



1992-93

MINING PRODUCTION  
AUSTRALIA

Catalogue No. 8405.0



**EMBARGOED UNTIL 11.30 A.M. 26 AUGUST 1994**

**MINING PRODUCTION  
AUSTRALIA  
1992-93**

**IAN CASTLES**  
**Australian Statistician**

**AUSTRALIAN BUREAU OF STATISTICS**

**CATALOGUE NO. 8405.0**

© Commonwealth of Australia 1994

## CONTENTS

<i>Table</i>		<i>Page</i>
	Main Features	1
	Summary of Findings	3
1	Value of minerals produced, States and Australia	2
2	Quantity of selected minerals, Australian and estimated World production	2
	Quantity and value of production, States and Australia –	
3	Metallic minerals	4
4	Coal	7
5	Oil and gas	9
6	Other non-metallic minerals	11
7	Construction materials	14
8	Contents of metallic minerals produced, States and Australia	15
	Explanatory Notes	19

### NOTE

The statistics in this publication have been derived from information supplied to the various State Mines Departments or directly to the Australian Bureau of Statistics (ABS) and are supplemented, in some cases, by data from other sources.

In the circumstances where information is directly collected by the ABS, the provisions of the *Census and Statistics Act* provide that unless agreement is obtained from the businesses involved, the ABS may not divulge information which would enable the identification of the operations of individual businesses. Furthermore, not all data supplied to State Mines Departments are available for publication.

Agreement to publish such data is not always forthcoming. In some instances, approval is given to the ABS to publish only part of the data, for example details of quantities produced but not values. For this reason and because a comparatively small number of companies produce a large proportion of Australia's minerals, complete details are not available for many of the items included in the tables.

In some instances, for the reasons outlined above, national totals are withheld from publication. Also it has been necessary to exclude figures for a particular State or Territory for some items because details for other States or Territories have already been published or are available elsewhere.

This publication covers the ANZSIC classes for metallic minerals, coal, oil and gas, construction materials and other non-metallic minerals. Data are published for construction materials and other non-metallic minerals on a triennial basis. The next triennial collection is scheduled for the 1995–96 financial year.

### INQUIRIES

- *for more information about statistics in this publication and the availability of related unpublished statistics, contact Helen Shannon on Adelaide (08) 237 7382 or any ABS State Office.*
  
- *for information about other ABS statistics and services please contact Information Services on Canberra (06) 252 6627, 252 5402, 252 6007 or any ABS State Office.*



## MAIN FEATURES

### *Mining Industry*

The value of all minerals produced by the mining sector in 1992-93 was \$29,191.4 million.

The value of minerals produced in the metallic minerals, coal, oil and gas industries rose in 1992-93 by 2.8% from \$25,985.4 million in 1991-92 to \$26,721.3 million.

Increases were recorded in the coal industry, up 5.1% to \$7,584.8 million and the oil and gas industry, up 5.2 % to \$8,216.2 million. Revenue generated by the metallic minerals industry fell by 0.3% to \$10,920.3 million

### *World production*

Australia continued in 1992 to be the world's largest producer of Bauxite (38.1% of the total world production), Diamonds (36.4%), Lead (16.4%) and the Mineral sands: Ilmenite (55.4%), Rutile (43.9%) and Zircon (39.2%).

PERCENTAGE OF WORLD PRODUCTION FOR SELECTED COMMODITIES  
AUSTRALIA, 1990-91 TO 1992-93

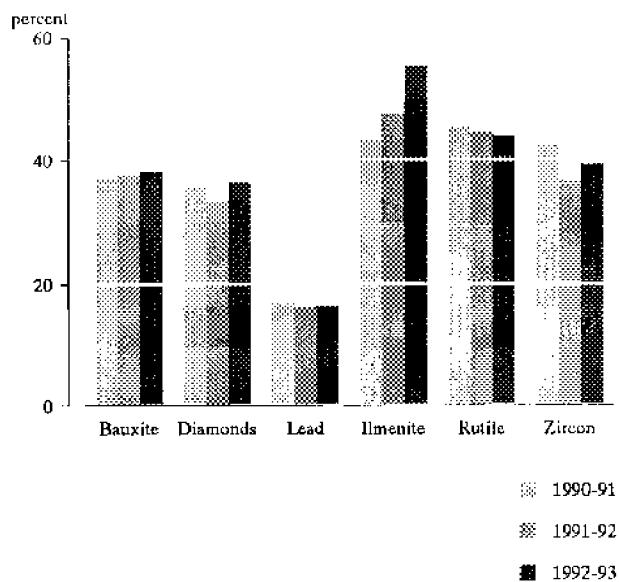


TABLE 1. VALUE OF MINERALS PRODUCED, STATES AND AUSTRALIA, 1992-93  
(\$ million)

Type		NSW	Vic.	Qld	SA	WA	Tas.	NT	Australia
Coal	3,351.3	329.4	3,555.1	54.7	244.3	(a)	—	—	(b) 7,584.8
Oil and gas	—	n.p. 50.0	262.0 1,702.2	n.p. 287.1	2,650.8 7,390.8	(a) 310.2	675.7 674.6	8,216.2 (a) 10,920.3	
Metallic minerals	465.4								
Total	1992-93	3,816.7	n.p.	5,519.3	n.p.	10,285.9	310.2	1,350.3	26,721.3
	1991-92	3,721.4	n.p.	4,981.3	n.p.	10,227.6	361.3	1,392.8	25,985.4
	1990-91	3,751.1	n.p.	4,961.2	n.p.	9,760.8	355.3	1,865.7	26,293.1
Construction materials									
Other non-metallic minerals	437.6	504.6	252.2	104.0	66.9	26.9	12.7	1,404.8	
Other	106.9	40.6	105.1	70.5	735.6	6.6	—	1,065.4	
Total	1992-93	4,361.2	n.p.	5,876.6	n.p.	11,088.4	343.7	1,363.0	29,191.4
	1989-90	4,523.8	n.p.	5,318.8	n.p.	8,638.0	447.3	1,669.2	25,634.4
	1987-88	3,217.5	n.p.	4,106.6	n.p.	947.7	5,925.6	382.6	1,086.1
									n.p.

(a) Coal is included with metallic minerals for Tasmania. (b) Excludes coal for Tasmania.

TABLE 2. QUANTITY OF SELECTED MINERALS, AUSTRALIAN AND ESTIMATED WORLD PRODUCTION, 1992

Mineral	Estimated world production	Australian production	Australian production as a percentage of estimated world production		Country	World's leading producer
			Estimated world production	Australian production		
Bauxite	105	40	38.1	38.1	Australia	40
Black coal - saleable	3,499	180	5.1	5.1	China	1,095
Copper in ores and concentrates	8,909	330	3.7	3.7	Chile	1,870
Diamonds (a)	110	40	36.4	36.4	Australia	40
Gold in ores and concentrates	2,170	240	11.1	11.1	South Africa	600
Iron ore	845	118	14.0	14.0	Former USSR	200
Lead in ores and concentrates	3,200	525	16.4	16.4	Australia	525
Manganese ore	18,800	1,000	5.3	5.3	Former USSR	6,800
Mineral sands —						
Ilmenite concentrate	700 tonnes	3,200	1,772	55.4	Australia	1,772
Rutile concentrate	700 tonnes	410	180	43.9	Australia	180
Zircon concentrate	700 tonnes	765	300	39.2	Australia	300
Nickel in ores and concentrates	700 tonnes	916	70	7.6	Former USSR	225
Salt	205 tonnes	205	9	4.4	USA	40
Silver in ores and concentrates	13,700 tonnes	13,700	1,218	8.9	Mexico	2,000
Tin in ores and concentrates	200 tonnes	200	6	3.0	China	45
Tungsten in concentrates	39,800 tonnes	39,800	200	0.5	China	25,000
Uranium in concentrates	(b) 20,416 tonnes	2,334	(b) 1.4	(b) 1.4	Canada	9,307
Zinc in ores and concentrates	7,365 tonnes	1,000	13.6	13.6	Canada	1,290

(a) Includes industrial diamonds (b) Excluding centrally planned economies. Source: Australian Bureau of Agricultural and Resource Economics, Commodity Statistical Bulletin, 1993; United States Department of the Interior, Bureau of Mines, Mineral Commodity Summaries 1993

## SUMMARY OF FINDINGS

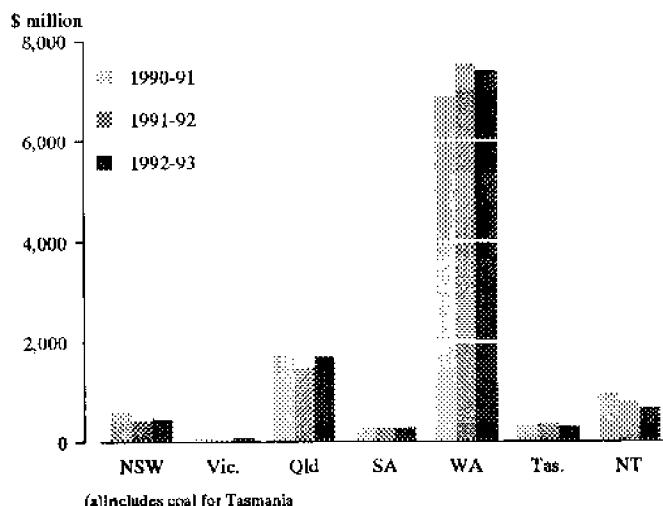
### Metallic Minerals

The value of metallic minerals decreased by 0.3% from \$10,957.2 million in 1991–92 to \$10,920.3 million in 1992–93.

