

CATALOGUE NO. 8412.0

EMBARGOED UNTIL 11.30 A.M. 24 MARCH 1995

ACTUAL AND EXPECTED PRIVATE MINERAL EXPLORATION, AUSTRALIA DECEMBER QUARTER 1994

Mineral exploration (other than for petroleum)

Exploration expenditure for the December quarter 1994 totalled \$232.3 million, an increase of 11.2 per cent compared to the December quarter 1993, and an increase of 2.7 per cent compared to the September quarter 1994.

Expenditure on production leases for the December quarter increased by 24.3 per cent compared to the December quarter 1993. Expenditure on all other areas increased by 8.2 per cent from the December quarter 1993 and by 3.5 per cent from the September quarter 1994.

The largest absolute increase in the search for minerals between December quarter 1993 and December quarter 1994 was \$31.9 million (28.6%) for gold exploration. The most significant absolute decrease was \$6.5 million (72.2%) for iron ore.

Total metres drilled increased in the December quarter 1994 by 9.4 per cent compared with the December

quarter 1993. Drilling on production leases increased by 31.4 per cent and on all other areas by 1.0 per cent.

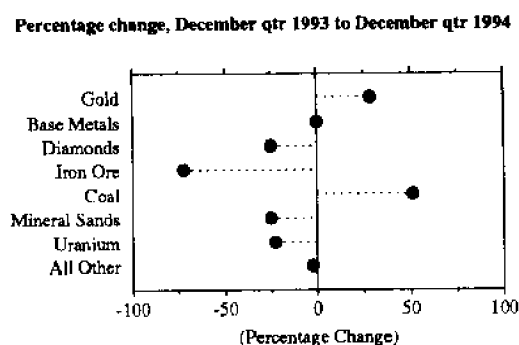
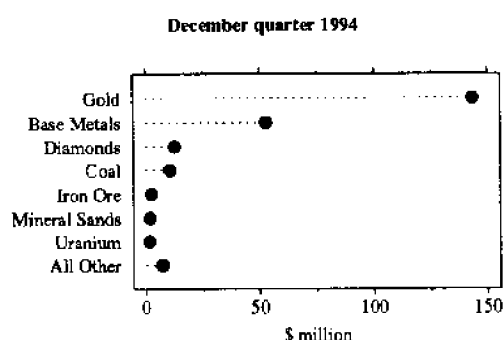
Petroleum exploration

Total expenditure on petroleum exploration in the December quarter 1994 was \$184.7 million, an increase of 40.8 per cent compared to the December quarter 1993 and an increase of 2.3 per cent compared to the September quarter 1994.

Expenditure on production leases increased by 34.2 per cent compared to the December quarter 1993. Expenditure on all other areas increased by 41.8 per cent over the same period.

Total onshore exploration increased by 35.1 per cent compared to the December quarter 1993, while total offshore exploration increased by 42.5 per cent.

MINERAL EXPLORATION EXPENDITURE BY TYPE OF MINERAL SOUGHT



NOTE: This publication presents for the first time some summary information on overseas exploration expenditure by resident Australian companies together with information on drilling methods used in the exploration for minerals in Australia. The details covered are for the 1993-94 financial year. Further information is available on request from the ABS.

INQUIRIES

- for further information about statistics in this publication and the availability of related unpublished statistics contact Nicole Pikos on Darwin (089) 432 171 or any ABS Office.
- for any information about other ABS statistics and services please contact Information Services on (06) 252 6007 or any other ABS State Office

