate (in table 4.3).
(i) Includes the value of coal production for Tasmania (from table 4.5).
(j) Excludes the value of limestone, and gems other than diamonds.
Source: See Explanatory Notes paragraph 39.

EXPLANATORY NOTES

INTRODUCTION

1 This publication, *Mining Operations, Australia, 2003–04* (cat. no. 8415.0), presents data of the economic and financial performance of the mining industry and the production of mining commodities. These data are obtained from ABS surveys and, in the case of the commodity data, as statistics from state and Northern Territory government departments.

2 Mining, as specified in Division B of the 1993 edition of the *Australian and New Zealand Standard Industrial Classification (ANZSIC)* (cat. no. 1292.0), relates to the extraction of minerals occurring naturally as solids such as coal and ores, liquids such as crude petroleum, or gases such as natural gas, by such processes as underground mining, open-cut extraction methods, quarrying, operation of wells or evaporation pans, dredging or recovering from ore dumps or tailings. Activities such as briquetting, or dressing/beneficiating ores or other minerals (by crushing, milling, screening, washing, flotation, chemical beneficiation, etc.) are included, because they are generally carried out at or near mine sites as an integral part of mining operations. Natural gas absorption and purifying plants are also included. The division also includes exploration for minerals and the provision of a wide variety of services to mining and to mineral exploration, as well as mining units under development.

3 The mining collection is conducted annually as a component of the ABS's Economic Activity Survey (EAS):

- A sample of approximately 660 mining businesses were asked by the ABS to provide employment details and data obtained from their financial statements, mainly via mail out questionnaires. Businesses were also asked to supply key details of their operations by state and territory, enabling the production of the state/territory estimates contained in table 3.1.
- Key financial data for nearly 3,890 mining businesses, which had been supplied by them to the Australian Taxation Office (ATO) on business income tax returns (BIT data), were then used to supplement the ABS's directly collected information. Section 16(4)(ga) of the *Income Tax Assessment Act 1936* provides for the ATO to pass information to the Australian Statistician for the purposes of the *Census and Statistics Act 1905*.

4 Commodity production data, as published in Chapter 4, are not collected as part of this annual mining collection (see Explanatory Notes paragraphs 37–39 for further detail).

STATISTICAL UNITS USED

5 Statistical units are those entities from which statistics are collected, or about which statistics are compiled. In ABS economic statistics, the statistical unit is generally the business. All businesses in the EAS are recorded on the ABS Business Register (ABSBR).

6 The ABS uses an economic statistics units model on the ABSBR to describe the characteristics of businesses, and the structural relationships between related businesses. Within large and diverse business groups, the units model is used also to define reporting units that can provide data to the ABS at suitable levels of detail.

STATISTICAL UNITS USED *continued*

7 This units model allocates businesses to one of two sub-populations:

- Most businesses and organisations in Australia need to obtain an Australian Business Number (ABN). The vast majority of these businesses are simple in structure and are allocated to the population which is maintained by the ATO. These are termed (by the ABS) ABN units.
- The remaining businesses are in the ABS maintained population, and are termed type of activity units, or TAUs.

8 Together, these two sub-populations (of ABN units and TAUs) make up the ABSBR population, from which the EAS samples are taken.

9 For details about the ABSBR and how ABN units and TAUs contribute to the industry statistics in this publication, see Technical Note 1.

SCOPE AND COVERAGE

10 The scope of the 2003–04 mining collection comprises all businesses (including non-employing businesses) on the ABSBR at time of selection, whose industry is classified to ANZSIC Division B MINING. This division comprises the following subdivisions and their component groups and classes:

11 Coal mining
- 110 Coal mining
  - 1101 Black coal mining
  - 1102 Brown coal mining

12 Oil and gas extraction
- 120 Oil and gas extraction
  - 1200 Oil and gas extraction

13 Metal ore mining
- 131 Metal ore mining
  - 1311 Iron ore mining
  - 1312 Bauxite mining
  - 1313 Copper ore mining
  - 1314 Gold ore mining
  - 1315 Mineral sand mining
  - 1316 Nickel ore mining
  - 1317 Silver–lead–zinc ore mining
  - 1319 Metal ore mining n.e.c.

14 Other mining
- 141 Construction material mining
  - 1411 Gravel and sand quarrying
  - 1419 Construction material mining n.e.c.
- 142 Mining n.e.c.
  - 1420 Mining n.e.c.

15 Services to mining
- 151 Exploration
  - 1511 Petroleum exploration (own account)
  - 1512 Petroleum exploration services
  - 1513 Mineral exploration (own account)
  - 1514 Mineral exploration services
- 152 Other mining services
  - 1520 Other mining services

11 Industry statistics in Chapters 1–3 of this publication (excluding tables 1.2 and 3.2) are presented at the subdivision level for all subdivisions except ANZSIC Subdivision 13 METAL ORE MINING, which is presented at the class level.

SCOPE AND COVERAGE
continued

12 The ANZSIC-based industry statistics presented in this publication are compiled differently from activity statistics. Each ABN unit or TAU on the ABSBR has been classified (by the ATO and the ABS respectively) to a single industry irrespective of any diversity of activities undertaken. The industry class allocated is the one which relates to those activities that provide the main source of income. A mining business is one predominantly engaged in mining activities, but the data collected for it cover all activities of the business (including any non-mining activities). Conversely, there are some businesses predominantly engaged in non-mining activities which also undertake limited mining activities; these are excluded from the collection.

13 Businesses mainly engaged in refining or smelting minerals or ores (other than preliminary smelting of gold), or in manufacturing such products of mineral origin as coke, cement and fertilisers, are excluded, as they are engaged in activities classified to ANZSIC Division C MANUFACTURING.

14 Businesses engaged in providing contract mining services are not always within the scope of the annual mining collection. Under ANZSIC principles, only those contract mining organisations responsible for all facets of a mining operation are classified to MINING. Businesses which contract to provide selected services are classified to the (predominant) activity they are performing, rather than to the industry they are serving. For example, businesses contracted to perform tasks such as mine site preparation (and/or construction), and removal of overburden, are classified to ANZSIC Division E CONSTRUCTION and are, therefore, outside the scope of the mining collection.

15 Some mining businesses engage, to a significant extent, in activities which are normally carried out by different industries. For example, a predominantly mining business may also undertake significant amounts of manufacturing. Similarly, a mining business may produce significant volumes of goods which are normally produced in different mining industries. Where a business makes a significant economic contribution to industries classified to different ANZSIC subdivisions, the ABS includes the business in the ABS maintained population and 'splits' the TAU's reported data between the industries involved. Significance is determined using total income.

16 A TAU's reported data will be split if the inclusion of data relating to the secondary activity in the statistics for the industry of the primary activity distorts (by overstating or understating) either the primary or secondary industry statistics at the ANZSIC subdivision level by:

- 3% or more, where the industries of the primary and secondary activities are in the same ANZSIC division
- 2% or more, where the industries of the primary and secondary activities are in different ANZSIC divisions.