The value of gold bullion produced increased by 4.4% from \$3,796.6 million in 1991–92 to \$3,961.8 million in 1992–93. The value of iron ore (excluding Tasmania) decreased by 6.6% from \$3,239.0 million in 1991–92 to \$3,025.6 million in 1992–93.

Western Australia, as the major contributor in the metallic minerals sector, showed a 1.7% decrease from \$7,518.3 million in 1991–92 to \$7,390.8 million in 1992–93. The second largest contributor Queensland reported a 14.8% increase over the same period, rising from \$1,482.4 million to \$1,702.2 million.

VALUE OF METALLIC MINERALS BY STATE(a)  
1990-91 TO 1992-93



(a) includes coal for Tasmania

Commodity unit values rose in Queensland in 1992–93 for copper and lead and fell for zinc. Western Australia's major commodities of iron, gold and ilmenite all decreased in unit value.

PERCENTAGE CHANGE IN UNIT VALUES  
FOR SELECTED METALLIC MINERALS,  
BY STATE, BETWEEN 1991-92 AND 1992-93

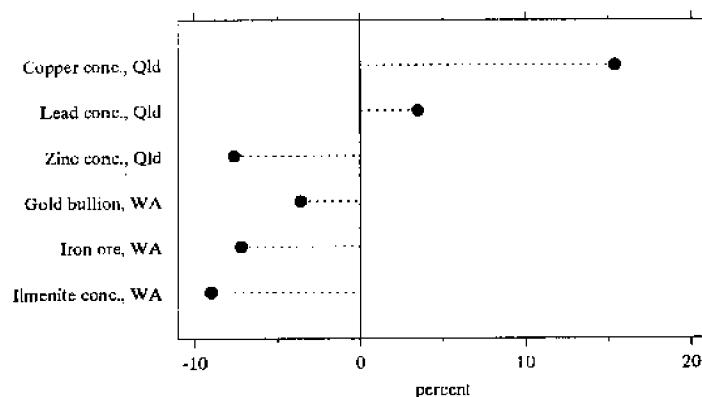


TABLE 3. METALLIC MINERALS PRODUCED, STATES AND AUSTRALIA, 1992-93

Commodity code	Mineral	1990-91		1991-92		1992-93				
		Australia	Australia	NSW	Vic.	Qld	SA	WA	Tas.	N.T.
QUANTITY										
556	Antimony concentrate	tonnes	1,558	2,114	—	—	—	—	—	2,114
500	Bauxite	'000 tonnes	41,831	34,788	—	—	8,770	—	—	40,946
559	Bismuth concentrate	n.p.	—	—	—	—	—	—	—	—
502	Copper concentrate	(a)1,094	175	55	827	n.a.	75	108	14	(a)1,254
503	Copper ore	20,495	11,327	—	—	—	—	—	—	5,027
506	Copper precipitate (b)	tonnes	4,384	6,203	—	—	—	—	—	8,174
509	Gold bullion (dore) (c)	kg	264,993	259,656	10,369	3,118	—	195,259	275	275,331
511	Gold concentrate	tonnes	49,575	3,499	—	—	—	—	—	3,499
510	Gold ore	n.a.	—	—	—	n.a.	—	—	9	(a)9
512	Other gold	tonnes	—	2	—	—	—	—	—	—
(d)	Iron ore	'000 tonnes	111,475	114,781	—	—	2,514	111,730	1,459	115,703
	Iron oxide for —	tonnes	89,585	104,569	14,773	—	—	—	—	108,902
516	Cement manufacture	tonnes	229,452	204,285	45,670	—	—	—	—	221,810
517	Coal washing	'000 tonnes	870	858	316	393	—	28	91	856
535	Lead concentrate	tonnes	13,071	5,474	—	—	—	—	1,153	1,153
536	Lead-copper concentrate	tonnes	2,057	2,572	—	7,379	—	—	—	7,379
537	Lead ore	tonnes	79,916	85,079	2,634	—	—	69,519	—	72,153
546	Lead zinc concentrate	tonnes	—	—	—	—	—	—	—	—
563	Manganese ore —	'000 tonnes	724	375	—	—	—	—	597	597
565	Metallurgical grade	'000 tonnes	764	863	—	—	—	—	577	828
	Other grades	'000 tonnes	—	—	—	—	—	—	—	—
	Mineral sands —	—	—	—	—	—	—	—	—	—
522	Ilmenite concentrate (e)	'000 tonnes	1,328	1,424	7	157	—	—	—	1,516
523	Leucoxene concentrate	'000 tonnes	24	12	—	—	11	—	—	11
524	Monazite concentrate	'000 tonnes	7	7	—	—	6	—	—	6
525	Rutile concentrate	'000 tonnes	202	169	50	59	—	76	—	185
529	Zircon concentrate	'000 tonnes	317	342	45	53	—	302	—	400
567	Molybdenum concentrate	tonnes	10	—	—	—	—	—	—	—
532	Nickel concentrate	'000 tonnes	510	476	—	—	522	—	—	522
533	Nickel ore	'000 tonnes	1,133	831	—	259	—	—	—	259
569	Pyrite concentrate	'000 tonnes	3,446	80	—	—	—	—	94	94
571	Scheelite concentrate	tonnes	1,412	545	—	—	—	—	—	—
545	Silver concentrate	tonnes	6,296	—	—	—	—	—	1,099	1,099
570	Tantalite-columbite concentrate	tonnes	703	873	—	—	—	—	—	—
549	Tin concentrate	tonnes	10,957	19	—	79	—	209	—	537
575	Uranium concentrate (U3O8)	(a)2,913	—	—	n.a.	—	—	—	—	12,387
543	Zinc concentrate	'000 tonnes	1,607	1,767	602	508	—	—	—	(a)1,342
544	Zinc ore	'000 tonnes	10,681	7,018	—	—	—	—	—	1,897
547	Zinc-lead concentrate	'000 tonnes	203	160	—	—	—	—	—	1,179
579	Other metallic minerals	tonnes	4,603	4,039	—	—	—	—	—	114

TABLE 3. METALLIC MINERALS PRODUCED, STATES AND AUSTRALIA, 1992-93—continued

Commodity code	Mineral	1991-92		1992-93	
		Australia	Australia	NSW	Vic.
		VALUE (\$'000)			
556	Antimony concentrate	1,858	2,318	2,666	—
500	Bauxite	n.p.	n.p.	—	218,009
559	Bismuth concentrate	n.p.	n.p.	—	n.p.
502	Copper concentrate	n.p.	n.p.	86,196	648,655
503	Copper ore	2,057	1,455	—	1,077
506	Copper precipitate (b)	14,297	18,739	2,092	23,556
509	Gold bullion (dore) (c)	(f)3,567,694	3,796,536	99,968	70,162
511	Gold concentrate	81,275	85,764	12,534	474,648
510	Gold ore	n.a.	(a)25	5	—
512	Other gold	76	21	—	n.c.
(d)	Iron ore	(f)2,944,649	(f)3,239,040	—	—
516	Iron oxide for— Cement manufacture	n.p.	n.p.	89	169
517	Coal washing	n.p.	n.p.	4,769	2,439
535	Lead concentrate	n.p.	n.p.	221,146	138,301
536	Lead-copper concentrate	n.p.	n.p.	64,751	4
537	Lead ore	n.p.	n.p.	77	—
546	Lead-zinc concentrate	n.p.	n.p.	444	—
563	Manganese ore	1,524,039	72,436	—	—
565	Metallurgical grade Other grades	n.p.	n.p.	—	n.p.
	Mineral sands—				
522	Ilmenite concentrate (e)	194,921	{	164	{
523	Leucocene concentrate	n.p.	503,677	—	50,033
524	Monazite concentrate	n.p.	{	{	{
525	Rutile concentrate	n.p.	26,893	—	—
529	Zircon concentrate	163,918	10,855	—	39,761
567	Molybdenum concentrate	n.p.	—	—	—
532	Nickel concentrate	n.p.	—	—	n.p.
533	Nickel ore	n.p.	—	—	4,979
569	Pyrite concentrate	n.p.	—	—	n.p.
571	Scheelite concentrate	n.p.	—	—	n.p.
545	Silver concentrate	5,144	—	—	—
570	Tantalite-columbite concentrate	n.p.	—	—	n.p.
549	Tin concentrate	n.p.	97	—	332
575	Uranium concentrate (U3O8)	290,673	241,546	—	37,038
543	Zinc concentrate	n.p.	325,675	153,844	125,378
544	Zinc ore	1,234	1,708	—	114
547	Zinc-lead concentrate	32,810	18,099	—	14,408
579	Other metallic minerals	320	284	30	—
	Total metallic minerals	(g)16,909,859	(g)10,957,237	465,397	89,967
					7,390,763
					287,130
					1,702,212
					7,390,763
					(f)310,224
					674,566
					(g)10,920,259

