



September Quarter 1996

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Actual and Expected Private Mineral Exploration

Australia

NOTES

FORTHCOMING ISSUES

ISSUE	RELEASE DATE
December quarter 1996	25 March 1997
March quarter 1997	24 June 1997

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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

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INQUIRIES

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

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

W. McLennan
Australian Statistician

SUMMARY OF FINDINGS

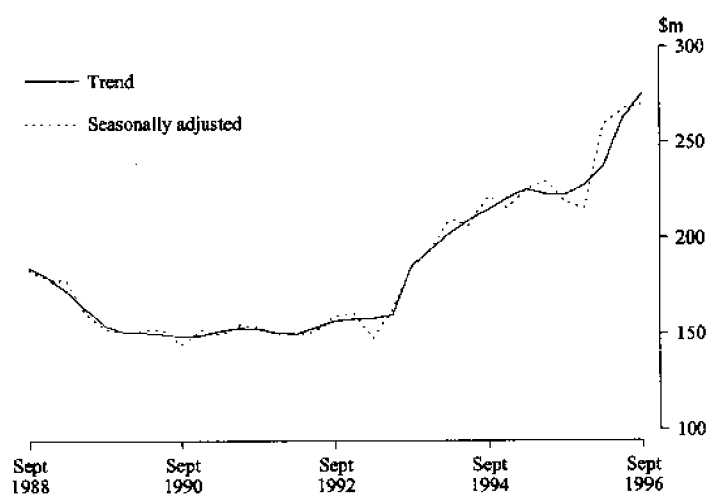
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MINERAL EXPLORATION EXPENDITURE (Other than for petroleum)

TREND ESTIMATES

The strong upward trend in exploration expenditure that has been evident since the June quarter 1993 has continued in the September quarter 1996.

Between the June and September quarters 1996 the trend estimate increased a further 4.8% (\$12.5m) to \$275.3m. This is 23.8% higher than the estimate for the September quarter of 1995.



States and Territories

While the trend estimate increased for most States and the Northern Territory in the September quarter, Queensland, South Australia and Tasmania show exploration expenditure trending down from the previous quarter.

The largest percentage increase was for Victoria, up 14.8% (\$1.9m) to \$14.7m, while the trend estimate for Queensland experienced the largest percentage fall, down 5.7% (\$2.8m) to \$46.3m.

SUMMARY OF FINDINGS *continued*

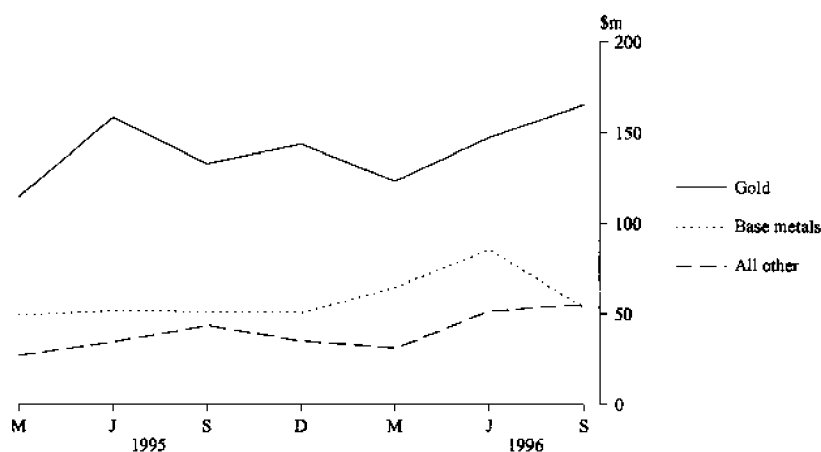
SEPTEMBER QUARTER

In original terms mineral exploration expenditure for the September quarter 1996 was \$274.2m, a fall of \$10.7m (3.8%) from the June quarter but \$47.1m (20.7%) higher than for the September quarter 1995.