17 Unincorporated joint ventures (UJVs) within the mining industry are arrangements which allow the sharing of expertise, resources and risk associated with the development of mineral deposits. This occurs through the participation of a number of organisations (by investment) in a mining operation. Some of these organisations may not otherwise be involved in the mining industry.

18 The mining collection includes mining businesses which are operators and/or participants in UJVs. Generally, each participant supplies data of its share of income, while the operator reports all expenses and employment.

SCOPE AND COVERAGE *continued*

19 The ABS attempts to maintain a current understanding of the structure of the large, complex and diverse business groups that form the ABS maintained population on the ABSBR, through direct contact with those businesses. Resultant changes in their structures on the ABSBR can affect:

- the availability of such businesses (or units within them) for inclusion in the annual economic collections,
- the delineation of the units, within those groups, for which data are to be reported.

20 The ABS attempts to obtain data for those businesses which ceased operation during the year, but it is not possible to obtain data for all of them.

REFERENCE PERIOD

21 The period covered by the collection is, in general, the 12 months ended 30 June. Where businesses are unable to supply information on this basis, an accounting period for which data can be provided is used for data other than that relating to employment. Such businesses make a substantial contribution to some of the estimates presented in this publication. As a result, the estimates can reflect trading conditions that prevailed in periods outside the twelve months ended June in the relevant year. In particular, this should be taken into account when considering those measures expressed as values per person employed.

22 Financial data presented incorporate all units in scope of the mining collection that were at the production stage at any time during the year. They also include any temporarily inactive units, i.e. those units which were in the development stage or which were not in production, but which still existed and held assets and liabilities and/or incurred some non-operating expenses (e.g. depreciation, administration costs).

RELIABILITY OF ESTIMATES

23 For information about this subject, see Technical Notes 2 and 3.

INDUSTRY PERFORMANCE MEASURES

24 This publication presents a wide range of data that can be used to analyse business and industry performance.

25 Differences in accounting policy and practices across businesses and industries can lead to some inconsistencies in the data input to the statistics. Although much of the accounting process is subject to standards, there is still a great deal of flexibility left to managers and accountants in the accounting policy and practices they adopt. For example, the way profit is measured is affected by management policy on such issues as depreciation rates, bad debt provisions and write off, and goodwill write off.

26 A range of performance measures, usually expressed as ratios, can be produced from the data available from businesses' financial statements. Others, relating to labour inputs, can be derived by expressing financial or economic variables on a per person employed basis. The performance measures presented in this publication comprise:

- profitability ratios, which measure the rate of profit on sales
- debt ratios, which indicate the ability of businesses to meet the cost of debt financing
- labour measures, which relate output, labour costs and employment
- capital expenditure ratios, which indicate the extent of business investment in capital assets.

27 Explanations of each ratio can be found in the Glossary.

28 Those ratios compiled from a combination of flow (whole period) and level (beginning or end of period) items need to be treated with additional caution. Ratios which include both level and flow items in their derivation may be volatile due to the timing differences involved. It may, therefore, be preferable to base any analysis on a range of data presented rather than focusing on one variable.

29 The varying degree to which businesses consolidate their accounts may also affect the ratios calculated.

INDUSTRY PERFORMANCE MEASURES *continued*

30 The above limitations are not meant to imply that analysis based on these data should be avoided, only that they should be borne in mind when interpreting the data presented in this publication.

CAPITAL EXPENDITURE ESTIMATES

31 The data of capital expenditure, disposals of assets and net capital expenditure presented in this issue (tables 2.8 to 2.10) include intangible assets for the first time. This aligns the presentation of these data for the Mining industry with that used elsewhere in ABS industry statistics. Any analysis of Mining capital expenditure data over time should take this change into account. Data on a comparable basis for 2001–02 and 2002–03 are available on-line.

PRESENTATION OF INDUSTRY VALUE ADDED

32 The presentation of the components of industry value added (tables 2.5 to 2.7) has been slightly changed from that of previous issues of this publication. Capitalised purchases are no longer separately shown in these tables, but are included with current purchases in the item 'Purchases of goods and materials'. Consequently, the remaining 'minus' item has been respecified as 'Other intermediate input expenses' to exclude current purchases. The previous item 'Intermediate input expenses' had included them. These changes align the presentation of industry value added for the Mining industry with that used elsewhere in ABS industry statistics, and have no effect on the derivation of industry value added itself. Estimates of the value of capitalised purchases continue to be available from tables 2.2 to 2.4.

STATE AND TERRITORY ESTIMATES

33 State and territory summary estimates for selected mining (i.e. total MINING excluding ANZSIC Subdivision 15 SERVICES TO MINING) are presented in table 3.1. To enable the production of these estimates, businesses included in the mail out survey were asked to report data for employment, wages and salaries, and sales of goods and services, for each state and/or territory in which they operated, if more than one. The relevant data for all other businesses, including those whose contribution was sourced from BIT data, were allocated to their state/territory of operations as recorded on the ABSBR. Further statistical modelling enabled the production of state and territory estimates for industry value added.

34 The design of the mining collection does not take into account the state/territory in which businesses are based or in which they operate. As a result, these state and territory estimates are particularly subject to variation from year to year because of rotation of businesses into and out of the sample.

35 State and Northern Territory commodity production statistics are presented in Chapter 4 (see Explanatory Notes paragraphs 37–39 for details).

DATA ADJUSTED

36 Data in this publication have been adjusted to allow for lags in processing new businesses to the ABSBR. The effect of these adjustments is an increase of 0.6% on the Australian estimate of sales and service income for total MINING.

COMMODITY PRODUCTION DATA

37 Chapter 4 of this publication presents details of the quantity and value of minerals produced during the year ended 30 June 2004.

38 These data are based on annual publications and other information supplied by the various state and Northern Territory departments responsible for the collection of these statistics. The tables presented cover production of metallic minerals, coal, oil and gas, construction materials, and other non-metallic minerals. The presentation of these data is designed to give an overview of the level of mining activity within each state and the Northern Territory. The tables have been footnoted to provide an indication of conceptual differences. As the footnotes relate to specified commodity definitions and valuation methodologies, they should not be considered as an exhaustive list of these differences. For further information, please consult the data sources indicated in the following paragraph.

COMMODITY PRODUCTION DATA *continued*

39 Users requiring detailed information about the level and type of commodities produced in each state and the Northern Territory are encouraged to refer to the respective departments' web sites and publications:

New South Wales: NSW Department of Primary Industries, <http://www.dpi.nsw.gov.au /minerals >
Quantity and value of major mining products in New South Wales

Victoria: Department of Primary Industries, <http://www.dpi.vic.gov.au>
Minerals and Petroleum Victoria, Statistical Review

Queensland: Department of Natural Resources and Mines, <http://www.nrm.qld.gov.au>
Queensland Minerals and Energy Review

South Australia: Department of Primary Industries and Resources, <http://www.pir.sa.gov.au>
Resource Production Statistics, biannual

Western Australia: Department of Industry and Resources, <http://www.doir.wa.gov.au>
Western Australian Statistics Digest, Mineral and Petroleum Production

Tasmania: Department of Infrastructure, Energy and Resources, <http://www.dier.tas.gov.au>
Mineral Resources Tasmania, Annual Review

Northern Territory: Department of Primary Industries, Fisheries and Mines, <http://www.minerals.nt.gov.au>
Annual Production Report

ACKNOWLEDGMENT

40 ABS publications draw extensively on information provided freely by individuals, businesses, governments and other organisations. Their continued cooperation is very much appreciated: without it, the wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the *Census and Statistics Act* 1905.