TABLE 1. PRIVATE EXPLORATION : ACTUAL AND EXPECTED EXPENDITURE

Period	Mineral (other than petroleum)			Petroleum onshore			Petroleum offshore		
	Expenditure		Actual as a percentage of expected	Expenditure		Actual as a percentage of expected	Expenditure		Actual as a percentage of expected
	Actual	Expected(a)		Actual	Expected(a)		Actual	Expected(a)	
	\$m	\$m	per cent	\$m	\$m	per cent	\$m	\$m	per cent
1988-89	697.6	578.8	120.5	233.6	301.1	77.6	405.7	404.9	100.2
1989-90(b)	607.5	539.1	112.7	143.2	216.1	66.3	439.4	413.8	106.2
1990-91	601.7	452.6	132.9	217.1	165.8	130.9	365.4	326.8	111.8
1991-92	604.0	466.5	129.5	135.3	191.3	70.7	338.8	344.0	98.5
1992-93	631.8	532.8	118.6	115.2	131.1	87.9	496.7	438.5	113.3
1993-94	792.6	553.0	143.3	144.5	100.1	144.4	362.1	459.2	78.9
<i>Six months ended</i>									
December 1993	396.4	233.6	169.3	66.1	59.9	110.3	203.6	224.1	90.9
June 1994	396.2	319.4	124.1	78.4	41.3	189.8	158.5	235.1	67.4
December 1994	458.4	349.2	131.3	84.0	58.8	142.9	281.1	336.3	83.6
June 1995	n.y.a.	347.0	n.y.a.	n.y.a.	61.5	n.y.a.	n.y.a.	255.8	n.y.a.

(a) As reported in a previous census. See Explanatory Notes, paragraph 9. (b) See Explanatory Notes, paragraph 4.

TABLE 2. MINERAL EXPLORATION (OTHER THAN PETROLEUM) EXPENDITURE AND METRES DRILLED

Period	Expenditure (\$ million)			Metres drilled ('000 metres)		
	On production leases	On all other areas	Total	On production leases	On all other areas	Total
	1988-89	111.9	585.7	697.6	1,812	4,765
1989-90(a)	90.3	517.3	607.5	1,598	4,735	6,332
1990-91	115.4	486.3	601.7	1,760	4,452	6,212
1991-92	130.9	473.1	604.0	1,626	4,253	5,877
1992-93	148.4	483.4	631.8	1,944	5,049	6,993
1993-94	184.4	608.1	792.6	2,770	6,810	9,580
<i>1993-94</i>						
September quarter	43.6	143.8	187.5	617	1,892	2,509
December quarter	41.1	167.5	208.9	714	1,829	2,544
March quarter	38.8	136.8	175.6	596	1,446	2,042
June quarter	60.0	160.0	220.6	842	1,643	2,485
<i>1994-95</i>						
September quarter	51.0	175.0	226.1	833	1,918	2,751
December quarter	51.1	181.2	232.3	938	1,847	2,784

(a) See Explanatory Notes, paragraph 4.

TABLE 3. MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM) : EXPENDITURE BY STATE

Period	(\$ million)							
	NSW	Vic	Qld	SA	WA	Tas	NT	Australia
1988-89	50.6	21.7	139.8	16.6	387.2	13.1	68.6	697.6
1989-90(a)	55.1	21.0	128.4	13.2	315.4	11.8	62.6	607.5
1990-91	60.6	12.7	124.1	15.5	324.8	9.9	53.9	601.7
1991-92	63.3	12.6	109.9	19.7	332.8	7.9	57.8	604.0
1992-93	60.9	12.2	117.9	21.3	348.1	7.8	63.5	631.8
1993-94	73.6	20.7	139.9	24.7	453.7	10.2	69.8	792.6
<i>1993-94</i>								
September quarter	14.4	3.5	33.1	5.6	110.4	1.7	18.9	187.5
December quarter	18.4	4.6	39.6	6.4	119.0	2.0	18.9	208.9
March quarter	15.8	6.3	30.2	6.9	100.9	3.4	12.1	175.6
June quarter	25.0	6.3	37.0	5.8	123.4	3.1	19.9	220.6
<i>1994-95</i>								
September quarter	18.4	6.7	45.0	4.6	127.5	2.8	21.1	226.1
December quarter	18.3	6.5	53.7	5.1	126.4	2.9	19.3	232.3

(a) See Explanatory Notes, paragraph 4.