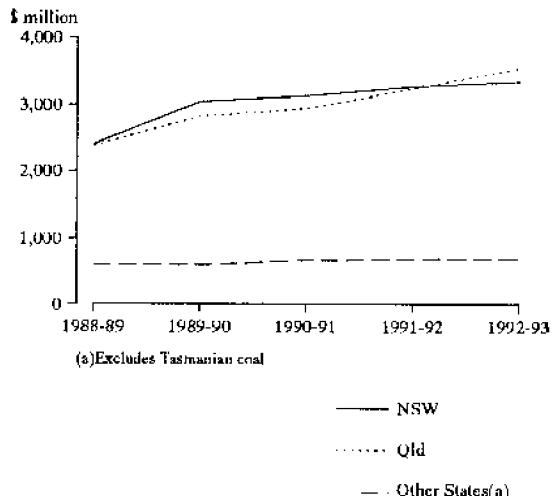
(a) Excludes South Australia. (b) Includes copper in other forms. (c) Includes alluvial gold. (d) Commodity codes 507,513,515. Includes iron ore pellets. (e) Includes ilmenite from which titanium dioxide is not commercially extractable. Beneficiated ilmenite is also included. (f) Excludes Tasmania. (g) Includes Tasmanian coal production.

## *Coal*

The coal industry contributed \$7,584.8 million to the total value of minerals produced for 1992-93. This represented an increase of 5.1% or \$368.4 million from the 1991-92 figure of \$7,216.4 million. The major factor in the increase was a slight rise in commodity prices. The quantity of coal produced was 226.4 million tonnes in 1992-93 compared with 228.0 million tonnes in 1991-92.

New South Wales and Queensland continue to dominate the industry with 44.2% and 46.9% respectively of the total value of coal produced in 1992-93.

VALUE OF COAL PRODUCED BY STATE  
1988-89 TO 1992-93



There was an increase in production of bituminous coal of 1.6 million tonnes or 1.0%. Bituminous coal accounts for 73.0% of total coal production (including lignite). Black coal production increased by 1.4 million tonnes or 0.8% while brown coal(lignite) production fell by 3.0 million tonnes or 5.9%.

QUANTITY OF COAL PRODUCED BY STATE  
1988-89 TO 1992-93

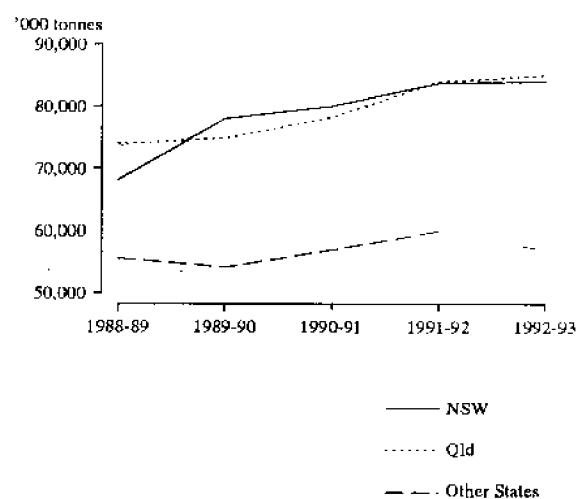


TABLE 4. COAL PRODUCED, STATES AND AUSTRALIA, 1992-93

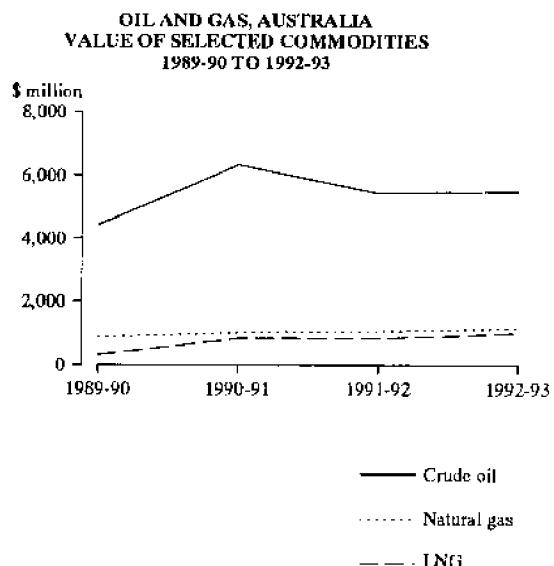
Comm- odity code	Mineral	1990-91		1991-92		1992-93					
		Australia	N.S.W.(a)	Australia	N.S.W.(a)	Vic.	Qld	S.A.	W.A.	Tas.	Australia
QUANTITY											
	Coal (other than lignite) -										
581	Saleable coal (b) -	220	432	84,211	—	231	—	—	—	251	—
580	Semi-anthracite	149,886	163,672	—	—	80,780	—	—	—	—	165,242
582	Bituminous	16,393	12,466	—	—	4,291	2,778	5,428	—	—	12,497
	Sub-bituminous										
	Total	166,505	176,570	84,211	—	85,392	2,778	5,428	251	—	177,970
	Washery rejects(b)										
	Underground	100 tonnes	(c)(d)38,090	(c)(d)41,817	18,703	—	25,884	n.a.	244	—	(c)(d)44,831
	Open cut	1000 tonnes	(d)(e)59,781	(d)(e)59,450	50,419	—	10,697	—	n.a.	—	(d)(e)61,116
	Lignite -	1000 tonnes	(d)(e)139,051	(d)(e)152,959	52,495	—	100,489	2,778	n.a.	n.a.	(d)(e)155,762
	Saleable coal -										
588	For briquettes	1,802	2,010	—	—	1,264	—	—	—	—	1,264
589	Other	46,367	48,721	—	—	46,648	—	—	—	—	46,648
586	Briquettes	715	721	—	—	516	—	—	—	—	516
	VALUE (\$'000)										
	Coal (other than lignite) -										
581	Saleable coal -	5,093	11,604	—	—	7,977	—	—	—	—	7,977
580	Semi-anthracite	(e)5,837,159	(e)6,408,878	3,351,286	—	3,434,944	—	—	n.p.	—	(e)6,786,230
582	Bituminous	544,405	415,019	—	—	112,134	54,691	244,312	—	—	411,137
	Sub-bituminous										
	Total	(e)6,386,658	(e)6,835,501	3,351,286	—	3,555,055	54,691	244,312	n.p.	—	(e)7,205,344
	Lignite -										
588	For briquettes	13,290	14,824	—	6,320	—	—	—	—	—	6,320
589	Other	331,053	347,647	—	373,099	—	—	—	—	—	373,099
586	Briquettes	22,718	18,420	—	n.a.	—	—	—	—	—	n.a.
	Total coal	(e)6,753,719	(e)7,216,392	3,351,286	(f)379,419	3,555,055	54,691	244,312	n.p.	—	(e)67,584,763

(a) Source: Joint Coal Board for details of quantity produced. (b) Raw coal is saleable coal plus washery rejects. (c) Excludes Tasmania. (f) Excludes briquettes.

### *Oil and gas*

The value of oil and gas production increased during 1992-93 from \$7,811.8 million in 1991-92 to \$8,216.2 million, a rise of 5.2%.

All commodities in this sector showed increases in the value of production. The most significant increase was in the value of liquefied natural gas which rose by 21.1% to \$1,025.1 million. Natural gas increased by 8.5% to \$1,171.1 million while crude oil increased by 1.2% to \$5,507.8 million.