RELATED PUBLICATIONS

41 The ABS produces industry estimates for a range of selected industries (including mining) and these results are to be available in *Australian Industry, 2003–04* (cat. no. 8155.0) expected to be released in July 2006.

42 National estimates of employment, income, expenditure and associated ratios will be available at the ANZSIC division level (with a greater range of data available via the ABS web site in spreadsheet form). Some data presenting greater detail are considered experimental at this stage, while the methodology used to produce them is reviewed and improved. These consist of national estimates of income, expenses, operating profit before tax (OPBT), and wages and salaries, at the ANZSIC class level, and state/territory estimates of these items at the ANZSIC division level.

43 The following publications and electronic releases also contain information about the mining industry:

Australian Bureau of Statistics Business Register, Counts of Businesses – Summary Tables, cat. no. 8161.0.55.001, released on 7 October 2005 – Annual release

Australian Industry, 2001–02 and 2002–03, cat. no. 8155.0, released on 7 February 2005 – Annual publication

Australian Labour Market Statistics, cat. no. 6105.0 – Quarterly publication

Australian National Accounts: National Income, Expenditure and Product, cat. no. 5206.0 – Quarterly publication

Australian National Accounts: State Accounts, 2004–05, cat. no. 5220.0, released on 9 November 2005 – Annual publication

RELATED PUBLICATIONS *continued*

Australian System of National Accounts: Concepts, Sources and Methods, 2000, cat. no. 5216.0, released on 21 December 2000 – Irregular publication
Business Indicators, Australia, cat. no. 5676.0 – Quarterly publication
Directory of Mining Statistics, cat. no. 8416.0, released on 29 October 1999 – Irregular publication
Electricity, Gas, Water and Sewerage Operations, Australia, 2003–04, cat. no. 8226.0, released on 21 December 2005 – Annual publication
Environment Protection, Mining and Manufacturing Industries, Australia, 2000–2001, cat. no. 4603.0, released on 4 September 2002 – Irregular publication
Information Paper: ABS Statistics and The New Tax System, 2000, cat. no. 1358.0, released on 26 April 2000 – Irregular publication
Information Paper: Improvements in ABS Economic Statistics [Arising from The New Tax System], cat.no. 1372.0, released on 6 May 2002 – Irregular publication
International Trade in Goods and Services, Australia, cat. no. 5368.0 – Monthly publication
International Trade Price Indexes, Australia, cat. no. 6457. 0 – Quarterly publication
Job Vacancies, Australia, cat. no. 6354.0 – Quarterly publication
Labour Costs, Australia, 2002–03, cat. no. 6348.0.55.001, released on 11 June 2004 – Irregular electronic publication
Labour Price Index, Australia, cat. no. 6345.0 – Quarterly publication
Mineral and Petroleum Exploration, Australia, cat. no. 8412.0 – Quarterly publication
Mining Indicators, Australia, cat. no. 8417.0 – Quarterly electronic publication
Private New Capital Expenditure and Expected Expenditure, Australia, cat. no. 5625.0 – Quarterly publication
Producer Price Indexes, Australia, cat. no. 6427.0 – Quarterly publication
Research and Experimental Development, Businesses, Australia, 2003–04, cat. no. 8104.0, released on 28 September 2005 – Annual publication
Year Book Australia, 2006, cat. no. 1301.0, released on 20 January 2006 – Annual publication

44 Current publications and other products released by the ABS are listed in the *Catalogue of Publications and Products* (cat. no. 1101.0). The Catalogue is available from any ABS office or the ABS web site <http://www.abs.gov.au>. The ABS also issues a daily Release Advice on the web site which details products to be released in the week ahead.

Non-ABS data

45 The following organisations also publish mining and related statistics for Australia:

ABARE, web site <http://www.abareconomics.com>
Australian Commodities (forecasts and issues)
Australian Commodity Statistics
Australian Mineral Statistics

Geoscience Australia, web site <http://www.ga.gov.au>
Australia's Identified Mineral Resources
Oil and Gas Resources of Australia

Minerals Council of Australia, web site <http://www.minerals.org.au>
Minerals Industry Survey Report, 2004

United States Department of the Interior, US Geological Survey, web site <http://www.geology.usgs.gov>
Mineral Commodity Summaries
The Mineral Industry of Australia

ABS DATA AVAILABLE ON REQUEST

46 As well as the statistics included in this and related publications, the ABS may have other relevant data available on request and for a charge. Inquiries should be made to the National Information and Referral Service on 1300 135 070.

ROUNDING

47 Where figures have been rounded, discrepancies may occur between totals and the sums of the component items. Due to data being adjusted for lags in processing new businesses to the ABS Business Register (see paragraph 36), this 'rounding rule' also applies to employment estimates.

48 Proportions, ratios and other calculated figures shown in this publication have been calculated using unrounded estimates and may be different from, but are more accurate than, calculations based on the rounded estimates.

ABBREVIATIONS

'000	thousand
$b	billion (thousand million) dollars
$m	million dollars
ABARE	Australian Bureau of Agricultural and Resource Economics
ABN	Australian Business Number
ABR	Australian Business Register
ABS	Australian Bureau of Statistics
ABSBR	Australian Bureau of Statistics Business Register
ANZSIC	Australian and New Zealand Standard Industrial Classification
ATO	Australian Taxation Office
Aust.	Australia
BAS	Business Activity Statement
BIT	business income tax
ct	carat (metric)
EAS	Economic Activity Survey
EBIT	earnings before interest and tax
f.o.b.	free on board
GST	goods and services tax
IVA	industry value added
kg	kilogram
LNG	liquefied natural gas
LPG	liquefied petroleum gas
ML	megalitre
Mm³	million cubic metres
MU	management unit
n.e.c.	not elsewhere classified
NSW	New South Wales
NT	Northern Territory
OPBT	operating profit before tax
PJ	petajoule
Qld	Queensland
RSE	relative standard error
SA	South Australia
SISCA	Standard Institutional Sector Classification of Australia
t	tonne
Tas.	Tasmania
TAU	type of activity unit
TNTS	The New Tax System
UJV	unincorporated joint venture
Vic.	Victoria
WA	Western Australia

APPENDIX SURVEY CHANGES – EMPLOYMENT ESTIMATES ...

NEW EMPLOYMENT ESTIMATES

1 Over time, the ABS's annual data of industry performance have generally included measures of employment.

2 There are three main purposes for estimating employment:

- to generate statistics by business size range, employment being a frequently used and well understood measure of business size; estimation of employment for each business is a prerequisite for categorising businesses for this purpose
- to show the relative importance of each industry as an employer
- to provide measures of labour input and labour productivity.

