



September Quarter 1997

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Actual and Expected Private Mineral Exploration

Australia

Statistics

NOTES

FORTHCOMING ISSUES

ISSUE

RELEASE DATE

December quarter 1997

20 March 1998

March quarter 1998

23 June 1998

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CHANGES IN THIS PUBLICATION

This issue contains revised data for June quarter 1997.

Following amended data being received from respondents, Table 7 includes revisions for 1995-96.

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SYMBOLS AND OTHER USAGES

n.a. not available

n.p. not available for publication but included in totals where applicable

n.y.a. not yet available

r figure or series revised since previous issue

.. not applicable

— nil or rounded to zero

.....

INQUIRIES

For information about other ABS statistics and services, please refer to the back of this publication.

For further information about these statistics, contact Maureen Geer on Darwin (08) 8943 2171.

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Australian Statistician

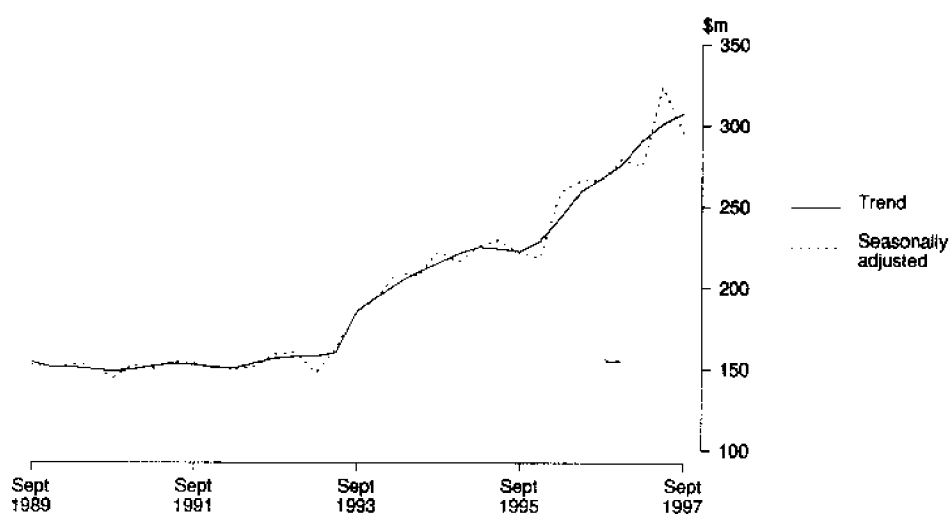
SUMMARY OF FINDINGS

MINERAL EXPLORATION EXPENDITURE (other than for petroleum)

TREND ESTIMATES

The trend estimate for mineral exploration expenditure continued to show an upward movement in September quarter 1997.

Between the June and the September quarters of 1997, the trend estimate increased by 2.2% (\$6.7m) to \$308.1m. This is 15.2% (\$40.7m) higher than the estimate for the September quarter 1996.



States and Territories

While increasing in most States, the trend series continued to fall in Victoria (down \$1.1m) and in the Northern Territory (down \$0.8), with Queensland showing no change from the June quarter estimate. Western Australia again showed the largest increase, up \$4.0m to \$186.8. Tasmania (up 22.2%) and South Australia (up 13.7%) showed the largest percentage increases for the quarter. In these three States, the trend series has now been increasing for several quarters.

Metres drilled

The trend estimate for total metres drilled continued to increase with the September quarter 1997 estimate up 1.9% from the previous quarter to 3.5 million metres. This is 19.1% above the September quarter 1996 estimate.

SUMMARY OF FINDINGS *continued*

SEPTEMBER QUARTER

In seasonally adjusted terms, there was a fall of 8.9% to \$295.3m in the September quarter 1997. Falls were reported in most States, with the exceptions being South Australia, Tasmania and the Northern Territory where small increases occurred.