While exploration expenditure on production leases rose by \$12.1m (20%) to \$73.0m, this was more than offset by a \$22.8m (10.2%) fall in expenditure on other areas to \$201.2m.

A fall in expenditure for base metals (copper, silver-lead-zinc, nickel and cobalt), down \$32.6m (38.0%) from June quarter to \$53.2m, was the main cause of the general decrease in the September quarter. This was partly offset by an increase of \$18.1m (12.3%) in gold exploration expenditure.

Gold remains the predominant mineral sought with \$165.5m spent on exploration, accounting for 60.4% of all mineral exploration expenditure during the quarter.



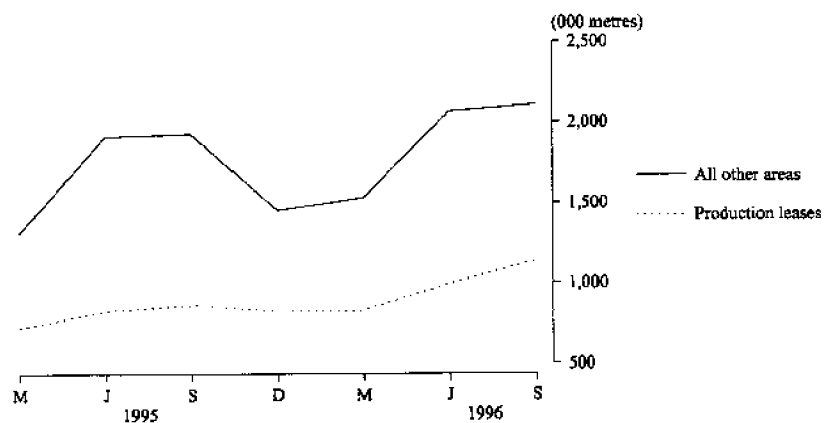
SUMMARY OF FINDINGS *continued*

METRES DRILLED

The trend estimate for total mineral exploration drilling continued a steady increase in the September quarter 1996 to 3.0 million metres, an increase of 2.4% from the June quarter 1996 estimate.

During the September quarter, in original terms, a total of 3.2 million metres were drilled, almost 0.2 million metres (5.8%) higher than in the June quarter 1996 and 0.4 million metres (16.0%) higher than in the corresponding quarter of the previous year.

Drilling on production leases increased by 14.0% from the June quarter 1996 to 1.1 million metres, while drilling on other areas was up 1.9% to 2.1 million metres.



SUMMARY OF FINDINGS *continued*

PETROLEUM EXPLORATION EXPENDITURE

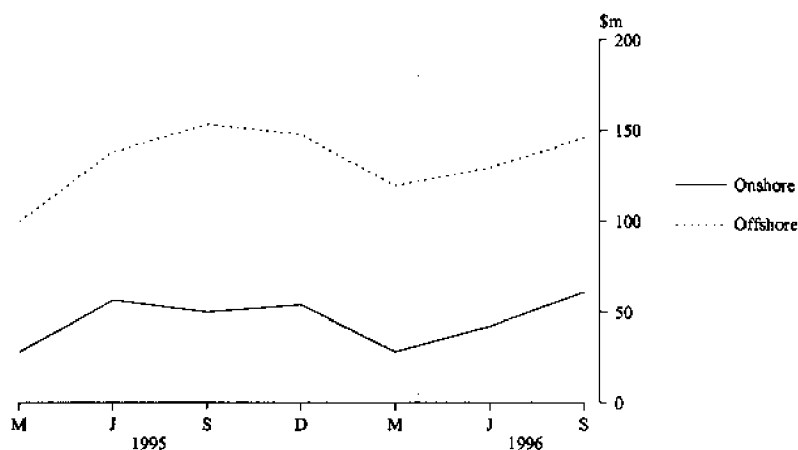
OVERVIEW

Total expenditure on petroleum exploration was \$207.0m in the September quarter 1996, a rise of \$35.1m (20.4%) from the June quarter 1996.