3 One implication of the use of Business Income Tax (BIT) data in these statistics is that no direct measure of employment is available for those units which contribute to the estimates through the BIT source. This is because the ATO does not collect information about employment numbers. Unlike financial variables, which have a direct relationship to the data available from the BIT files, employment data are not amenable to being modelled using the same techniques. This characteristic became increasingly apparent as the mining industry data for 2001–02 and 2002–03 were being prepared for release.

4 Hence, the previous issue of this publication, which presented estimates for the mining industry for 2001–02 and 2002–03, did not include employment estimates. Since then, further work has been undertaken to devise a suitable methodology. As a result, employment estimates (produced using the current statistical infrastructure) have been restored to this issue. These estimates have been calculated for the two prior years, as well as for 2003–04. These time series are presented in table 1.1 at the national level, and in table 3.1 for states and territories.

5 In estimating employment for units whose data are sourced from the BIT files, the new methodology takes into account :

- whether a business is recorded as paying wages and salaries
- whether a business is an incorporated entity
- whether a business is a sole proprietorship
- for those businesses that are partnerships of individuals, industry averages (derived from the ABS's Labour Force Survey) are used to estimate the number of partners per partnership
- for those businesses that are partnerships of businesses, the number of partners per partnership is zero.

6 For each business, an estimate of employee numbers is derived from its value of wages and salaries (if any) using industry averages. For unincorporated businesses, these employee numbers are then added to the estimate of working proprietors or partners to produce an estimate of the total employment of the business. These estimates are then aggregated to the directly collected data to produce the estimates included in this publication.

7 This methodology may be subject to refinement over time as further data become available.

8 For further information about employment estimates included in this publication please contact John Ridley on (02) 9268 4541 or john.ridley@abs.gov.au.

TECHNICAL NOTE 1 METHODOLOGY

INTRODUCTION

1 The industry estimates in this publication are produced using a combination of ABS directly collected data and Business Income Tax (BIT) data sourced from the Australian Taxation Office (ATO).

2 The directly collected data have been reported by a sample of mining businesses, as recorded on the ABS Business Register (ABSBR). The ABS uses an economic statistics units model on the ABSBR to describe the characteristics of businesses, and the structural relationships between related businesses. Within large and diverse business groups, the units model is used also to define reporting units that can provide data to the ABS at suitable levels of detail.

STATISTICAL UNITS DEFINED ON THE ABS BUSINESS REGISTER

3 The current economic statistics units model was introduced in mid 2002, to better use the information available as a result of The New Tax System (TNTS). This units model allocates businesses to one of two sub-populations. The vast majority of businesses are in what is called the ATO maintained population, while the remaining businesses are in the ABS maintained population. Together, these two sub-populations make up the ABSBR population.

ATO MAINTAINED POPULATION

4 Most businesses and organisations in Australia need to obtain an Australian Business Number (ABN). They are then included on the whole-of-government register of businesses, the Australian Business Register (ABR), which is maintained by the ATO. Most of these businesses have simple structures; therefore, the unit registered for an ABN will satisfy ABS statistical requirements. For these businesses, the ABS has aligned its statistical units structure with the ABN unit. The businesses with simple structures constitute the ATO maintained population, and the ABN unit is used as the statistical unit for all ABS economic collections.

ABS MAINTAINED POPULATION

5 For the population of businesses where the ABN unit is not suitable for ABS statistical requirements, the ABS maintains its own units structure through direct contact with the business. These businesses constitute the ABS maintained population. This population consists typically of large, complex and diverse businesses. The statistical units model described below caters for such businesses.

Enterprise group: This is a unit covering all the operations in Australia of one or more legal entities under common ownership and/or control. It covers all the operations in Australia of legal entities which are related in terms of the current Corporations Law (as amended by the *Corporations Legislation Amendment Act 1991*), including legal entities such as companies, trusts and partnerships. Majority ownership is not required for control to be exercised.

Enterprise: An institutional unit comprising:

(i) a single legal entity or business entity, or

(ii) more than one legal entity or business entity within the same enterprise group and in the same institutional sub-sector (i.e. they are all classified to a single Standard Institutional Sector Classification of Australia (SISCA) sub-sector).

ABS MAINTAINED POPULATION *continued*

Type of activity unit (TAU): The TAU comprises one or more business entities, sub-entities or branches of a business entity within an enterprise group that can report production and employment data for similar economic activities. When a minimum set of data items are available, a TAU is created which covers all the operations within an industry subdivision (and the TAU is classified to the relevant subdivision of the ANZSIC). Where a business cannot supply adequate data for each industry, a TAU is formed which contains activity in more than one industry subdivision.

6 For more information about the effects of the introduction of this economic statistics units model, refer to *Information Paper: Improvements in ABS Economic Statistics [Arising from The New Tax System]* (cat. no. 1372.0).

CONTRIBUTION OF THE STATISTICAL UNITS TO THE ESTIMATES

7 The units model described above replaced one in which the statistical unit was known as the management unit. This earlier model was last used in the mining collection for the 2000–01 year.

Comparison over time

8 For 2001–02 and later years, the contributing statistical units are:

- the ABN unit for businesses with simple structures
- the TAU for businesses with complex structures.

(In most cases, employing ABN units / TAUs concorded with the management units used prior to the 2001–02 year.)

TAUs

9 All units in the ABS maintained population (i.e. TAUs) classified to MINING were eligible to be selected for direct collection. Direct collection of data from these units is necessary because:

- many large and complex employing businesses have more than one legal entity, making it difficult to identify all legal entities for that business in the BIT data
- BIT data do not include all of the detailed information that the ABS requires from large and complex businesses.

ABN units

10 The balance of units on the ABSBR classified to MINING were ABN units, from the ATO maintained population. Cut-offs were established which determined the way in which each ABN unit contributed to the statistics:

- First, ABN units with annualised Business Activity Statement (BAS) total sales (used in lieu of EAS total income) at or greater than the cut-offs set for individual ANZSIC categories were eligible to be selected for direct collection of data by the ABS. If selected, they were sent the same mail out questionnaire for completion that was sent to selections from the ABS maintained population.
- Second, ABN units with annualised BAS total sales below the cut-offs were excluded from direct collection. For these units, BIT data were obtained and added to the directly collected estimates to produce the statistics in this publication.

CUT-OFFS FOR ABN UNITS

11 Cut-offs for ABN units were originally established for the 2001–02 collection year, which was the first to incorporate BIT data from the ATO. More information about how the initial cut-offs were set is shown in Appendix 1: Survey Changes in the 2001–02 and 2002–03 issue of this publication. Turnover cut-offs have not changed from the initial year.

12 For 2003–04, a cut-off of:

- $1m applied for ANZSIC Subdivisions 11 and 12 and Classes 1311, 1313, 1315, 1316 and 1319
- $0.5m applied for ANZSIC Group 152 and Class 1314
- $0.25m applied for ANZSIC Groups 141 and 142.