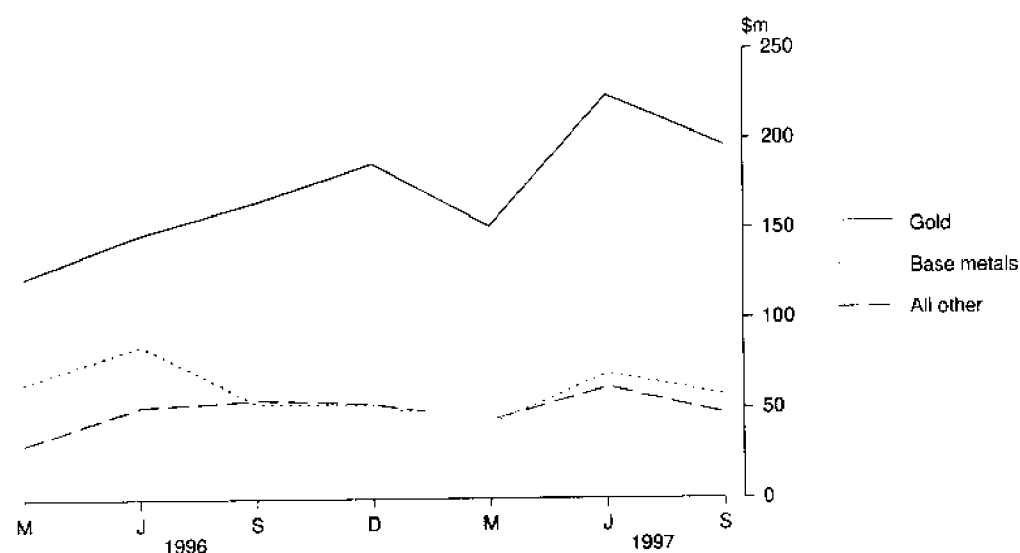
In original terms, mineral exploration expenditure reported for the September quarter was \$301.8m. This was a fall of \$45.4m (13.1%) from the June quarter, but was \$27.6m (10.1%) higher than the \$274.2m reported for the September quarter 1996.

Exploration expenditure on both production leases and on all other areas decreased in the September quarter. Expenditure on production leases fell by \$24.1m (22.4%) to \$83.3m, while expenditure on all other areas fell \$21.2m (8.8%) to \$218.5m.

Between the September quarter 1996 and the September quarter 1997, expenditure on production leases increased by \$10.3m (14.1%), and expenditure on all other areas rose by \$17.3m (8.6%).

Gold continued as the predominant mineral sought, accounting for \$196.7m (65.2%) of the total expenditure reported during the September quarter. Although decreasing from the June quarter (down 12.9%), expenditure on gold exploration increased by \$31.2m (18.9%) from the September quarter of 1996.

The proportion of total exploration expenditure for gold continued to increase. The proportion in the September quarter 1997 (65.2%) compares with 60.4% for the September quarter 1996 and 58.4% for the September quarter 1995.



SUMMARY OF FINDINGS *continued*

METRES DRILLED

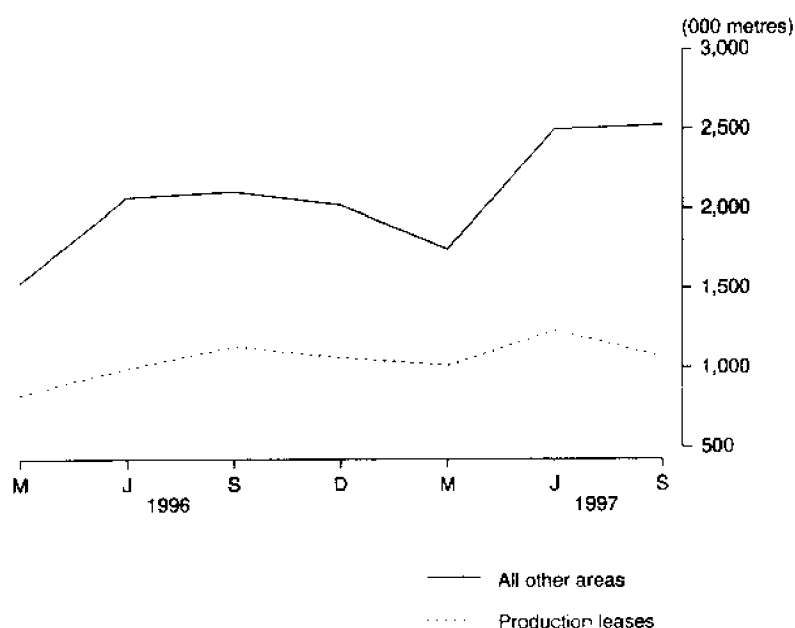
Although the trend estimate of the number of metres drilled increased, in both seasonably adjusted and original terms the number fell during the September quarter 1997.