Expenditure on production leases increased \$12.2m (54.0%) to \$34.8m, while on all other areas expenditure increased to \$172.2m (\$22.9m), 15.3% higher than in the June quarter.

Onshore exploration increased \$18.8m (44.3%) to \$61.2m while offshore exploration expenditure rose \$16.3m (12.6%) to \$145.8m in the September quarter.

The largest increases were in the drilling expenditure component for both onshore and offshore exploration, where onshore drilling expenditure increased by \$16.6m (74.4%) to \$38.9m and offshore drilling increased by \$45.7m (61.2%) to \$120.4m.



REGIONAL DATA

While expenditure increased in Queensland, South Australia and Western Australia during the quarter, the other major petroleum exploration areas of Northern Territory/Ashmore and Cartier Islands and the Zone of Cooperation (Area A) have shown a significant decline in expenditure from the previous quarter.

Western Australia accounted for the majority of the increase in expenditure rising \$51.2m (63.8%) from the June quarter 1996 and \$43.0m (50.0%) from the September quarter 1995 to \$131.5m.

The increased activity in Western Australia was mostly in offshore drilling in the Western Australian administered Timor Sea regions and the North West Shelf. The marked decline in the other northern regions was partly attributable to most areas converting to production, following earlier discoveries. It is however expected that further wells will be drilled in the near future for appraisal purposes.

SUMMARY OF FINDINGS *continued*

OVERSEAS EXPLORATION

Australian resident companies spent \$486.0m exploring for minerals and petroleum overseas in 1995-96, 12.8% more than in the previous financial year.

Expenditure on petroleum exploration (\$317.9m) accounted for the highest proportion of total expenditure accounting for 65.4% of the total.

Exploration for gold was the next largest with \$100.7m (20.7%) of the total, followed by base metals with \$38.1m (7.8%) of total overseas exploration expenditure.

On a regional basis, North America remains the area of most expenditure with \$136.0m (28.0%). This represents an increase of 52.5% in this region during 1994-95.

Exploration expenditure also increased in Indonesia (trebling from the previous financial year to \$60.0m), Latin America (up 9.9%), Papua New Guinea (up 7.1%) and Other Asia (up 17.8%). Expenditure in Africa remained constant while in China, expenditure dropped to \$2.4m, less than 10% of the expenditure in this region in 1994-95.

DRILLING METHODS

Diamond drilling, with 42.1% of total expenditure in 1995-96, remains the drilling method on which most expenditure occurs, although both the level of expenditure and its proportion of total are falling.

During 1995-96, \$138.8m was spent on diamond drilling, a fall of 8.6% (\$13.0m) from the expenditure reported in 1994-95. The main contributing factor for the fall is a shift to shallow drilling using the rotary air blast (RAB) drilling method. Although the largest contributor in expenditure terms, the number of metres drilled by diamond drilling accounted for only 13.1% of the total metres drilled in 1995-96.

The most significant decline in diamond drilling was in Queensland where expenditure was 51.0% lower than in 1994-95 and metres drilled 44.5% lower. Partly offsetting this was a smaller increase in Western Australia in both expenditure and metres drilled.

RAB drilling has increased in both expenditure, up 26.8% from 1994-95, and in metres drilled (up 13.9%) and now accounts for the largest proportion of total metres drilled. During 1995-96, over 4.0 million metres, 38.8% of total, were drilled using RAB with a total expenditure of \$46.9m.

Reverse circulation drilling is the second largest method used in terms of both expenditure and metres drilled. Reported drilling by this method was 3.9 million metres in 1995-96 with expenditure of \$117.9m. Expenditure was 3.0% higher than in 1994-95 with the number of metres drilled increasing by 1.9%.