**TABLE 4. MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)
EXPENDITURE BY TYPE OF MINERAL SOUGHT BY STATE, DECEMBER QUARTER 1994
(\$ million)**

Period	Copper, lead zinc, silver nickel and cobalt	Gold	Iron ore	Mineral sands	Tin, tungsten, scheelite, wolfram	Uranium	Coal	Con- struction materials	Diamonds	Other	Total
New South Wales	5.3	9.4	—	0.1	—	—	n.p.	—	0.4	1.0	18.3
Victoria	0.7	4.6	n.p.	n.p.	n.p.	—	—	—	n.p.	n.p.	6.5
Queensland	23.1	19.3	n.p.	0.2	0.3	n.p.	8.3	n.p.	n.p.	2.3	53.7
South Australia	2.5	1.4	n.p.	—	—	0.1	n.p.	n.p.	0.4	0.7	5.1
Western Australia	14.5	97.4	n.p.	1.3	—	n.p.	n.p.	n.p.	9.4	0.8	126.4
Tasmania	1.6	0.4	n.p.	—	n.p.	n.p.	n.p.	n.p.	n.p.	—	2.9
Northern Territory	5.0	11.1	n.p.	n.p.	n.p.	n.p.	—	—	2.2	0.5	19.3
Australia	52.5	143.5	2.5	1.8	0.4	1.7	10.6	0.2	12.5	6.5	232.3

**TABLE 5. MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)
EXPENDITURE BY TYPE OF MINERAL SOUGHT, AUSTRALIA
(\$ million)**

Period	Copper, lead zinc, silver nickel and cobalt	Gold	Iron ore	Mineral sands	Tin, tungsten, scheelite, wolfram	Uranium	Coal	Con- struction materials	Diamonds	Other	Total
1988-89	100.4	448.5	7.0	16.5	1.4	28.3	29.0	1.1	32.6	32.7	697.6
1989-90 (a)	118.0	341.3	11.3	19.3	2.8	18.8	33.4	2.8	37.2	22.8	607.5
1990-91	171.8	300.8	11.2	19.2	2.4	12.8	23.1	2.7	39.0	18.5	601.7
1991-92	144.9	304.7	36.9	13.9	1.7	12.8	27.5	1.6	35.7	24.3	604.0
1992-93	183.4	320.1	24.0	9.8	0.5	8.8	24.2	1.1	38.1	21.9	631.8
1993-94	191.6	453.7	18.8	8.5	1.1	7.6	27.7	1.3	58.7	23.5	792.6
<i>1993-94</i>											
September quarter	48.0	100.1	6.1	2.4	0.1	2.6	6.4	0.3	15.8	5.7	187.5
December quarter	52.7	111.6	9.0	2.4	0.1	2.2	7.0	0.2	16.7	7.0	208.9
March quarter	40.2	108.8	2.5	1.5	0.7	1.4	6.8	0.3	9.3	4.1	175.6
June quarter	50.6	133.4	1.2	2.2	0.2	1.4	7.4	0.4	16.9	6.8	220.6
<i>1994-95</i>											
September quarter	47.8	138.2	2.9	1.9	0.1	2.1	10.7	0.1	17.0	5.2	226.1
December quarter	52.5	143.5	2.5	1.8	0.4	1.7	10.6	0.2	12.5	6.5	232.3

(a) See Explanatory Note, paragraph 4.

**TABLE 6. PETROLEUM EXPLORATION EXPENDITURE
(\$ million)**

Period	Onshore			Offshore			Total expenditure		
	Drilling	Other	Total	Drilling	Other	Total	On production leases		Total
							On production leases	On all other areas	
1988-89	136.1	97.5	233.6	299.4	106.2	405.7	130.1	509.2	639.3
1989-90	73.8	69.5	143.2	349.8	89.6	439.4	65.5	517.2	582.6
1990-91	128.8	88.3	217.1	237.1	108.4	365.4	131.2	451.4	582.6
1991-92	60.5	75.0	135.3	142.2	196.4	338.8	70.4	403.6	473.9
1992-93	62.8	52.4	115.2	283.7	213.1	496.7	69.1	542.9	611.9
1993-94	84.4	60.0	144.5	208.0	154.2	362.2	70.1	436.5	506.7
<i>1993-94</i>									
September quarter	23.5	11.2	34.8	68.3	35.5	103.7	15.7	122.8	138.5
December quarter	17.1	14.2	31.3	58.5	41.4	99.9	19.3	111.9	131.2
March quarter	14.5	17.9	32.4	40.0	40.4	80.3	15.0	97.7	112.7
June quarter	29.3	16.7	46.0	41.2	37.0	78.2	20.2	104.1	124.2
<i>1994-95</i>									
September quarter	r26.0	r15.8	r41.7	108.5	30.2	138.7	r28.9	r151.5	r180.5
December quarter	17.2	25.1	42.3	106.7	35.7	142.4	25.9	158.7	184.7