The seasonably adjusted estimate of 3.3 million metres for the September quarter was 9.8% lower than the estimate for the June quarter 1997. However, this was 10.7% higher than for the September quarter 1996.

In original terms, a total of 3.6 million metres were drilled in the September quarter. This was 3.6% (0.1 million metres) less than for the June quarter, but 10.7% higher than the metres drilled in the September quarter 1996.

Although drilling on production leases was down by 13.0% from the June quarter, drilling on all other areas increased by 1.1%.

The number of metres drilled on areas other than production leases represented 70.2% of the total in the September quarter 1997. This ratio is similar to previous periods.



SUMMARY OF FINDINGS *continued*

PETROLEUM EXPLORATION EXPENDITURE

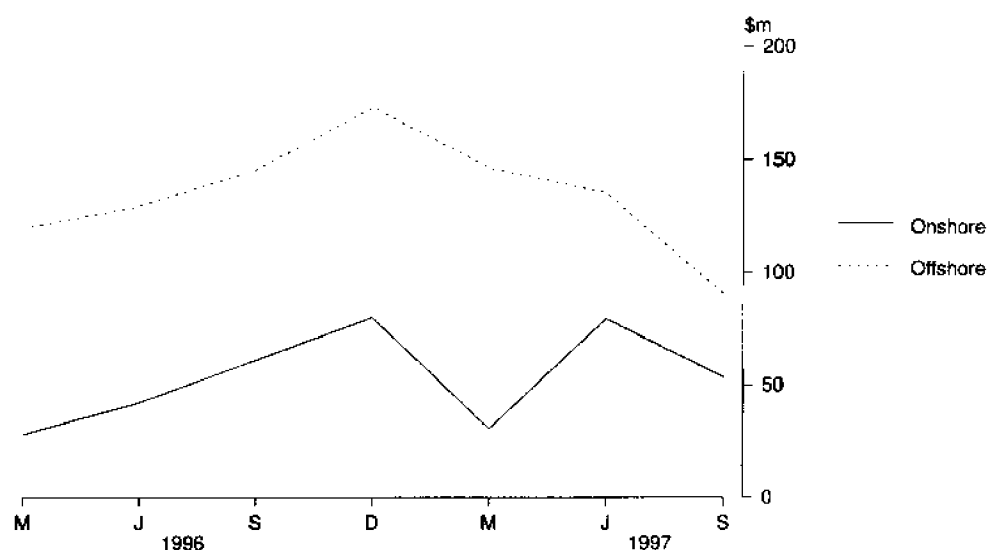
OVERVIEW

Total expenditure on petroleum exploration was \$144.2m in the September quarter 1997. This was a decrease of 33.0% (\$70.9m) from the June quarter and was 30.3% (\$62.8m) lower than for the September quarter 1996. The fall occurred in both on and offshore areas, and in both production and other leases.

Expenditure on both production leases and on all other areas fell during the September quarter. Expenditure on production leases decreased by 65.3% (\$20.3m) to \$10.8m, the lowest quarterly level since the March quarter 1992. Expenditure on all other areas was down 27.5% (\$50.6m) to \$133.4m. The majority of this decrease was in Western Australia where exploration expenditure fell by \$54.7 million.

Compared with the September quarter 1996, expenditure on production leases was 69.0% lower while exploration expenditure on all other areas decreased by 22.5%.

Offshore exploration expenditure decreased by 33.1% (\$44.8m) from the June quarter to \$90.6m, while onshore expenditure fell by 32.7% to \$53.6m. Offshore expenditure was 37.9% lower and onshore expenditure fell by 12.4% compared with the September quarter 1996.



REGIONAL DATA

For the September quarter regional data on petroleum exploration are available only for Victoria, Queensland, Western Australia and the Northern Territory (including the Territory of Ashmore and Cartier Islands).

With the exception of Queensland, where a small increase occurred, all other regions reported decreases from the previous quarter. The most significant decrease was in Western Australia where the September quarter 1997 expenditure of \$46.8m was 53.9% (\$54.7m) lower than the June quarter. This was the lowest recorded since regional data was first collected (in the September quarter 1994). Compared with the September quarter 1996, expenditure was down \$84.7m or 64.4%.