The quantity of production rose in most commodities with the largest increase in liquefied natural gas, increasing by 15.8% from 4.3 million tonnes in 1991-92 to 4.9 million tonnes in 1992-93. Natural gas increased by 2.1% from 16,289 gigalitres to 16,631 gigalitres over the same period. Crude oil production fell by 4.4% from 31,984 megalitres in 1991-92 to 30,592 megalitres in 1992-93.

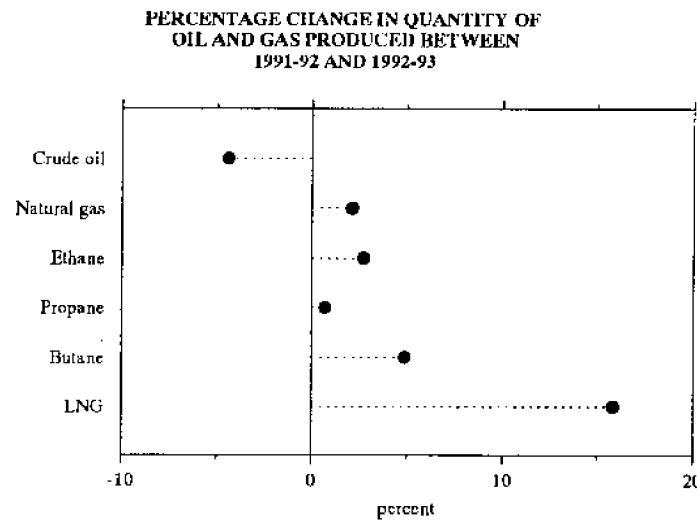


TABLE 5. OIL AND GAS PRODUCED, STATES AND AUSTRALIA, 1992-93

Commodity code	Mineral	1990-91		1991-92		1992-93					
		Australia	Australia	NSW	Vic.	Qld	SA	WA	Tas.	NT	Australia
QUANTITY											
590&592	Crude oil-stabilised (incl. condensate)	mega litres	29,189	31,984	—	17,804	1,180	1,662	6,533	—	3,413
591	Natural gas (a)	giga litres	15,593	16,289	—	6,823	1,314	4,200	3,960	—	334
593	Ethane	giga litres	175	182	—	171	—	16	—	—	187
Liquefied petroleum gases (b) —											
595	Propane	mega litres	2,013	2,064	—	1,425	82	571	—	—	2,978
595	Butane	mega litres	1,504	1,574	—	1,316	54	281	—	—	1,651
595	Liquefied natural gases	'000 tonnes	3,577	4,250	—	—	—	—	4,922	—	4,922
VALUE (\$'000)											
590&592	Crude oil-stabilised (incl. condensate)	6,327,737	5,444,986	—	n.p.	138,574	n.p.	1,218,729	—	632,840	5,507,785
591	Natural gas (a)	1,012,645	1,079,634	—	n.p.	103,560	n.p.	407,019	—	22,893	1,171,055
593	Ethane	27,994	34,183	—	n.p.	—	n.p.	—	—	—	34,543
Liquefied petroleum gases (b) —											
594	Propane	244,488	230,087	—	n.p.	11,941	n.p.	—	—	—	264,852
595	Butane	180,085	176,535	—	n.p.	7,913	n.p.	—	—	—	212,946
595	Liquefied natural gases	835,401	846,339	—	—	—	—	1,025,056	—	—	1,025,056
<b>Total oil and gas</b>		<b>8,629,350</b>	<b>7,811,764</b>	—	<b>n.p.</b>	<b>261,988</b>	<b>n.p.</b>	<b>2,650,804</b>	—	<b>675,733</b>	<b>8,216,237</b>

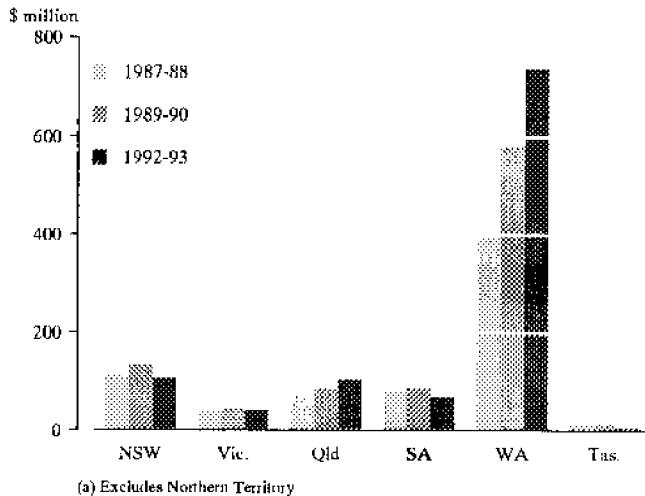
(a) Includes field and plant usage. (b) Excludes refinery production.

### *Other non-metallic minerals*

The total value of non-metallic minerals has increased by 13.1% from the 1989-90 figure of \$941.8 million to \$1,065.4 million in 1992-93.

Increases were shown in Western Australia which rose by 26.7% to \$735.6 million and Queensland up 24.7% to \$105.1 million. Other States showed decreases, New South Wales falling by 19.7% to \$106.9 million, Victoria by 7.9% to \$40.6 million, South Australia by 18.4% to \$70.5 million, Tasmania by 48.3% to \$6.6 million and Northern Territory by 90.8% to \$25,000.

VALUE OF OTHER NON-METALLIC MINERALS  
BY STATE(a), 1987-88 TO 1992-93



Of the major commodities produced in this mineral group, increases in the value of production have occurred in diamonds which rose from \$413.6 million in 1989-90 to \$520.0 million in 1992-93; salt from \$129.4 million to \$174.8 million; limestone (excluding Tasmania) from \$90.1 million to \$98.0 million; and sapphires from \$13.5 million to \$14.1 million. Decreases occurred in the value of production of opals which fell from \$116.7 million to \$84.9 million and clays from \$73.7 million to \$61.3 million.