PRIVATE EXPLORATION, Actual and Expected Expenditure

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	%
1993-94	792.6	553.0	143.3	144.5	100.1	144.4	362.2	459.2	78.9
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
Six months ended									
June 1995	434.9	419.6	103.6	85.2	61.5	138.5	238.7	255.8	93.3
December 1995	456.5	372.3	122.6	104.4	84.4	123.7	301.1	207.6	145.0
June 1996	503.8	401.3	125.5	70.4	101.2	69.6	249.3	220.4	113.1
December 1996	n.y.a.	361.8	n.y.a.	n.y.a.	91.2	n.y.a.	n.y.a.	207.9	n.y.a.

(a) As reported in previous collections. Refer to Explanatory Notes paragraph 14.

Period	EXPENDITURE.....					METRES DRILLED.....				
	On production leases	On all other areas	Total	Seasonally adjusted	Trend estimate	On production leases	On all other areas	Total	Seasonally adjusted	Trend estimate
	\$m	\$m	\$m	\$m	\$m	'000 m	'000 m	'000 m	'000 m	'000 m
1993-94	184.4	608.1	792.6	..	..	2 770	6 810	9 580	..	..
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	..	..
1994										
December qtr	51.1	181.2	232.3	216.0	220.6	938	1 847	2 785	2 574	2 542
1995										
March qtr	44.8	145.5	190.3	225.8	225.5	726	1 319	2 045	2 480	2 582
June qtr	55.6	189.0	244.6	229.6	224.0	832	1 917	2 749	2 739	2 602
September qtr	46.2	180.9	227.1	223.1	222.4	866	1 933	2 799	2 570	2 622
December qtr	47.1	182.2	229.3	215.7	228.9	824	1 458	2 282	2 106	2 704
1996										
March qtr	54.6	164.4	219.0	260.3	245.6	832	1 533	2 364	2 873	2 840
June qtr	60.9	224.0	284.9	267.6	262.8	998	2 071	3 069	3 053	2 978
September qtr	73.0	201.2	274.2	269.8	275.3	1 138	2 110	3 248	2 985	3 049

Period	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australia
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
ORIGINAL								
1993-94	73.6	20.7	140.2	24.7	453.7	10.2	69.5	792.6
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
1994								
December qtr	18.3	6.5	53.7	5.1	126.4	2.9	19.3	232.3
1995								
March qtr	19.8	9.3	32.4	4.6	106.3	4.0	14.1	190.3
June qtr	22.7	8.7	44.9	6.6	135.3	5.2	21.3	244.6
September qtr	20.5	8.2	43.8	5.6	125.0	2.5	21.6	227.1
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
SEASONALLY ADJUSTED								
1994								
December qtr	16.6	6.7	45.7	4.6	121.4	3.1	17.9	216.0
1995								
March qtr	21.8	8.7	42.4	5.8	123.7	3.5	19.9	225.8
June qtr	21.6	8.4	44.5	6.0	125.6	4.5	19.0	229.6
September qtr	21.8	9.0	41.5	5.6	122.2	3.2	19.8	223.1
December qtr	16.2	11.7	33.6	6.0	124.0	6.1	18.1	215.7
1996								
March qtr	21.1	9.4	53.4	6.4	137.8	5.3	26.9	260.3
June qtr	21.8	12.5	56.4	6.2	136.6	4.1	30.0	267.6
September qtr	22.3	16.2	36.2	5.4	159.1	5.4	25.2	269.8
TREND								
1994								
December qtr	19.1	7.4	43.9	4.9	123.0	3.4	18.9	220.6
1995								
March qtr	20.5	7.9	44.8	5.4	124.1	3.6	19.2	225.5
June qtr	21.2	8.7	42.0	5.8	123.1	3.9	19.3	224.0
September qtr	20.3	9.5	39.7	5.9	123.9	4.5	18.6	222.4
December qtr	19.2	10.0	43.1	6.0	126.3	5.0	19.3	228.9
1996								
March qtr	19.9	11.1	47.7	6.2	133.4	5.1	22.2	245.6
June qtr	21.4	12.8	49.1	6.0	143.2	5.0	25.3	262.8
September qtr	22.4	14.7	46.3	5.8	153.9	4.8	27.4	275.3