SUMMARY OF FINDINGS *continued*

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OVERSEAS EXPLORATION

Australian resident companies spent \$759.6m exploring for minerals and petroleum overseas in 1996-97, 13.5% more than in the previous financial year.

Expenditure on petroleum exploration of \$321.0m accounted for the highest proportion (42.3%) of total overseas expenditure.

Gold was the highest mineral sought with expenditure of \$227.2m, 29.9% of total, followed by base metals with \$174.4m (23.0%).

North America continues to be the region attracting most expenditure, with expenditure in this region of \$254.1m, 33.5% of the total. This was an increase of 14.5% from the previous year.

Other notable increases were reported for exploration expenditure in Latin America, up 32.5% to \$120.3m, Africa, up 25.9% to \$118.2m, and Indonesia, up 62.7% to \$109.0m.

Papua-New Guinea was the only region reporting a significant decrease, with less than a quarter of the previous year's expenditure being reported for 1996-97.

DRILLING METHODS

Reverse circulation drilling was the most common drilling method used in 1996-97. It replaced rotary air blast (RAB) drilling as the major drilling method in terms of metres drilled, accounting for 38.6% (5.2 million metres) of the total in 1996-97. The metres drilled by reverse circulation drilling increased 31.7% compared with the increase of 14.5% for RAB.

Reverse circulation drilling also accounted for the largest proportion (42.3%) of drilling expenditure in 1996-97. Expenditure on this method increased 72.6% (\$85.6m) from 1995-96 to \$203.5m in 1996-97. This exceeded the increase in expenditure on diamond drilling of 20.7% (\$28.7m). Diamond drilling accounted for 34.8% of total drilling expenditure in 1996-97.

Period	MINERAL EXPLORATION.....			PETROLEUM ONSHORE.....			PETROLEUM OFFSHORE.....		
	Actual	Expected(a)	Actual as a proportion of expected	Actual	Expected(a)	Actual as a proportion of expected	Actual	Expected(a)	Actual as a proportion of expected
	\$m	\$m	%	\$m	\$m	%	\$m	\$m	%
1994-95	893.3	768.8	116.2	170.8	120.3	142.0	511.7	592.1	86.4
1995-96	960.2	773.6	124.1	174.8	185.6	94.2	550.3	428.0	128.6
1996-97	r1 148.5	808.9	r142.0	r251.9	206.2	r122.2	r601.1	446.6	r134.6
Six months ended									
June 1996	503.8	401.3	125.5	70.4	101.2	69.6	249.3	220.4	113.1
December 1996	565.8	361.8	156.4	141.5	91.2	155.2	319.1	207.9	153.5
June 1997	r582.8	447.1	r130.4	r110.4	115.0	r96.0	r281.9	238.7	r118.1
December 1997	n.y.a.	r513.7	n.y.a.	n.y.a.	r83.3	n.y.a.	n.y.a.	r345.8	n.y.a.

(a) As reported in previous collections. Refer to Explanatory Notes paragraph 13.

Period	EXPENDITURE.....					METRES DRILLED.....				
	On production leases	On all other areas	Seasonally adjusted Total	Trend estimate		On production leases	On all other areas	Seasonally adjusted Total	Trend estimate	
	\$m	\$m	\$m	\$m	\$m	'000 m	'000 m	'000 m	'000 m	'000 m
1994-95	202.5	690.7	893.3	..	..	3 329	7 001	10 330	..	..
1995-96	208.8	751.5	960.2	..	..	3 520	6 995	10 514	..	..
1996-97	r306.1	r842.4	r1 148.5			r4 453	r8 378	r12 831		
1995										
December qtr	47.1	182.2	229.3	218.6	229.1	824	1 458	2 282	2 119	2 707
1996										
March qtr	54.6	184.4	219.0	259.1	243.5	832	1 533	2 364	2 860	2 847
June qtr	60.9	224.0	284.9	266.1	259.5	998	2 071	3 069	3 030	2 946
September qtr	73.0	201.2	274.2	266.6	267.4	1 138	2 110	3 248	2 996	2 961
December qtr	68.1	223.5	291.6	279.2	276.4	1 062	2 025	3 086	2 868	3 078
1997										
March qtr	57.6	178.0	235.6	275.1	290.9	1 021	1 746	2 768	3 351	3 288
June qtr	r107.4	r239.7	r347.2	324.0	301.4	r1232	r2497	r3729	3 677	3 461
September qtr	83.3	218.5	301.8	295.3	308.1	1,072	2,524	3,596	3 318	3 528