PERCENTAGE CHANGE IN VALUE OF PRODUCTION  
FOR SELECTED NON-METALLIC MINERALS  
BETWEEN 1989-90 AND 1992-93

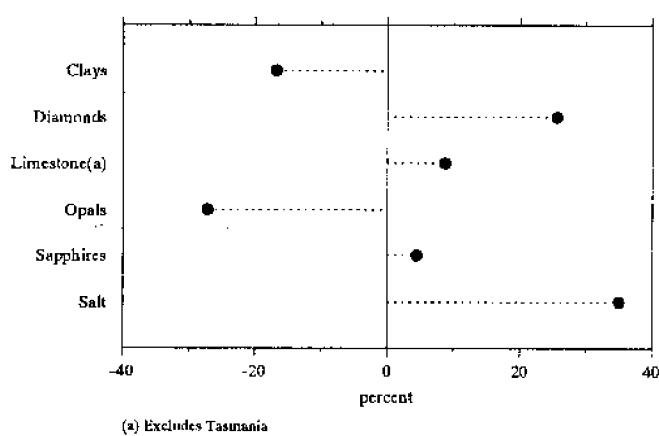


TABLE 6. OTHER NON-METALLIC MINERALS PRODUCED, STATES AND AUSTRALIA, 1992-93

Commodity code	Mineral	1987-88		1989-90		1992-93				
		Australia	Australia	NSW	Vic.	Qld	SA	WA	Tas.	NT
QUANTITY										
684	Barite	tonnes	20,475	20,753	1,142	—	8,122	—	—	9,264
685	Carbon dioxide	"	"	"	"	—	"	"	"	"
(a)	Clays									
667	Bentonitic and bentonitic clay	'000 tonnes	35	48	10	56	—	—	—	66
668	Brick clay and shale	'000 tonnes	n.p.	6,280	2,831	1,250	789	23	61	5,140
670	Cement clay and shale	'000 tonnes	n.p.	521	143	76	183	—	25	427
	Fireclay, n.e.i.	'000 tonnes	n.p.	287	—	—	—	—	30	31
672	Kaolin (incl. ball clay) (b)	'000 tonnes	n.p.	363	18	57	136	5	3	241
674	Pipe and tile clay	'000 tonnes	n.p.	196	1	3	9	—	—	13
676	Stoneware clay	'000 tonnes	8	75	—	—	—	—	—	—
(c)	Other clays	'000 tonnes	n.p.	96	1	—	—	—	20	15
686	Diatomite	tonnes	11,810	11,981	10,736	—	1,378	—	445	12,559
688	Dolomite	'000 tonnes	842	1,034	7	29	982	—	21	1,039
689	Feldspar (incl. cornish stone)	tonnes	n.p.	10,515	845	—	—	22,311	—	23,156
691	Garnet concentrate	tonnes	17,890	27,768	—	—	—	42,517	—	42,517
"	Gems									
704	Gypsum	n.p.	1,885	24	75	—	1,261	124	2	1,386
635	Limestone ( incl. shell and coral)	'000 tonnes	n.p.	13,283	3,529	4,566	2,432	2,429	835	15,895
705	Lithium ores	tonnes	27,466	47,428	—	—	—	42,550	—	42,550
708	Magnesite, crude	tonnes	50,006	50,808	26	—	245,645	1,107	—	246,778
709	Mica	tonnes	n.p.	649	—	—	—	1,085	—	1,085
711	Peat	tonnes	n.p.	11,595	30,736	—	2,085	—	1,134	6,323
713	Pebbles for grinding	—	—	—	—	—	—	—	—	n.p.
714	Perlite	tonnes	5,133	2,831	—	—	3,425	—	—	3,425
715	Phosphate rock	tonnes	10,363	7,107	—	—	—	—	—	2,394
717	Phrophyllite	tonnes	4,929	2,965	1,175	—	—	—	—	1,175
724	Salt	'000 tonnes	n.p.	7,188	—	—	262	753	6,984	40,278
(d)	Silica	'000 tonnes	2,596	3,116	495	—	—	518	—	n.p.
736	Sillimanite	tonnes	891	257	—	—	—	—	—	3,425
737	Talc (incl. steatite)	'000 tonnes	n.p.	234	—	—	—	—	—	2,394
738	Vermiculite	tonnes	1,679	105	—	—	—	159	—	1,175
745	Other	tonnes	n.p.	57,310	87,442	—	—	199	—	199

TABLE 6. OTHER NON-METALLIC MINERALS PRODUCED, STATES AND AUSTRALIA, 1992-93—continued

Commodity code	Mineral	1987-88				1989-90				1992-93			
		Australia		Australia		NSW		Vic.		Qld		SA	
VALUE (\$'000)													
684	Barite	1,594	n.p.	18	—	—	—	492	—	—	—	—	—
685	Carbon dioxide	617	733	4,215	692	—	—	3,700	—	—	—	—	—
(a)	Clays	3,300	—	11,315	—	5,075	—	—	—	—	—	—	—
667	Bentonitic and bentonitic clay	—	—	2,848	n.a.	3,449	2,055	250	—	n.p.	—	—	5,767
668	Brick clay and shale	—	—	—	—	587	632	—	—	n.p.	—	—	—
670	Cement clay and shale	—	—	—	—	—	7	36	—	—	—	—	61,340
672	Fireclay n.e.i.	56,451	73,741	1,408	10,617	21,135	456	176	n.p.	—	—	—	—
674	Kaolin (incl. ball clay) (b)	—	—	5	66	42	—	—	—	—	—	—	—
676	Pipe and tile clay	—	—	—	—	—	2	—	—	—	—	—	—
(c)	Stoneware clay	—	—	—	—	—	—	—	—	—	—	—	—
686	Other clays	—	—	—	—	—	—	—	—	—	—	—	—
688	Diatomite	2,499	2,475	2,038	—	—	467	—	n.p.	—	—	—	7,676
689	Dolomite	n.p.	6,909	310	—	—	1,051	5,093	—	n.p.	—	—	6,454
691	Feldspar (incl. cornish stone)	n.p.	562	78	—	—	2	—	n.p.	—	—	—	n.p.
Gems	—	630	1,152	—	—	—	—	4,039	—	—	—	—	4,041
694	Chrysoprase	159	547	—	—	—	—	—	—	—	—	—	—
697	Diamonds	248,203	413,534	—	—	—	—	—	—	519,981	—	—	519,981
695	Opal	106,077	116,730	44,527	—	—	—	1,226	39,157	—	—	—	84,910
696	Sapphire	22,841	13,499	11,915	—	—	—	2,233	—	—	—	—	14,148
702	Other gems	729	239	5	—	—	—	11	3	416	—	—	435
704	Gypsum	n.p.	7,372	256	1,088	—	—	—	2,520	1,100	—	—	25
655	Limestone (incl. shell and coral)	n.p.	95,321	20,005	28,850	23,245	—	—	12,312	13,587	n.p.	—	—
705	Lithium ores	n.p.	—	—	—	—	—	—	n.p.	—	n.p.	—	—
708	Magnetite, crude	3,074	2,416	1,254	—	—	8,347	26	—	—	—	—	9,627
709	Mica	n.p.	71	—	—	—	—	119	—	—	—	—	119
711	Peat	n.p.	1,264	—	—	—	—	—	—	—	n.p.	n.p.	n.p.
713	Pebbles—for grinding	n.p.	—	—	—	—	—	60	—	—	—	—	n.p.
714	Perlite	231	212	—	—	—	—	249	—	—	—	—	249
715	Phosphate rock	308	126	—	—	—	—	—	—	—	—	—	44
717	Phlogopite	347	146	98	—	—	—	—	—	—	—	—	98
724	Salt	n.p.	129,462	—	—	—	—	11,218	3,846	159,757	—	—	174,821
(d)	Silica	n.p.	—	7,554	—	25,443	2,367	n.p.	—	—	—	—	n.p.
736	Sillimanite	122	30	—	—	—	—	—	—	—	—	—	—
737	Talc (incl. steatite)	n.p.	6,257	1	—	—	—	1,162	11,525	—	—	—	12,688
738	Vermiculite	87	19	—	—	—	—	—	35	—	—	—	35
745	Other	n.p.	983	1,327	—	—	—	28	—	—	—	—	1,355
<b>Total other non-metallic minerals</b>		<b>712,753</b>	<b>941,778</b>	<b>106,941</b>	<b>40,621</b>	<b>105,148</b>	<b>70,466</b>	<b>735,580</b>	<b>6,588</b>	<b>25</b>	<b>1,065,369</b>		

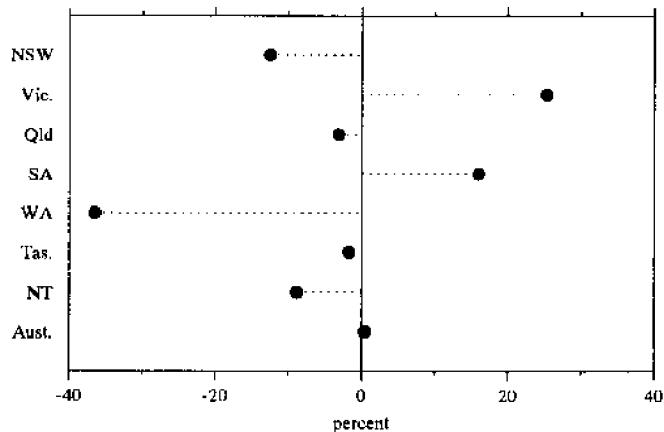
(a) Commodity codes 665,666. (b) Includes refined kaolin. (c) Commodity codes 669,671,679. (d) Commodity codes 725,726,727,728

### *Construction materials*

The total value of production of construction materials in 1992-93 has increased slightly, by 0.4% to \$1,404.8 million, from the 1989-90 figure of \$1,398.9 million.

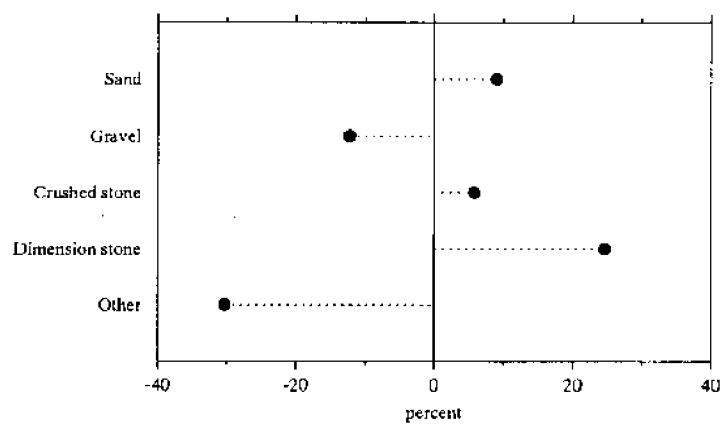
Increases in Victoria of 25.3% to \$504.6 million and South Australia of 16.0% to \$104.0 million were offset by decreases in New South Wales of 12.5% to \$437.6 million, Queensland of 3.1% to \$252.2 million, Western Australia of 36.5% to \$66.9 million, Tasmania of 1.7% to \$26.9 million and Northern Territory of 8.9% to \$12.7 million.