**TABLE 7. OVERSEAS EXPLORATION EXPENDITURE OF AUSTRALIAN RESIDENT COMPANIES (a)
BY REGION & TYPE OF MINERAL SOUGHT, 1993-94**
(\$ million)

	<i>North America(b)</i>	<i>Latin America(c)</i>	<i>PNG</i>	<i>Indonesia</i>	<i>Other Asia</i>	<i>Africa</i>	<i>Other</i>	<i>Total</i>
Petroleum	n.p.	n.p.	23.9	n.p.	26.2	n.p.	n.p.	166.2
Copper, lead, zinc, silver, nickel and cobalt	n.p.	n.p.	n.p.	3.8	4.0	—	1.7	14.0
Gold	4.3	8.2	6.1	18.0	10.0	2.2	5.3	54.2
Iron ore	—	—	—	—	—	—	—	—
Mineral sands	4.3	n.p.	—	n.p.	n.p.	n.p.	n.p.	5.7
Tin, tungsten, scheelite and wolfram	—	—	—	—	—	—	—	—
Uranium	—	—	—	—	—	—	—	—
Coal	—	—	n.p.	—	n.p.	—	—	0.3
Construction materials	—	—	—	—	n.p.	—	—	n.p.
Bauxite	—	—	—	—	—	—	—	—
Diamonds	n.p.	n.p.	—	1.5	2.1	0.1	3.0	12.3
Other	n.p.	—	—	—	n.p.	—	—	1.2
Unknown (d)	—	—	—	—	n.p.	—	n.p.	n.p.
Total	47.5	42.0	31.7	29.9	45.0	7.1	52.3	255.5

(a) Excludes overseas subsidiaries of Australian resident companies (b) Includes Canada (c) Comprises Mexico, South America, Central America and the Caribbean
(d) Preliminary exploration where the commodity is not yet known.

TABLE 8A. DRILLING METHODS : TOTAL EXPENDITURE BY STATE, 1993-94
(\$ million)

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT</i>	<i>Australia</i>
Diamond	14.8	n.p.	22.0	n.p.	78.6	4.5	7.9	131.9
Reverse Circulation	n.p.	1.2	9.3	n.p.	69.6	n.p.	n.p.	91.3
Percussion	1.4	n.p.	n.p.	0.4	n.p.	—	n.p.	11.3
Rotary Air Blast	n.p.	n.p.	3.8	0.5	33.0	—	1.7	40.0
Other	n.p.	n.p.	n.p.	n.p.	n.p.	n.p.	0.6	9.0
Total	21.3	4.2	40.8	3.6	192.1	4.9	16.6	283.6

TABLE 8B. DRILLING METHODS : TOTAL METRES DRILLED, BY STATE, 1993-94
('000 metres)

	<i>NSW</i>	<i>Vic.</i>	<i>Qld</i>	<i>SA</i>	<i>WA</i>	<i>Tas.</i>	<i>NT</i>	<i>Australia</i>
Diamond	138.3	n.p.	196.9	n.p.	809.0	42.0	n.p.	1,310.8
Reverse Circulation	130.8	52.6	299.3	n.p.	2,715.1	n.p.	196.2	3,435.8
Percussion	45.5	n.p.	169.0	n.p.	n.p.	—	n.p.	344.9
Rotary Air Blast	n.p.	n.p.	335.8	n.p.	3,755.4	—	n.p.	4,422.3
Other	n.p.	n.p.	14.4	n.p.	n.p.	n.p.	n.p.	568.3
Total	406.6	101.7	1,015.3	124.0	7,764.8	55.5	614.2	10,082.2

EXPLANATORY NOTES

Introduction

This publication contains annual and quarterly statistics of private sector exploration for minerals (other than oil shale) in Australia.