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australia
Period	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m

ORIGINAL

1994-95	79.2	31.2	176.0	20.9	495.5	14.9	75.8	893.3
1995-96	80.3	42.6	181.0	24.1	519.5	18.7	93.9	960.2
1996-97	r94.1	r51.9	r160.8	r35.1	r691.7	r26.1	r88.9	r1 148.5

1995								
December qtr	17.7	11.5	39.4	6.6	128.9	5.6	19.5	229.3
1996								
March qtr	19.2	10.1	40.9	5.1	118.6	6.0	19.1	219.0
June qtr	23.0	12.8	56.9	6.8	147.0	4.7	33.7	284.9
September qtr	21.1	14.9	38.3	5.4	162.8	4.2	27.5	274.2
December qtr	20.6	14.1	45.1	8.0	173.1	5.7	25.0	291.6
1997								
March qtr	22.0	9.6	31.6	7.2	144.2	6.0	14.8	235.6
June qtr	r30.4	r13.2	r45.7	r14.5	r211.6	10.1	r21.6	r347.2
September qtr	23.3	9.5	41.9	12.5	182.7	9.7	22.1	301.8

SEASONALLY ADJUSTED

1995								
December qtr	18.0	11.2	34.6	6.1	124.2	5.9	18.6	218.6
1996								
March qtr	20.3	10.1	52.0	6.1	138.1	5.0	27.6	259.1
June qtr	20.9	12.8	54.7	6.1	137.1	4.5	29.9	266.1
September qtr	21.5	15.5	37.0	5.6	157.8	5.2	24.1	266.6
December qtr	21.3	13.7	39.7	7.4	167.0	6.0	24.1	279.2
1997								
March qtr	23.0	9.6	40.0	8.5	167.7	5.0	21.3	275.1
June qtr	27.5	13.2	43.9	13.0	197.4	9.8	19.2	324.0
September qtr	23.7	9.8	40.5	13.1	177.0	11.9	19.3	295.3

TREND

1995								
December qtr	19.5	9.9	43.1	6.0	126.3	4.9	19.4	229.1
1996								
March qtr	19.8	11.3	47.5	6.0	132.9	5.0	21.0	243.5
June qtr	20.6	13.1	48.2	5.9	143.6	5.1	23.0	259.5
September qtr	21.2	13.9	43.8	6.0	153.5	4.9	24.1	267.4
December qtr	22.1	13.4	39.4	7.2	165.6	5.3	23.4	276.4
1997								
March qtr	23.8	12.0	40.1	9.4	176.2	6.8	22.6	290.9
June qtr	25.0	11.8	41.9	11.7	182.8	9.0	19.9	301.4
September qtr	25.3	10.7	41.9	13.3	186.8	11.0	19.1	308.1