PERCENTAGE CHANGE IN VALUE OF CONSTRUCTION MATERIALS,  
BY STATE, BETWEEN 1989-90 AND 1992-93



Value of production increased for sand, up 9.0% to \$297.1 million, crushed and broken stone up 5.8% to \$811.6 million and dimension stone up 24.7% to \$18.9 million. Decreases occurred in gravel, down 12.2% to \$141.9 million and Other (decomposed rock, etc.) down 30.3% to \$108.3 million.

PERCENTAGE CHANGE IN VALUE OF  
CONSTRUCTION MATERIAL COMMODITIES, AUSTRALIA(a),  
BETWEEN 1989-90 AND 1992-93



(a) Excludes Tasmania

TABLE 7. CONSTRUCTION MATERIALS PRODUCED<sup>(a)</sup>, STATES AND AUSTRALIA, 1992-93

Commodity code	Mineral	1987-88		1989-90		1992-93					
		Australia	Australia	NSW	Vic.	Qld	SA	WA	Tas.	NT	Australia
QUANTITY											
601	Sand	7'000 tonnes	(b)29,456	33,836	10,647	9,984	5,733	3,129	2,796	495	186
600	Gravel	9'000 tonnes	(b)14,895	12,259	5,823	1,780	2,788	555	58	47	1,090
605	Crushed and broken stone	9'000 tonnes	65,944	76,998	14,725	28,517	20,189	4,402	3,839	2,533	451
625	Dimension stone	9'000 tonnes	199	198	33	12	31	61	414	2	—
640	Other (decomposed rock, etc.)	9'000 tonnes	29,183	32,412	13,072	479	966	11,115	—	1,135	101
VALUE (\$'000)											
601	Sand	n.p.	(c)272,634	99,546	104,846	61,021	21,903	8,465	n.p.	1,333	(c)297,114
600	Gravel	n.p.	(c)161,666	96,351	9,350	29,160	1,118	283	n.p.	5,686	(c)41,948
605	Crushed and broken stone	n.p.	(c)766,788	176,971	385,668	156,881	33,195	53,765	n.p.	5,152	(c)811,632
625	Dimension stone	n.p.	(c)15,146	7,583	791	2,383	3,784	4,340	n.p.	—	(c)18,881
640	Other (decomposed rock, etc.)	n.p.	(c)155,343	57,139	3,915	2,773	43,975	—	n.p.	511	(c)108,313
<b>Total construction materials</b>		<b>(b)996,874</b>	<b>1,398,891</b>	<b>437,589</b>	<b>504,570</b>	<b>252,218</b>	<b>103,975</b>	<b>66,853</b>	<b>26,897</b>	<b>12,682</b>	<b>1,404,784</b>

(a) Incomplete owing to difficulty of coverage in some States. See Explanatory Notes, paragraph 9. (b) Excludes Western Australian production. (c) Excludes Tasmanian production.

TABLE 8. CONTENTS OF METALLIC MINERALS PRODUCED, STATES AND AUSTRALIA, 1992-93

In this table the contents of the various minerals (estimated by assay - see the Explanatory Notes) have been tabulated to show the aggregate quantity of each metal, metallic oxide or element contained in the various metallic minerals produced. The totals compiled in this way, are on a mine production basis and, as no allowance has been made for losses in smelting and refining, they are, in general, greater than the quantities actually recovered.

Commodity code	Mineral in which contained	1990-91		1991-92		1992-93		Australia	NSW	Vic.	Qld	SA	WA	Tas.	NT	Australia	
		(a) 9,960	(a) 10,018	Alumina ( $\text{Al}_2\text{O}_3$ ) ('000 tonnes)	Antimony (tonnes)	n.a.	—										
500	Bauxite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
556	Antimony concentrate	1,047	1,219	—	—	—	—	—	—	—	—	—	—	—	—	—	1,394
511	Gold concentrate	68	40	32	—	—	—	—	—	—	—	—	—	—	—	—	32
535	Lead concentrate	339	434	423	—	—	—	350	—	—	—	—	—	—	—	—	773
546	Lead-zinc concentrate	16	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
545	Silver concentrate	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
543	Zinc concentrate	4	7	5	—	—	—	—	—	—	—	—	—	—	—	—	5
547	Zinc-lead concentrate	20	1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	1,496	1,701	1,954	—	—	350	—	—	—	—	—	—	—	—	—	2,204
559	Bismuth concentrate	n.p.	n.p.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
502	Copper concentrate	n.p.	n.p.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	n.p.	n.p.	—	—	—	—	—	—	—	—	—	—	—	—	—	—
535	Lead concentrate	228	194	91	—	—	—	118	—	—	—	—	—	—	—	—	217
536	Lead-copper concentrate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3
546	Lead-zinc concentrate	16	—	2	—	—	—	—	672	—	—	—	—	—	—	—	2
543	Zinc concentrate	2,141	1,632	1,023	—	—	—	119	—	—	—	—	—	—	—	—	1,893
547	Zinc-lead concentrate	230	167	—	—	—	—	—	—	—	—	—	—	—	—	—	119
	Total	2,615	1,993	1,116	—	—	909	—	—	—	—	—	—	—	—	—	2,234
532	Nickel concentrate	222	634	—	—	—	—	—	—	—	—	—	—	—	—	—	287
533	Nickel ore	1,166	687	—	—	—	—	229	—	—	—	—	—	—	—	—	229
543	Zinc concentrate	17	31	34	—	—	—	—	—	—	—	—	—	—	—	—	34
	Total	1,405	1,352	34	—	229	—	—	—	—	287	—	—	—	—	—	550
502	Copper concentrate	n.p.	n.p.	47,610	11,773	226,194	76,844	—	—	—	—	—	—	—	—	n.p.	383
503	Copper ore	983	677	—	—	—	—	383	—	—	—	—	—	—	—	—	—
506	Copper precipitate	4,384	6,169	—	—	—	—	—	—	—	—	—	—	—	—	—	—
511	Gold concentrate	(b) 13,565	(b) 17,110	507	—	—	—	—	—	—	n.a.	—	—	—	—	(b) 507	6,276
535	Lead concentrate	6,948	6,607	3,661	—	—	—	2,345	—	—	—	—	—	—	—	—	n.a.
536	Lead-copper concentrate	2,308	1,533	—	—	—	—	—	—	—	—	—	—	—	—	—	270
546	Lead-zinc concentrate	68	1	126	—	—	—	—	—	—	—	—	—	—	—	—	126
532	Nickel concentrate	3,886	5,745	—	—	—	—	—	—	—	—	—	—	—	—	—	5,321
569	Pyrite concentrate	11	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
579	Pyrite ore	160	190	21	—	—	—	—	—	—	—	—	—	—	—	—	21
545	Silver concentrate	74	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
549	Tin concentrate	9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
543	Zinc concentrate	3,738	3,843	1,839	—	—	—	359	—	—	—	—	—	—	—	—	309
547	Zinc-lead concentrate	288	8	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	Total	n.p.	n.p.	\$3,764	11,773	229,281	76,844	24,863	28,390	n.p.	0						