13 No cut-off applied for ANZSIC Group 151 and Class 1312.

MINING INDUSTRY ESTIMATES

14 Therefore, the 2003–04 mining industry estimates have been derived as follows:

- A sample survey was used to estimate the contribution of
  - all businesses in the ABS maintained population
  - those businesses at or above the cut-offs in the ATO maintained population
  - 'tax exempt' businesses, that are not required to complete business income tax returns (and so would otherwise not contribute to the statistics)
- For the balance of businesses (i.e. in the ATO maintained population below the cut-offs for their ANZSIC category), their contribution was sourced from BIT data, with some more detailed breakdowns produced using proportional relationships derived from the sample survey. The derivation of employment estimates is discussed in the Appendix.

Income contribution by unit type

15 An indication of the importance of these populations to the data can be gained from their contribution to the estimate of sales and service income for total MINING. The following table shows their proportional contributions to sales and service income.

CONTRIBUTION TO SALES AND SERVICE INCOME(a)

ABSBR unit	*ATO BIT data* %	*Directly collected data* %	*Total* %
ABN units	0.6	11.4	12.0
TAUs	—	88.0	88.0
Total	**0.6**	**99.4**	**100.0**

— nil or rounded to zero (including null cells)

(a) Includes rent, leasing and hiring income.

TECHNICAL NOTE 2 DATA RELIABILITY

ABS SURVEY DATA

1 For 2003–04 the mining collection was, in part, a sample survey designed primarily to deliver industry subdivision and selected class estimates for Australia. Industry division estimates (excluding Subdivision 15 SERVICES TO MINING) for states and territories for key data variables are also produced, but the survey was not specifically designed for these purposes.

Sample error

2 The majority of data in Chapters 1 to 3 of this publication have been obtained from a sample of mining businesses. As such, these data are subject to sampling variability; that is, they may differ from the figures that would have been produced if the data had been obtained from all mining businesses in the population. The measure of the likely difference as used by the ABS is given by the standard error, which indicates the extent to which an estimate might have varied by chance because the data were obtained from only a sample of units. There are about two chances in three that a sample estimate will differ by less than one standard error from the figure that would have been obtained if the data had been obtained from all units, and about 19 chances in 20 that the difference will be less than two standard errors.

3 The standard error can also be expressed as a percentage of the estimate, and this is known as the relative standard error (RSE). The relative standard errors of the Australian estimates of employment, sales and service income, wages and salaries, and IVA presented in this publication are mainly less than 5% for industry subdivisions (see Technical Note 3) and all are less than 4% for the industry classes shown. The relative standard errors of the selected estimates for the states and territories are mainly 5% or less.

4 Relative standard errors at the industry subdivision and selected class level for Australia for selected data items representing the full range of data contained in this publication are shown in Technical Note 3. Detailed relative standard errors can be made available on request.

5 The size of the RSE may be a misleading indicator of the reliability of some of the estimates for trading profit, OPBT, EBIT and IVA. Estimates of these variables may legitimately include positive and negative values, reflecting the financial performance of individual businesses. In these cases the aggregated estimate can be small relative to the contribution of individual businesses, resulting in a standard error which is large relative to the estimate.

Non-sample error

6 The imprecision due to sampling variability, which is measured by the standard error, should not be confused with inaccuracies that may occur because of inadequacies in available sources from which the population frame was compiled, imperfections in reporting by providers, errors made in collection such as in recording and coding data, and errors made in processing data. Inaccuracies of this kind are referred to collectively as non-sampling error and they may occur in any enumeration, whether a full census or a sample.

7 Although it is not possible to quantify non-sampling error, every effort is made to reduce it to a minimum. Collection forms are designed to be easy to complete and assist businesses to report accurately. Efficient and effective operating procedures and systems are used to compile the statistics. The ABS compares data from different ABS (and non-ABS) sources relating to the one industry, to ensure consistency and coherence.

Non-sample error continued

8 There are also non-sampling errors associated with the BIT data sourced from the ATO. For example, the ATO treats any non-response by either bringing forward the previous year's data for a non-responding business, or imputing the data as zero if there are no previous data to use.

NON-ABS DATA

9 The mineral production data shown in Chapter 4 are mainly compiled from data produced by the state and Northern Territory departments responsible. For information about the comparability of these data, please see the introduction to that chapter.

TECHNICAL NOTE 3 **RELATIVE STANDARD ERRORS**

SELECTED DATA ITEMS

INDUSTRY		*Employment at end of June*	*Wages and salaries*(a)	*Sales and service income*(b)	*Industry value added*
ANZSIC code	*Description*	%	%	%	%
11	Coal mining	2.0	2.0	2.2	1.8
12	Oil and gas extraction	—	—	0.2	0.2
13	Metal ore mining				
1311	Iron ore mining	—	—	—	—
1313	Copper ore mining	—	—	—	—
1314	Gold ore mining	3.8	2.9	3.7	3.4
1315	Mineral sand mining	—	—	—	—
1317	Silver-lead-zinc ore mining	—	—	—	—
1312, 1316 and 1319	Bauxite mining, nickel ore mining and metal ore mining n.e.c.	—	—	—	—
	Total metal ore mining	*1.4*	*1.0*	*1.0*	*0.7*
11–13	*Total coal mining, oil and gas extraction and metal ore mining*	*1.0*	*0.9*	*0.8*	*0.5*
14	Other mining	3.9	4.7	3.7	3.8
15	Services to mining	4.4	4.1	4.2	5.7
11–15	**Total mining**	**1.5**	**1.2**	**0.8**	**0.7**

— nil or rounded to zero (including null cells)

(a) Excludes the drawings of working proprietors.

(b) Includes rent, leasing and hiring income.

GLOSSARY

Data presented in Chapters 1 to 3 of this publication have been compiled from the standard financial accounts of businesses; therefore, the definition of each reported item aligns closely with that adopted in standard business accounting practice. Definitions of particular terms, as used in this publication, are also included.

ABN unit The statistical unit used by the ABS to represent businesses, and for which statistics are reported, in most cases. The ABN unit is the business unit which has registered for an ABN, and thus appears on the ATO administered Australian Business Register. In most cases, the ABN unit represents the legal entity. This unit is suitable for ABS statistical needs when the business is simple in structure. For more significant and diverse businesses where the ABN unit is not suitable for ABS statistical needs, the statistical unit used is the type of activity unit (TAU).

In most cases, employing ABN units / TAUs concorded with the management units used prior to the 2001–02 year.

Acquisitions See the entries for capital expenditure.

Acquisitions to disposals The number of times that the value of assets acquired exceeds the value of disposal of assets, i.e. acquisitions / disposal of assets.

Bad and doubtful debts Represents the amount of bad debts, doubtful debts and/or provision for bad and doubtful debts, net of bad and doubtful debts previously written-off but recovered.

Business A business is generally considered to be a person, partnership, or corporation engaged in business or commerce; for example, a gold mining business.