MINERAL EXPLORATION (other than for Petroleum), Expenditure by Mineral Sought

	Copper, silver-lead-zinc, nickel and cobalt	Gold	Iron ore	Mineral sands	Tin, tungsten, scheelite and wolfram	Uranium	Coal	Construction materials	Diamonds	Other	Total
State/Territory	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
SEPTEMBER QUARTER 1997											
New South Wales	6.2	9.5	—	n.p.	—	—	6.8	—	n.p.	0.4	23.3
Victoria	n.p.	7.2	—	n.p.	—	—	n.p.	—	n.p.	—	9.5
Queensland	15.1	13.0	—	n.p.	—	n.p.	11.6	—	n.p.	1.0	41.9
South Australia	1.5	8.5	—	—	—	n.p.	—	—	0.5	n.p.	12.5
Western Australia	28.1	138.2	4.0	2.5	—	0.4	n.p.	n.p.	8.3	0.6	182.7
Tasmania	n.p.	n.p.	—	—	—	—	—	—	—	—	9.7
Northern Territory	3.5	12.9	—	—	—	n.p.	—	—	2.5	n.p.	22.1
Australia	57.6	196.7	4.0	3.2	—	4.9	19.1	n.p.	12.4	n.p.	301.8
AUSTRALIA											
1994-95	201.0	554.5	12.1	5.8	1.1	7.8	38.0	0.9	48.4	23.5	893.3
1995-96	251.8	547.1	14.1	9.3	0.6	7.2	52.6	0.7	52.9	23.8	960.2
1996-97	206.8	728.2	25.8	13.9	0.7	13.0	70.5	0.9	59.3	29.4	148.5
1995											
December qtr	50.5	143.7	1.1	1.6	0.2	2.3	12.1	—	11.9	5.9	229.3
1996											
March qtr	64.7	123.3	3.6	2.0	n.p.	n.p.	10.8	—	8.4	4.4	219.0
June qtr	85.8	147.4	4.5	3.6	n.p.	n.p.	17.1	0.1	17.3	7.8	284.9
September qtr	53.2	165.5	6.1	3.3	0.2	3.8	15.4	0.5	15.6	10.5	274.2
December qtr	52.1	186.8	3.8	3.7	—	1.9	16.9	0.1	16.4	9.9	291.6
1997											
March qtr	41.8	150.1	6.6	3.4	—	2.2	15.7	0.1	11.7	4.0	235.6
June qtr	59.7	225.9	9.3	3.5	0.4	5.1	22.5	0.2	15.6	5.0	347.2
September qtr	57.6	196.7	4.0	3.2	—	4.9	19.1	n.p.	12.4	n.p.	301.8

Period	ONSHORE.....			OFFSHORE.....			TOTAL EXPENDITURE.....		
	<i>Drilling</i>	<i>Other</i>	<i>Total</i>	<i>Drilling</i>	<i>Other</i>	<i>Total</i>	<i>On production leases</i>	<i>On all other areas</i>	<i>Total</i>
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1994-95	88.2	82.6	170.8	377.3	134.4	511.7	105.0	577.3	682.5
1995-96	95.5	79.4	174.8	367.1	183.2	550.3	78.8	646.5	725.1
1996-97	r179.6	72.3	r251.9	r412.0	r189.1	r601.1	r137.7	r715.3	r853.0
1995									
December qtr	28.7	25.6	54.3	103.9	44.0	147.9	19.6	182.7	202.2
1996									
March qtr	13.6	14.5	28.1	68.1	51.6	119.7	18.9	128.9	147.8
June qtr	22.3	20.1	42.4	74.7	54.8	129.5	22.6	149.3	171.9
September qtr	38.9	22.3	61.2	120.4	25.4	145.8	34.8	172.2	207.0
December qtr	63.9	16.4	80.3	121.1	52.3	173.3	54.6	199.0	253.6
1997									
March qtr	22.3	8.4	30.7	96.3	50.2	146.5	17.2	160.1	177.3
June qtr	r54.5	25.2	r79.7	r74.2	r61.2	r135.4	r31.1	r184.0	r215.1
September qtr	38.4	15.2	53.6	64.3	26.2	90.5	10.8	133.4	144.2

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PETROLEUM EXPLORATION BY REGION

<i>Period</i>	<i>New South Wales</i>	<i>Victoria</i>	<i>Queensland</i>	<i>South Australia</i>	<i>Western Australia(a)</i>	<i>Tasmania</i>	<i>Northern Territory/ Ashmore and Cartier Islands</i>	<i>Zone of Cooperation Area A(b)</i>	<i>Total</i>
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1994-95	n.p.	n.p.	82.7	46.7	345.6	n.p.	55.9	89.4	682.5
1995-96	n.p.	n.p.	106.5	55.1	319.0	n.p.	96.3	89.2	725.1
1996-97	n.p.	n.p.	134.5	n.p.	444.1	n.p.	n.p.	n.p.	853.0
1995									
December qtr	n.p.	n.p.	32.8	13.8	75.7	—	45.8	21.3	202.2
1996									
March qtr	n.p.	n.p.	16.7	9.6	74.6	—	17.4	18.2	147.8
June qtr	n.p.	n.p.	22.5	13.4	80.3	—	16.0	29.4	171.9
September qtr	n.p.	n.p.	36.4	22.7	131.5	—	2.5	7.4	207.0
December qtr	n.p.	n.p.	40.6	n.p.	132.6	n.p.	n.p.	n.p.	253.6
1997									
March qtr	n.p.	n.p.	12.5	n.p.	78.5	n.p.	n.p.	30.1	177.3
June qtr	n.p.	6.7	45.0	n.p.	101.5	n.p.	15.8	35.0	215.1
September qtr	n.p.	6.0	46.4	n.p.	46.8	n.p.	7.4	n.p.	144.2

(a) Includes expenditure on Western Australian leases in the Zone of Cooperation Area B.