Source

2. Data are collected and compiled from the exploration censuses conducted by the Australian Bureau of Statistics (ABS).

Scope and coverage

3. All exploration activity is included, regardless of the main activity of the explorer. Details of exploration are collected from all private enterprises known to be engaged in exploration.

4. From September quarter 1989, details of mineral explorers reporting less than \$5,000 per quarter have been excluded from the Tables, resulting in a small break in the series from 1989-90. Data linking the two collection methodologies for Tables 2, 3 and 5 are contained in the September quarter 1990 issue.

Classification

5. The following categories are used :

(a) *Production lease/Other*, where a production lease is an area on which production or development is actually taking place.

(b) *Onshore/Offshore*, where offshore includes all operations in a marine area under the *Petroleum (Submerged Lands) Act 1967* or under any Acts administered by State governments.

(c) *Drilling/Other*, where *drilling expenditure* includes cost of access (roads, vessel hire, etc.) to the drilling site and site preparation etc., and *other expenditure* includes costs of surveys, report writing, map preparation and all other activities attributable to exploration.

Definitions

6. *Minerals*. In the broad sense these comprise metallic minerals, construction materials, gemstones, other non-metallic minerals and petroleum (oil or gas).

7. *Exploration*. This includes the search for new ore occurrences or undiscovered oil or gas, and/or appraisal intended to delineate or greatly extend the limits of known deposits of minerals or oil or gas reservoirs by geological, geophysical, geochemical, drilling or other methods. This includes construction of shafts and adits primarily for exploration purposes but excludes activity of a developmental or production nature. Exploration for water is excluded.

8. *Exploration expenditure*. This covers all expenditure on exploration activity in Australia. It includes expenditure on aerial surveys (including landsat photographs), general surveys, report writing, map preparation and other activities indirectly attributable to exploration. Cash bids for offshore petroleum exploration permits are also included.

9. *Expected expenditure*. This refers to expected expenditure on exploration as reported by private enterprise explorers who were included in the previous census. Events such as new discoveries, unexpected weather conditions, government policy changes and unforeseen changes in economic conditions may cause actual expenditures to differ from those previously expected. The differences between actual and expected expenditure can be seen in Table 1.

Overseas Exploration

10. The ABS, for the first time in 1994, conducted a supplementary survey to collect details of overseas exploration expenditure from Australian resident companies. Table 7 excludes data for overseas subsidiaries of Australian resident companies. Data for 1992-93 is also available on request.

Drilling Methods

11. A supplementary survey was also conducted during 1994 to collect further information on exploration drilling for minerals in Australia. Data is also available for drilling methods used on production leases and other areas, as defined in point 5 of these notes.

12. Data was collected for the following drilling methods:

Diamond drilling uses rotary action combined with a diamond impregnated drill bit to produce a solid cylindrical sample called drill core.

Reverse Circulation drilling uses a combination of separate percussive and rotational actions. Reverse circulation drilling differs from percussion drilling in that the drill cuttings are removed by compressed air up an inner tube in the drilling rods (instead of outside the rods) to improve sample quality.

Percussion drilling uses a combination of separate percussive and rotational actions. Compressed air is used to remove drill cuttings outside of the drill rods.

Rotary Air Blast (RAB) drilling generally uses rotational action with a blade bit to reach bedrock using compressed air to remove drill cuttings.

Related information

13. 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.

14. Publications showing details of wells and metres drilled in petroleum exploration are available from the Petroleum Resource Assessment Branch of the Bureau of Resource Sciences (formerly the BMR).

Symbols and other usages

- n.y.a. not yet available
 n.p. not available for separate publication but
 included in totals
 n.a. not available
 — nil or rounded to zero
 r figures revised since previous issue

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

16. Percentage changes shown in this publication have been calculated on actual figures as reported by explorers.

Electronic services

A large range of ABS data is available via on-line services, diskette, magnetic tape, tape cartridge, and CD-ROM. For more details on Electronic Data Services contact Information Services in any of the ABS Offices.

RICHARD MADDEN
 Acting Australian Statistician