In this publication, the term represents the ABN unit or type of activity unit (TAU), which are the two standard statistical units for the 2003–04 mining collection (these two units are explained under separate entries). For details, see Explanatory Notes paragraphs 5–9.

Business Activity Statement (BAS) total sales Represented by the form item G1 *Total sales* on businesses' Business Activity Statements, supplied by them to the ATO. This item comprises all payments and other consideration (including GST) received during the nominated tax period for supplies made in the course of business.

Capital expenditure on dwellings, other buildings and structures Capital expenditure incurred acquiring dwellings, other buildings and structures, including roads, factories, warehouses, offices, bridges, mine development, and oil and gas platforms. Represents expenditure before deduction of trade-in allowances, and includes expenses (except capitalised interest) incurred during the year in acquiring such assets.

Capital expenditure on other assets (including land and intangible assets) Capital expenditure incurred acquiring other assets (including land and intangible assets). Intangible asset purchases may include items such as exploration expenditure capitalised, patents, licences and goodwill. Also included is computer software capitalised, including capitalised computer software licence fees, installation costs, the purchase or development of large databases, software developed in-house (but excluded is software maintenance expenditure), and capitalised payments to contractors and consultants for software development. Note that if the cost of software and hardware cannot be separated, the total cost is included in acquisition of plant, machinery and equipment.

Capital expenditure on plant, machinery and equipment

Capital expenditure incurred acquiring plant, machinery and other equipment, including motor vehicles. Represents expenditure before deduction of trade-in allowances, and includes expenses (except capitalised interest) incurred during the year in acquiring such assets.

Capital work done for own use

Capitalised work done by the employees or proprietors of a business in manufacturing, constructing, installing or repairing assets, in mineral and petroleum exploration activities, and the in-house development of computer software, for use by the business or for rental or lease. This work is valued at the capitalised costs of the materials and the wages and salaries involved.

Capitalised purchases

Goods drawn from inventories for use as fixed tangible assets in capital work done by the employees or proprietors of a business for use by the business or for rental or lease.

Capitalised wages and salaries

Capitalised payments for work done by employees of a business in manufacturing, constructing, installing or repairing assets, in mineral and petroleum exploration activities, and in the in-house development of computer software, for use by the business or for rental or lease.

Chain volume measures

Annually-reweighted chain Laspeyres volume indexes referenced to the current price values in a chosen reference year (i.e. the year when the quarterly chain volume measures sum to the current price annual values). Chain Laspeyres volume measures are compiled by linking together (compounding) movements in volumes, calculated using the average prices of the previous financial year, and applying the compounded movements to the current price estimates of the reference year. Quarterly chain volume estimates are benchmarked to annual chain volume estimates, so that the quarterly estimates for a financial year sum to the corresponding annual estimate.

Generally, chain volume measures are not additive. In other words, component chain volume measures do not sum to a total in the way original current price components do. In order to minimize the impact of this property, the ABS uses the latest base year as the reference year. A change in reference year changes levels but not growth rates, although some revision to recent growth rates can be expected because of the introduction of a more recent base year (and revisions to the current price estimates underlying the chain volume measures).

For details, see *Australian National Accounts: National Income, Expenditure and Product, December Quarter 2005* (cat. no. 5206.0).

Change in inventories

The value of total closing inventories less total opening inventories.

Closing inventories

The value of all inventories of finished goods (including mineral ores), work-in-progress (less progress payments billed), raw materials, fuels and containers at the end of the reporting period.

Contract mining expenses

Contract payments for mining services. Includes amounts paid/payable to mining contractors and associated freight charges for materials brought in by the contractor.

Cost of sales

The sum of purchases, selected expenses and opening inventories less closing inventories. Any capitalised purchases or capitalised wages and salaries are excluded.

Current prices

Estimates at current prices are valued at the prices of the period to which the observation relates. For example, estimates for 2003–04 are valued using 2003–04 prices. This contrasts to chain volume measures, where the prices used in valuation refer to the prices of a previous period.

Depreciation and amortisation

Depreciation/amortisation allowed on tangible and intangible assets. Includes, for lessees only, depreciation/amortisation in respect of finance leases.

Disposal of assets

Proceeds from the sale of tangible assets (plant, machinery, equipment, land, dwellings, other buildings and structures), and intangible assets (such as patents, licences and goodwill). Includes the disposal of motor vehicles.

Earnings before interest and tax (EBIT)
Profit prior to the deduction of interest expenses and income tax.

Employer contributions into superannuation
Includes salary sacrifice. Also includes all employer contributions to superannuation funds (including the employer productivity contribution) and provisions for employer contributions to superannuation funds. Employee contributions are excluded.

Employment at end of June
Number of persons working for mining businesses during the last pay period ending in June of the given year. Includes working proprietors and partners, employees absent on paid or prepaid leave, employees on workers' compensation who continue to be paid through the payroll, and contract miners paid through the payroll. Excludes persons paid by commission only, non-salaried directors, and self-employed persons such as consultants and contractors.

In order to produce data by state and territory, businesses which received mail out questionnaires were also asked to report employment (as well as wages and salaries, and sales of goods and services) for each state and/or territory in which they operated. For details, see Explanatory Notes paragraphs 33 and 34.

For details of how employment estimates have been derived, see the Appendix.

Energy grants credit
See the entry for funding from government: energy grants credit.

Enterprise
An institutional unit comprising:
- a single legal entity or business entity; or
- more than one legal entity or business entity within the same enterprise group and in the same institutional sub-sector (i.e. they are all classified to a single Standard Institutional Sector Classification of Australia (SISCA) sub-sector).

Enterprise group
A unit covering all the operations in Australia of one or more legal entities under common ownership and/or control. It covers all the operations in Australia of legal entities which are related in terms of the current Corporations Law (as amended by the *Corporations Legislation Amendment Act 1991*), including legal entities such as companies, trusts and partnerships. Majority ownership is not required for control to be exercised.

Freight and cartage expenses
Includes handling charges and payments to owner/drivers for delivery of minerals. Excludes the cost of delivery by own vehicles and employees, overseas freight and cartage on goods exported, and payments to couriers.

Funding from government: energy grants credit
Amount reimbursed under the Australian Government's Energy Grants (Credit) Scheme. This scheme replaced the Diesel Fuel Rebate Scheme and the Diesel and Alternate Fuels Grant on 1 July 2003, and provides a grant for diesel and alternative fuels used in specified activities.

Funding from government for other operational costs
Funding from federal, state and/or local government for operational costs (e.g. wages and salaries, rent, food) apart from Energy Grants (Credit) Scheme funding (which is separately published). Includes bounties, subsidies, export grants, apprenticeship and traineeship schemes, and community service obligation payments.

Funding from government for specific capital items
As reported by providers.

Gross value added
The value of output at basic prices minus the value of intermediate consumption at purchasers' prices. The term is used to describe gross product by industry and by institutional sector. Basic prices valuation of output removes the distortion caused by variations in the incidence of commodity taxes and subsidies across the output of individual industries. For details, please refer to *Australian National Accounts: National Income, Expenditure and Product, December Quarter 2005* (cat. no. 5206.0).