(b) Refer to Explanatory Notes paragraph 14.

Period	North America(b)	Latin America(c)	Papua New Guinea	Indonesia	China	Other Asia	Africa	Other	Total
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1995-96	r220.0	r90.8	r44.5	r67.0	2.4	r66.0	r93.9	r82.4	r669.0
1996-97	254.1	120.3	10.7	109.0	8.7	65.6	118.2	72.9	759.6
Petroleum	n.p.	n.p.	5.4	33.2	n.p.	n.p.	n.p.	15.5	321.0
Copper, silver-lead-zinc, nickel and cobalt	n.p.	n.p.	n.p.	n.p.	n.p.	20.5	14.3	n.p.	174.4
Gold	47.0	44.2	n.p.	42.9	n.p.	30.8	32.9	21.1	227.2
Iron ore	—	—	—	—	—	—	—	—	—
Mineral sands	—	—	—	—	—	n.p.	n.p.	2.5	6.4
Tin, tungsten, scheelite and wolfram	—	—	—	—	—	—	—	—	—
Uranium	—	—	—	—	—	—	—	—	—
Coal	—	—	—	n.p.	n.p.	n.p.	—	—	n.p.
Construction materials	—	—	—	—	—	—	—	—	—
Diamonds	n.p.	—	—	n.p.	n.p.	n.p.	7.1	n.p.	19.2
Bauxite	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	n.p.	n.p.	n.p.	n.p.	n.p.
Total	254.1	120.3	10.7	109.0	8.7	65.6	118.2	72.9	759.6

(a) Caution should be exercised when making comparisons with years prior to 1995-96 as the basis of collection is different.

(b) Includes Canada.

(c) Comprises Mexico, South America, Central America and the Caribbean

Note: data for 1995-96 have been revised. Revised data are available on request by telephoning the Inquiries contact number shown on page 2.

Drilling method	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australia
EXPENDITURE								
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Diamond	25.1	3.5	25.0	n.p.	93.3	12.4	n.p.	167.5
Reverse circulation	7.3	4.3	17.0	3.3	163.4	0.4	7.9	203.5
Percussion	2.9	0.5	n.p.	n.p.	9.9	—	n.p.	17.3
Rotary air blast	2.5	n.p.	19.3	2.6	46.7	n.p.	1.9	74.2
Other	5.2	n.p.	n.p.	1.0	9.3	—	1.5	18.6
Total	43.0	8.8	65.6	9.3	322.5	13.5	18.4	481.1
METRES DRILLED								
	'000 m	'000 m	'000 m	'000 m	'000 m	'000 m	'000 m	'000 m
Diamond	253.8	37.5	192.8	n.p.	919.0	113.9	n.p.	1 601.3
Reverse circulation	158.4	117.1	343.8	107.0	4 167.0	9.1	259.7	5 162.0
Percussion	76.5	13.8	n.p.	n.p.	709.3	—	n.p.	910.2
Rotary air blast	136.9	n.p.	450.6	248.9	3 601.6	n.p.	145.9	4 613.1
Other	157.3	n.p.	n.p.	52.2	582.6	—	231.4	1 074.1
Total	782.9	193.0	1 097.7	434.9	9 979.5	130.8	741.9	13 360.6

EXPLANATORY NOTES

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INTRODUCTION

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

SOURCE

2 Data are collected and compiled from 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, in Australia (including Australian waters) and incurring expenditure of more than \$20,000 per year.

SEASONAL ADJUSTMENT

4 Seasonal adjustment is a means of removing the estimated effects of normal seasonal variation from the series so that the effects of other influences can be more clearly recognised.

5 Seasonal adjustment does not remove from the series the effect of irregular or non-seasonal influences. Particular care should be taken in interpreting quarterly movements in the adjusted figures in this publication.