For footnotes see end of table

TABLE 8. CONTENTS OF METALLIC MINERALS PRODUCED, STATES AND AUSTRALIA, 1992-93 - continued

Commodity code	Mineral in which contained	1990-91		1991-92		1992-93		Australia	NSW	Vic.	Qld	SA	WA	Tas.	NT	Australia										
			Australia		Australia		Australia																			
556	Antimony concentrate	34	46	51	—	—	—	—	—	—	—	—	—	—	—	51	—									
559	Bismuth concentrate	—	n.p.	—	—	—	—	—	—	—	—	—	—	—	—	—	—									
502	Copper concentrate	—	n.p.	507	—	—	—	5,510	1,148	n.c.	700	n.p.	n.p.	n.p.	n.p.	—	—									
503	Copper ore	n.a.	(b)	—	—	—	—	1	—	n.c.	—	—	—	—	—	(b)	(b)									
509	Gold bullion (dore)(c)	(b)51,007	(b)48,374	5,982	2,810	28,103	—	n.c.	—	n.c.	16,962	(b)(d)53,857	(b)(d)605	(b)	(b)	—	—									
511	Gold concentrate	(b)3,188	(b)3,828	605	—	—	—	n.c.	—	n.c.	—	—	—	—	—	—	—									
510	Gold ore	n.a.	12	1	—	—	—	—	—	—	—	—	—	—	—	—	1									
512	Other gold	5	1	—	—	—	—	—	—	—	—	—	—	—	—	n.p.	n.p.									
535	Lead concentrate	644	448	433	—	—	—	113	—	—	—	—	—	—	—	32	578									
536	Lead-copper concentrate	697	475	—	—	—	—	—	—	—	—	—	—	—	—	—	—									
546	Lead-zinc concentrate	2	—	48	—	—	—	—	—	—	—	—	—	—	—	—	48									
532	Nickel concentrate	n.c.	n.c.	—	—	—	—	—	—	—	—	—	—	—	—	—	—									
545	Silver concentrate	56	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									
543	Zinc concentrate	232	286	127	—	—	—	—	—	—	—	—	—	—	—	—	154									
547	Zinc-lead concentrate	30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									
<b>Total</b>		<b>n.p.</b>	<b>n.p.</b>	<b>7,754</b>	<b>2,810</b>	<b>33,727</b>	<b>1,148</b>	<b>199,800</b>	<b>759</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>									
(e)	Iron ore	69,553	71,497	—	—	—	—	1,591	69,366	1,118	—	—	—	—	—	72,075	—									
502	Copper concentrate	1,243	2,221	2,042	—	—	—	500	—	—	—	437	—	—	—	2,979	—									
503	Copper ore	—	—	—	—	—	—	2	—	—	—	—	—	—	—	—	2									
535	Lead concentrate	n.p.	n.p.	205,732	—	202,836	—	5	22,302	50,932	n.p.	n.p.	n.a.	n.a.	n.a.	n.p.	n.p.									
536	Lead-copper concentrate	2,790	305	—	—	—	—	—	—	—	—	—	—	—	—	—	581									
537	Lead ore	190	214	—	—	—	—	581	—	—	—	—	—	—	—	—	10,342									
546	Lead-zinc concentrate	15,230	14,191	760	—	—	—	—	—	—	—	—	—	—	—	—	—									
569	Pyrite concentrate	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									
579	Pyrite ore	8	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—									
545	Silver concentrate	1,209	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									
543	Zinc concentrate	28,077	31,291	12,964	—	—	—	13,777	—	—	—	5,495	—	—	—	32,236	—									
547	Zinc-lead concentrate	34,272	18,502	—	—	—	—	15,718	—	—	—	—	—	—	—	—	15,718									
<b>Total</b>		<b>n.p.</b>	<b>n.p.</b>	<b>221,498</b>	<b>—</b>	<b>233,415</b>	<b>5</b>	<b>22,302</b>	<b>66,446</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>									
563	Manganese ore - Metallurgical grade	n.p.	—	—	—	—	—	—	—	—	—	—	—	—	—	n.p.	n.p.									
565	Other grades	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.									
543	Zinc concentrate	5	5	5	—	—	—	—	—	—	—	—	—	—	—	—	5									
567	Molybdenum concentrate	3,430	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—									
524	Monazite concentrate	6,832	7,035	—	—	—	—	—	—	—	—	5,813	—	—	—	—	5,813									

For footnotes see end of table.

TABLE 8. CONTENTS OF METALLIC MINERALS PRODUCED, STATES AND AUSTRALIA, 1992-93 - continued

Commodity code	Mineral in which contained	1990-91		1991-92		1992-93		Australia
		Australia		Australia		Australia		
		Nickel (tonnes)	Vic.	Qld	SA	WA	Tas.	Australia
502	Copper concentrate	30	37	—	—	—	—	—
532	Nickel concentrate	54,069	50,232	—	—	53,279	—	34
533	Nickel ore	14,667	11,223	—	—	—	—	53,279
543	Zinc concentrate	—	3	2	—	—	—	3,516
	Total	68,768	61,495	36	—	53,279	—	2
532	Nickel concentrate	350	555	Palladium (kg)	—	422	—	422
				Selenium (tonnes)	—	—	—	—
502	Copper concentrate	15	26	31	—	—	—	—
535	Lead concentrate	24	24	29	—	—	—	31
543	Zinc concentrate	8	6	18	—	—	—	29
	Total	47	56	78	—	—	—	18
500	Bauxite	n.p.	n.p.	Silicon Dioxide ( $\text{SiO}_2$ ) (tonnes)	—	—	—	78
				Silver (kg)	—	—	—	—
502	Copper concentrate	106,223	125,274	26,180	3,092	41,569	13,196	172,516
503	Copper ore	n.a.	11	—	—	—	—	—
509	Gold bullion(dore)(c)	49,100	50,988	2,809	307	17,853	—	—
511	Gold concentrate	(b)972	517	747	—	—	31,969	n.a. 1,815
537	Lead ore	13	—	—	—	—	—	(d)54,753
535	Lead concentrate	n.p.	206,151	—	—	—	—	747
536	Lead-copper concentrate	19,330	10,018	—	—	—	—	n.p.
546	Lead-zinc concentrate	20,914	24,557	304	—	—	—	14,372
532	Nickel concentrate	236	198	—	—	—	1,425	1,425
569	Pyrite concentrate	12	—	—	—	—	—	—
579	Pyrite ore	76	78	12	—	—	—	12
545	Silver concentrate	34,996	—	—	—	—	—	—
541	Silver-lead-zinc ore	—	—	—	—	—	—	53
543	Zinc concentrate	n.p.	32,836	—	—	—	1,583	n.p.
547	Zinc-lead concentrate	71,722	56,119	—	—	60,727	—	47,367
	Total	n.p.	n.p.	269,039	3,399	603,106	13,196	96,897
502	Copper concentrate	24,031	41,615	Sulphur (tonnes)	—	—	—	57,841
535	Lead concentrate	(d)39,580	(d)54,710	57,841	—	—	—	(d)61,789
536	Lead-copper concentrate	n.a.	n.a.	60,789	—	—	n.a.	—
546	Lead-zinc concentrate	(d)3,847	(d)39	653	—	—	n.a.	(d)653
569	Pyrite concentrate	n.a.	n.a.	—	—	—	—	—
545	Silver concentrate	759	—	—	—	—	—	(d)319,637
543	Zinc concentrate	(d)320,958	(d)301,794	194,204	—	125,433	—	33,351
547	Zinc-lead concentrate	57,295	45,334	—	—	33,351	—	33,351
	Total	(d)412,470	(d)443,492	313,487	—	158,784	—	(d)472,271

For footnotes see end of table.

TABLE 8. CONTENTS OF METALLIC MINERALS PRODUCED, STATES AND AUSTRALIA, 1992-93 - continued

Commodity code	Mineral in which contained	1990-91		1991-92		1992-93					
		Australia	Australia	NSW	Vic.	Qld	SA	WA	Tas.	NT	Australia
<i>Tantalite-columbite concentrate</i>											154,928
570	Tantalite-columbite concentrate	228,641	253,800	<i>Tantalite-columbite (<math>Ta_2O_5+Nb_2O_5</math>) (kg)</i>		<i>Tin (tonnes)</i>		<i>Tin (tonnes)</i>		<i>Tin (tonnes)</i>	
535	Lead concentrate	19	18	—	—	—	—	—	—	—	20
546	Lead-zinc concentrate	2	—	—	—	—	—	—	—	—	—
549	Tin concentrate (incl. tin-wolfram concentrate)	5,628	5,959	13	54	150	5,694	—	—	—	5,911
543	Zinc concentrate	28	29	51	—	—	—	—	—	—	51
547	Zinc-lead concentrate	7	—	—	—	—	—	—	—	—	—
<b>Total</b>		<b>5,505</b>	<b>6,006</b>	<b>84</b>	<b>54</b>	<b>150</b>	<b>5,694</b>	<b>—</b>	<b>—</b>	<b>—</b>	<b>5,982</b>
<i>Titanium dioxide (<math>TiO_2</math>) (tonnes)</i>											n.p.
500	Bauxite	n.p.	n.p.	906,842	3,304	—	—	—	—	—	977,966
522	Ilmenite concentrate (inc beneficiated ilmenite)	891,287	10,721	161,376	48,209	—	—	—	—	—	10,247
523	Leucoxene concentrate	21,651	—	—	—	—	—	—	—	—	176,149
525	Rutile concentrate	192,017	—	—	—	—	—	—	—	—	n.p.
<b>Total</b>		<b>n.p.</b>	<b>n.p.</b>	<b>51,513</b>	<b>133,736</b>	<b>—</b>	<b>979,113</b>	<b>—</b>	<b>n.p.</b>	<b>n.p.</b>	<b>n.p.</b>
<i>Tungstic oxide (<math>WO_3</math>) (units of 10 kg)</i>											153
571	Scheelite concentrate	87,000	234	—	—	—	—	—	—	—	153
<i>Uranium (tonnes)</i>											n.p.
575	Uranium concentrate	n.p.	n.p.	—	—	—	1,105	—	—	—	n.p.
<i>Zinc (tonnes)</i>											n.p.
502	Copper concentrate	1,504	2,747	1,159	—	640	—	—	280	—	2,079
503	Copper ore	—	—	—	—	8	—	—	—	—	8
535	Lead concentrate	55,885	52,883	20,488	—	33,550	—	—	2,313	—	56,351
536	Lead-copper concentrate	1,358	211	—	—	—	—	—	8	—	8
546	Lead-zinc concentrate	25,747	28,155	604	—	—	—	—	24,028	—	24,632
569	Pyrite concentrate	3	—	—	—	—	—	—	—	—	—
579	Pyrite ore	27	24	—	—	—	—	—	—	—	—
545	Silver concentrate	645	—	—	—	—	—	—	—	—	—
543	Zinc concentrate	n.p.	300,762	—	261,229	—	127,968	—	n.p.	n.p.	36,513
547	Zinc-lead concentrate	66,004	55,064	—	36,513	—	—	—	—	—	472
544	Zinc ore	4,272	2,807	—	—	472	—	—	—	—	n.p.
<b>Total</b>		<b>n.p.</b>	<b>n.p.</b>	<b>323,013</b>	<b>331,940</b>	<b>472</b>	<b>127,968</b>	<b>234,350</b>	<b>n.p.</b>	<b>n.p.</b>	<b>277,219</b>
529	Zircon concentrate	223,869	237,632	44,008	—	34,886	—	198,325	—	—	—