Industry value added (IVA)

IVA represents the value added by an industry to the intermediate inputs used by the industry. IVA is the measure of the contribution by mining businesses to gross domestic product.

The derivation of IVA is as follows:

	Sales and service income
plus	Funding from federal, state and/or local government for operational costs
plus	Capital work done for own use
plus	Closing inventories
less	Opening inventories
less	Purchases of goods and materials
less	Other intermediate input expenses (for details, see the entry for total expenses)
equals	IVA

However, it should be noted that IVA is not a measure of operating profit before tax (OPBT). Wage and salary expenses and most other labour costs are not taken into account in its calculation, and nor are most insurance premiums, interest expenses or depreciation and a number of lesser expenses (see the entry for total expenses for further detail). On the income side, OPBT includes total income whereas IVA only includes sales and service income.

Industry value added is related to, but different from, the national accounting variable gross value added immediately above.

For national accounts purposes, gross value added is calculated by adjusting industry value added to include General Government units and to also account for some other effects.

Industry value added to selected labour costs

IVA of mining businesses which operated during the year ended 30 June 2004 divided by selected labour costs, i.e. industry value added / selected labour costs.

Insurance premiums

Premiums for fire, general, accident, public liability, optional third-party and comprehensive motor vehicle insurance, professional indemnity insurance and common law liability.

Interest coverage

The number of times that businesses can meet their interest expenses from their earnings before interest and tax, i.e. earnings before interest and tax / interest expenses.

Interest expenses

Includes interest paid on loans from banks, finance companies, partners, and related or unrelated businesses, and in respect of finance leases. Includes interest equivalents, such as hedging costs, and expenses associated with discounted bills.

Interest income

Includes interest received from deposits in banks and non-bank financial institutions, loans, advances, finance leases and earnings on discounted bills. Excludes capital repayments received, and charges between companies in the same TAU.

Intermediate input expenses

For details, see the entry for total expenses.

Intermediate inputs

Intermediate inputs consist of materials and certain services which are used up in the production process.

The calculation is:

	Intermediate input expenses (for details, see the entry for total expenses)
plus	Opening inventories
less	Closing inventories
equals	Intermediate inputs

Inventories – opening/closing

The value of all inventories of finished goods (including mineral ores), work-in-progress (less progress payments billed), raw materials, fuels and containers, at the beginning and end of the reporting period respectively.

Management unit For collections prior to 2001–02, the management unit was the highest-level accounting unit within a business, having regard to industry homogeneity, for which accounts were maintained. In nearly all cases, it coincided with the legal entity owning the business (i.e. company, partnership, trust, sole operator, etc.).

Motor vehicle running expenses Includes expenditure on registration fees, compulsory third-party insurance premiums, fuel and repair and maintenance expenses. Excludes expenses for off-road motor vehicles (e.g. mobile plant, quarry dump trucks).

Natural resource royalty expenses Includes payments under mineral lease arrangements, and resource rent taxes and royalties. Excludes payments for royalties from intellectual property (e.g. patents and copyrights) and computer software licence fees, both of which are included under other operating expenses. Gold tax payments are also excluded. See the entry for total expenses for the definition of other operating expenses.

Net capital expenditure The value of total capital expenditure less proceeds received from the disposal of assets.

Opening inventories The value of all inventories of finished goods (including mineral ores), work-in-progress (less progress payments billed), raw materials, fuels and containers at the beginning of the reporting period.

Operating profit before tax (OPBT) Profit before extraordinary items are brought to account and prior to the deduction of income tax and appropriations to owners (e.g. dividends paid).

Other contract, subcontract and commission expenses Payments to other businesses and self-employed persons for work done or sales made on a contract or commission basis. Payments to persons paid by commission without a retainer are also included. Includes payments to owner drivers for removal of material, but not for delivery of the final mineral product. Excludes contract mining expenses, published separately.

Other income Includes natural resource royalty income, dividend income and other income such as net profit (or loss) on the sale of fixed tangible assets, net profit (or loss) resulting from variations in foreign exchange rates/transactions, and funding from federal, state and/or local government for specific capital items. It excludes extraordinary profits or losses, i.e. those not associated with the normal operations of the business and of a non-recurring nature.

Other intermediate input expenses Comprises intermediate input expenses less purchases of goods and materials used in production (i.e. excludes any capitalised purchases). Further detail is included in the entry for total expenses.

Other selected expenses Includes expenditure on management fees/charges paid to related and unrelated businesses, bank charges other than interest, audit and other accounting expenses, legal fees, advertising expenses, postal and telecommunication expenses, office supplies and printing expenses, travelling, accommodation and entertainment expenses, staff training, payments for royalties from intellectual property (e.g. patents, copyrights), payments to employment agencies for staff, payroll tax, fringe benefits tax, land tax and land rates, exploration expenditure written off, and computer software expenses not capitalised. Some of these expense items are treated as intermediate input expenses in the calculation of industry value added. For details, see the entry for total expenses.

Production volumes See the entry for chain volume measures.

Purchases and selected expenses Purchases of goods and materials, rent, leasing and hiring expenses, freight and cartage expenses, motor vehicle running expenses, repair and maintenance expenses, contract mining and other contract, subcontract and commission expenses, and other selected expenses.

Purchases of goods and materials Purchases of materials, components, explosives, containers, packaging materials, fuels, electricity and water, and purchases of minerals and other goods for resale. Also includes capitalised purchases. Excludes purchases of parts and fuels for motor vehicles, but includes fuels for off-road vehicles, such as mobile plant and quarry dump trucks.

Reference period

For each collection year, businesses are asked to report data for the financial year ended 30 June. However, if a business has a different financial year, it is asked to report (apart from employment) for the 12 month period which ends between 1 October of the previous year and 30 September of the current year. This period is then used as a substitute for the financial year ended 30 June. For example, for the 2003–04 collection, a business may have reported data for the year ended 31 December 2003.

Rent, leasing and hiring expenses

Payments for the rent, leasing and hiring of land, dwellings, other buildings and structures, motor vehicles, plant, machinery and other equipment (including telecommunication equipment). Includes operating lease payments; excludes finance lease payments.

Rent, leasing and hiring income

For details, see the entry for sales and service income.

Repair and maintenance expenses

Includes computer and communication software and hardware maintenance, and repair and maintenance of off-road motor vehicles. Excludes wages and salaries of own employees and the repair and maintenance costs of on-road motor vehicles.

Sales and service income

Comprises:

Sales of goods

- whether or not produced by the business (including goods produced for the business on a commission basis). Includes sales or transfers to related businesses or to overseas branches of the business, progress payments relating to long term contracts if they are billed in the period, delivery charges not separately invoiced to customers, and sales of goods produced by the business from crude materials purchased. Excludes excise and duties received on behalf of the Government (e.g. the petroleum production excise duty), sales of assets, royalties income, interest income, and delivery charges separately invoiced to customers. Exports are valued free on board (f.o.b.) (i.e. export freight charges are excluded).