6 Irregular influences that are highly volatile can make it difficult to interpret the series even after adjustment for seasonal variation.

7 Seasonal factors are reviewed and revised annually to take account of each additional year's original data. The nature of the seasonal adjustment process is such that the magnitude of some revisions resulting from the re-analysis may be quite significant, especially for data for more recent quarters. For this reason, additional care should be exercised when interpreting movements in seasonally adjusted data for recent quarters.

TREND ESTIMATES

8 The trend estimates are derived by applying a 7-term Henderson moving average to the seasonally adjusted series. The 7-term Henderson average (like all Henderson averages) is symmetric but, as the end of a time series is approached, asymmetric forms of the average are applied. Unlike the weights of the standard 7-term Henderson moving average, the weights employed here have been tailored to suit particular characteristics of the individual series. While the asymmetric weights enable trend estimates for recent quarters to be produced, it does result in revisions to the estimates for the most recent three quarters as additional observations become available. There may also be revisions because of changes in the original data and as a result of the re-estimation of the seasonal factors. For further information, see *Information Paper: A Guide to Interpreting Time Series — Monitoring Trends, an Overview* (Cat. no. 1348.0) or contact the Assistant Director, Time Series Analysis on Canberra (02) 6252 6345.

CLASSIFICATIONS

- 9** The following categories are used:
- Production lease/Other, where a production lease is an area on which production or development is actually taking place.
 - 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 and Territory Governments.
 - 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

- 10** Minerals: In the broad sense these comprise metallic minerals, construction materials, gemstones, other non-metallic minerals and petroleum (oil or gas).
- 11** 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.
- 12** 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.
- 13** 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.
- 14** Zone of Cooperation (ZOC): Is an agreement between Australia and the Republic of Indonesia on an area between the Indonesian Province of East Timor and Northern Australia. The ZOC is divided into three areas: A, B and C. Area A is controlled by a joint authority and all petroleum operations in this area are carried out through production sharing contracts. Area B is controlled by Australian authorities but the Republic of Indonesia must be notified of any changes to tenements in the area and be paid 10% of gross Resource Rent Tax collected by Australia from corporations producing petroleum. Area C is controlled by the Republic of Indonesia but Australia must be notified of any changes to tenements in the area and be paid 10% of Contractors Income Tax collected by the Republic of Indonesia from corporations producing petroleum.
- 15** Ashmore and Cartier Islands: Tenements in the Ashmore and Cartier Islands are administered by the Northern Territory Department of Mines and Energy. Therefore all petroleum exploration expenditure in this area has been included with Northern Territory data.

OVERSEAS EXPLORATION

16 The ABS collected details of overseas exploration expenditure by Australian resident companies for 1996–97. The collection does not include those Australian owned companies which operate solely overseas. Therefore, comparisons with other overseas exploration data series should be treated with some caution. Data from 1992–93 are available on request.

DRILLING METHODS

17 A supplementary collection was also conducted during 1997 to collect information on exploration drilling for minerals in Australia, by drilling method. Unpublished data are also available, as a special data request, for expenditure and metres drilled by drilling methods used on production leases and other areas, as defined in paragraph 9 of these notes.

18 Data were 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 PUBLICATIONS

19 Users may also wish to refer to the following priced publications which are available on request:

Australian Business Expectations (Cat. no. 5250.0)

Australian Mining Industry (Cat. no. 8414.0)

Private New Capital Expenditure and Expected Expenditure, Australia (Cat. no. 5625.0)

20 Current publications produced by the ABS are listed in the *Catalogue of Publications and Products* (Cat. no. 1101.0). The ABS also issues, on Tuesdays and Fridays, a *Release Advice* (Cat. no. 1105.0) which lists publications to be released in the next few days. The Catalogue and Release Advice are available from any ABS office.

21 Publications showing the details of wells and metres drilled in petroleum exploration are available from the Petroleum Resource Assessment Branch of the Bureau of Resource Sciences.

EFFECTS OF ROUNDING

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

For more information . . .

The ABS publishes a wide range of statistics and other information on Australia's economic and social conditions. Details of what is available in various publications and other products can be found in the ABS Catalogue of Publications and Products available from all ABS Offices.

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