(a) Excludes Queensland. (b) Excludes Western Australia. (c) Includes alluvial gold. (d) Excludes Tasmania. (e) Commodity codes 507,513,515. Includes iron ore pellets.

## EXPLANATORY NOTES

### *Introduction*

This publication presents details of the quantity and value of minerals produced during the year ended June 1993 for each State, the Northern Territory and Australia with some comparative statistics relating to preceding years. (Generally details are not available for publication for the Australian Capital Territory).

The statistics are derived from information supplied to the various State Mines Departments and the Australian Bureau of Statistics (ABS), supplemented in some cases by information made available by the Department of Primary Industries and Energy and the Joint Coal Board. The statistics for New South Wales, Queensland and the Northern Territory were compiled using data supplied by the State Mines Department or equivalent in those States.

Figures for Victoria and South Australia were compiled using the data supplied by the State Mines Department or equivalent with the exception of the Oil and Gas (Table 5) data. Value of oil and gas production figures were extracted from ABS data in order to publish an Australian total for that industry.

Statistics for Western Australia and Tasmania use State Mines data for quantities of production in Table 3 and for Tables 4–6. Value of production for Table 3 has been extracted from ABS data. As an exception to this general rule, ABS data was used for quantity as well as value of gold bullion and bauxite production in Western Australia.

The period covered by the annual census of mining establishments and the annual mineral production collection is in general the twelve months ended 30 June. Where businesses find it impossible to supply information on this basis a substitute accounting period is used.

Minerals included in this publication are classified into five major groups; metallic minerals, coal, oil and gas, construction materials and other non-metallic minerals.

### *Scope*

This publication covers the production activities of establishments classified according to the *Australian and New Zealand Standard Industrial Classification* (ANZSIC) 1993 (1292.0) to coal mining, oil and gas extraction, metal ore mining, construction material mining and mining n.e.c. industries. Mineral production data are also collected from establishments classified to other ANZSIC industries which, as subsidiary activities, carry out mining or quarrying (e.g. brick and cement manufacturing establishments extracting clays, limestone and electricity establishments mining brown coal), and from itinerant and part-time miners.

Data for construction materials and other non-metallic minerals are published on a triennial basis. The next triennial collection is scheduled for the 1995–96 financial year.

### *Coverage*

Coverage of metallic minerals, coal and oil and gas is complete. However, adequate records of production of metallic minerals by fossickers and small parties are not always available.

### *Principles for measuring quantity and value of minerals*

The quantities of individual minerals produced are recorded, in general, in the form in which the minerals are dispatched from the mine or from associated treatment works in the locality of the mine. Thus for metallic minerals, the output is recorded as ore if no treatment is undertaken at or near the mine, and as concentrate if ore dressing operations are carried out in associated works in the locality of the mine. In addition to the basic quantity data, the content of metallic minerals (based on assay) are recorded; no allowance has been made for losses in smelting and refining and the quantities shown are therefore in general, greater than the contents actually recovered.

In general, quantity statistics in this publication are quantities produced during the year. The figures cover, in addition to quantities produced for sale, quantities for transfer to other establishments of the management unit and quantities for consumption by the mine itself. In the case of some minerals (e.g. those which do not have a

marketable value until they are sold or dispatched from a mine) the quantities reported are dispatches or sales from the mine, rather than production, and the corresponding value of production refers to value of minerals dispatched or sold.

The production of individual minerals is valued at the mine or at associated treatment works in the locality of the mine. The valuation is derived, in general, by valuing the quantity produced during the year at the unit selling value less any transport costs from the mine or associated treatment works to the point of sale.

## ***World production of selected minerals***

Table 2 shows for 1992 estimated world production of selected minerals, the proportion accounted for by Australian production, and the world's leading producing country. The data for this table are obtained from the Australian Bureau of Agricultural and Resource Economics (ABARE) and data published by the United States Bureau of Mines.

## ***Related publications***

The following is a list of publications containing other mining and related statistics for Australia, published by the ABS, the Bureau of Resource Sciences (BRS) formerly the Bureau of Mineral Resources, Geology and Geophysics (BMR) or ABARE. Users are also referred to the annual reports of the State Mines Departments, which contain mineral statistics.

### **Exploration statistics**

Quarterly

*Actual and Expected Private Mineral Exploration, Australia (8412.0)*  
*Australian Petroleum Exploration and Development Statistics (BRS)*

### **Commodity statistics**

Monthly

*Foreign Trade, Australia, Merchandise Exports (5432.0)*

*Foreign Trade, Australia, Merchandise Imports (5433.0)*

Quarterly

*Foreign Trade, Australia, Merchandise Exports (5434.0)*

*Foreign Trade, Australia, Merchandise Imports (5435.0)*

*Australian Commodities: Forecasts and Issues (ABARE)*

*Quarterly Mineral Statistics (ABARE)*

Annual

*Foreign Trade, Australia, Merchandise Exports, Detailed Commodity Tables (5436.0)*

*Foreign Trade, Australia, Merchandise Imports, Detailed Commodity Tables (5437.0)*

*Commodity Statistical Bulletin (ABARE)*

### **Industry and related statistics**

Annual

*Mining Industry, Australia, Preliminary (8401.0)*

*Mining Industry, Australia (8402.0)*

*Electricity and Gas Operations, Australia (8208.0)*

*Business Operations and Industry Performance, Australia (8140.0)*

*Manufacturing Production, Australia, Preliminary (8301.0)* which includes details of the production (quantity of 27 important manufactured commodities (including electricity and gas) – issued approximately four weeks after the month to which it relates.

*Manufacturing Production, Australia, Energy Products (8368.0)* which includes details of the production of electricity and gas – issued quarterly.

*Manufacturing Industry, Australia (8221.0)*

*Agriculture Industries, Financial Statistics, Australia (7507.0)*

*Oil and Gas Resources of Australia (BRS)*

**Irregular**

*Mining Technology Statistics, Australia (8413.0)*

*Information Paper: ABS Business Register -- Recent Developments (8130.0)*

Current publications produced by the ABS are listed in the *Catalogue of Publications and Products, Australia (1101.0)*. The ABS also issues, on Tuesdays and Fridays, a *Publications Advice (1105.0)* which lists publications to be released in the next few days. The Catalogue and Publications Advice are available from any ABS office.

**Symbols and other usages**

-	nil or rounded to zero
n.a.	not available
n.c.	not collected (but included in totals where applicable)
n.e.c.	not elsewhere classified
n.p.	not available for separate publication (but included in totals where applicable)
ANZSIC	Australian and New Zealand Standard Industrial Classification
..	not applicable

Where figures have been rounded, discrepancies may occur between sums of the component items and totals.

The figures shown for previous years have been revised where necessary and, as a consequence, may not agree with similar data shown in previous publications. Details of industry classes for which revisions have been made can be obtained by contacting the ABS.

**Electronic services**

A large range of data is available via on-line services, diskette, magnetic tape, tape cartridge and CD ROM. For more details about our electronic data services, contact any ABS Office.









© Commonwealth of Australia 1994

Recommended retail price: \$21.50



2840500007929

ISSN 1321-1633