Income from services

- includes income from consulting services, repair, maintenance and service income and fees, contract, subcontract and commission income, management fees/charges from related and unrelated businesses, installation charges, delivery charges separately invoiced to customers and royalties from intellectual property (e.g. patents and copyrights). Excludes natural resource royalties income, interest income, and delivery charges not separately invoiced to customers.

Rent, leasing and hiring income

- derived from the ownership of land, dwellings, buildings and other structures, motor vehicles, plant, machinery and other equipment. Excludes royalties from mineral leases, income from finance leases and payments received under hire purchase arrangements. This item is included in sales and service income, but is not separately published. (Under the current international standards, rent, leasing and hiring income is classified as service income.)

These are valued net of discounts given and exclusive of goods and services tax (GST). Extraordinary items are also excluded.

In order to produce data by state and territory, businesses which received mail out questionnaires were also asked to report sales of goods and services (as well as employment and wages and salaries) for each state and/or territory in which they operated. For details, see Explanatory Notes paragraphs 33 and 34.

Selected expenses

See the entry for purchases and selected expenses.

Selected labour costs

See the entry for total expenses.

Selected labour costs per person employed

The value of selected labour costs paid by mining businesses which operated during the year ended 30 June 2004 divided by the number of persons employed by mining businesses during the last pay period ending in June 2004.

Selected mining (table 3.1)

Comprises all classes in ANZSIC Division B MINING except Subdivision 15 SERVICES TO MINING.

Standard Institutional Sector Classification of Australia (SISCA)

The SISCA is the central classification among ABS Standard Economic Sector Classifications. It is based on the System of National Accounts 1993 (SNA93) institutional sector classification, and comprises the sectors: non-financial corporations, financial corporations, general government, households, non-profit institutions serving households, and rest of the world (which includes only non-resident units, these being excluded from all other sectors). For more information, please refer to *Standard Economic Sector Classifications of Australia (SESCA)* (cat. no. 1218.0).

Superannuation

See the entry for employer contributions into superannuation.

Total expenses

For the purposes of calculating economic and accounting variables for mining industries, expenses incurred by businesses are divided into several categories. However, some expenses are excluded entirely from all such calculations: excluded are capital repayments, costs associated with the transfer of real estate, dividends, donations, export freight charges, extraordinary losses, foreign exchange losses, goods and services tax (GST), excise and duties payable to governments, income tax and other direct taxes, losses on asset sales, and unrealised gains/losses from revaluations of assets.

Those expenses used for calculations are categorised as follows:

Intermediate input expenses
This category covers the major expenses incurred by businesses in producing and distributing goods and services (except labour costs), and comprises two sub-categories of operating expenses:

Purchases of goods, materials and services used in production, which include:
- purchases of materials, components, explosives, containers and packaging materials, electricity, fuels and water
- purchases of minerals and other goods for resale (without any further processing or assembly)
- motor vehicle running expenses
- freight and cartage expenses
- repair and maintenance expenses
- rent, leasing and hiring expenses (excluding finance lease payments)
- contract, subcontract and commission expenses.

Expenses related to the sale of goods and administrative expenses, which include:
- management fees/charges paid to related and unrelated businesses
- bank charges other than interest
- audit and other accounting expenses
- legal fees
- advertising expenses
- postal and telecommunication expenses
- office supplies and printing expenses
- travelling, accommodation and entertainment expenses
- staff training
- payments for royalties from intellectual property (e.g. patents and copyrights)
- payments to employment agencies for staff.

Excluded from intermediate input expenses are selected labour costs and other operating expenses as detailed below:

Selected labour costs
- wages and salaries (including provisions for employee entitlements)
- employer contributions into superannuation (including salary sacrifice)
- workers' compensation premiums/costs.

Total expenses *continued*

Other operating expenses

Some expenses are excluded from the calculation of intermediate input expenses and selected labour costs, but are included in the calculation of the accounting variable operating profit before tax (OPBT). These expenses include:

- bad and doubtful debts
- computer software expenses not capitalised by businesses
- depreciation and amortisation
- insurance premiums (except workers' compensation and compulsory third party motor vehicle insurance premiums)
- interest expenses
- land tax and land rates
- mineral/petroleum exploration expenses not capitalised by businesses
- natural resource royalty expenses
- payroll tax and fringe benefits tax.

Total factor income

That part of the cost of producing the gross domestic product which consists of gross payments to factors of production (labour and capital). It represents the value added by these factors in the process of production, and is equivalent to gross domestic product less taxes plus subsidies on production and imports. For details, please refer to *Australian National Accounts: State Accounts, 2003–04* (cat. no. 5220.0).

Total mining

Comprises all classes in ANZSIC Division B MINING (i.e. Subdivisions 11–15).

Trading profit

A measure of profit directly attributable to trading in goods and services. It is derived by subtracting the cost of sales from the value of sales and service income plus the value of capitalised purchases.

It should not be inferred that all of this profit is available as surplus, as other expenses such as selected labour costs, depreciation, insurance premiums, natural resource royalties, bad debts and interest have not been taken into account. Also, other income items such as funding from government and interest income have not been included.

Trading profit margin

Trading profit as a percentage of sales and service income,
i.e. (trading profit / sales and service income) x 100.

Type of activity unit (TAU)

The TAU is the statistical unit used by the ABS to represent businesses, and for which statistics are reported, in cases where the ABN unit is not suitable for ABS statistical needs.

The TAU comprises one or more business entities, sub-entities or branches of a business entity within an enterprise group that can report production and employment data for similar economic activities. When a minimum set of data items are available, a TAU is created which covers all the operations within an industry subdivision (and the TAU is classified to the relevant subdivision of the ANZSIC). Where a business cannot supply adequate data for each industry, a TAU is formed which contains activity in more than one industry subdivision.

In most cases, employing ABN units / TAUs concorded with the management units used prior to the 2001–02 year.

Wages and salaries

The gross wages and salaries (including capitalised wages and salaries) of all employees of the business. The item includes severance, termination and redundancy payments, salaries and fees of directors and executives, retainers and commissions of persons who received a retainer, bonuses, and annual and other types of leave. Provision expenses for employee entitlements (e.g. provisions for annual leave and leave bonus, long service leave, sick leave, and severance, termination and redundancy payments) are also included. Payments related to salary sacrifice and payments to self-employed persons such as consultants, contractors and persons paid solely by commission without a retainer are excluded. The drawings of working proprietors and partners are also excluded.

Wages and salaries *continued*

In order to produce data by state and territory, businesses which received mail out questionnaires were also asked to report wages and salaries (as well as employment and sales of goods and services) for each state and/or territory in which they operated. For details, see Explanatory Notes paragraphs 33 and 34.

Wages and salaries per person employed

The value of wages and salaries paid by mining businesses which operated during the given year ended 30 June divided by the number of persons employed by mining businesses during the last pay period ending in June of the same year.

Wages and salaries to sales and service income ratio

The wages and salaries paid by mining businesses which operated during the given year ended 30 June as a proportion of the sales and service income of mining businesses which operated during the same year.

Workers' compensation premiums/costs

As reported by providers.

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