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

State/Territory	Copper, silver-lead-zinc, nickel and cobalt	Gold	Iron ore	Mineral sands	Tin, tungsten, scheelite and wolfram	Uranium	Coal	Construction materials	Diamonds	Other	Total
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
SEPTEMBER QUARTER 1996											
New South Wales	7.8	8.2	n.p.	n.p.	—	—	3.8	—	n.p.	0.4	21.1
Victoria	0.5	7.0	—	n.p.	—	—	n.p.	—	n.p.	n.p.	14.9
Queensland	13.3	10.9	—	n.p.	n.p.	n.p.	11.2	—	—	1.2	38.3
South Australia	2.5	2.4	—	—	—	n.p.	—	—	0.3	0.1	5.4
Western Australia	23.6	120.2	5.9	1.2	—	n.p.	n.p.	n.p.	8.8	2.2	162.8
Tasmania	2.6	1.6	—	—	—	—	—	—	—	—	4.2
Northern Territory	2.8	15.2	n.p.	—	n.p.	3.2	—	—	6.1	n.p.	27.5
Australia	53.2	165.5	6.1	3.3	0.2	3.8	15.4	0.5	15.6	10.5	274.2
AUSTRALIA											
1993-94	191.6	453.7	18.8	8.5	1.1	7.6	27.7	1.3	58.7	23.5	792.6
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
1994											
December qtr	52.5	143.5	2.5	1.8	0.4	1.7	10.6	0.2	12.5	6.5	232.3
1995											
March qtr	49.2	114.2	1.4	1.5	0.2	1.8	7.4	0.2	8.6	5.8	190.3
June qtr	51.5	158.6	5.3	0.6	0.4	2.2	9.3	0.4	10.3	6.1	244.6
September qtr	50.8	132.7	4.9	2.1	0.1	2.1	12.7	0.6	15.3	5.9	227.1
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

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PETROLEUM EXPLORATION EXPENDITURE

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
1993-94	84.4	60.0	144.5	208.0	154.2	362.2	70.1	436.5	506.7
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
1994									
December qtr	18.0	25.8	43.7	99.1	35.2	134.3	26.2	151.8	178.0
1995									
March qtr	11.9	16.2	28.1	73.6	26.5	100.1	20.6	107.6	128.2
June qtr	32.3	24.8	57.2	96.1	42.5	138.6	29.3	166.4	195.8
September qtr	30.9	19.2	50.0	120.4	32.8	153.2	17.7	185.6	203.2
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

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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	682.4
1995-96	n.p.	n.p.	106.5	55.1	319.0	n.p.	96.3	89.2	725.2
1994									
December qtr	n.p.	n.p.	21.1	12.6	91.7	n.p.	11.9	26.0	178.0
1995									
March qtr	n.p.	n.p.	16.9	7.4	65.6	n.p.	7.6	17.6	128.2
June qtr	n.p.	n.p.	26.3	14.4	89.2	n.p.	21.8	18.6	195.7
September qtr	n.p.	n.p.	34.5	18.3	88.5	n.p.	17.0	20.4	203.2
December qtr	n.p.	n.p.	32.8	13.8	75.7	—	45.8	21.3	202.3
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

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

(b) Refer to Explanatory Notes paragraph 15.

	North America(b)	Latin America(c)	Papua New Guinea	Indonesia	China	Other Asia	Africa	Other	Total
Period	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Petroleum	n.p.	n.p.	40.5	n.p.	n.p.	19.0	n.p.	n.p.	317.9
Copper, silver-lead-zinc, nickel and cobalt	n.p.	14.7	—	2.4	n.p.	8.1	n.p.	n.p.	38.1
Gold	8.0	17.5	3.0	35.6	0.4	27.6	5.3	3.3	100.7
Iron ore	—	—	—	—	—	—	—	—	—
Mineral sands	n.p.	—	—	—	—	1.8	n.p.	n.p.	4.3
Tin, tungsten, scheelite and wolfram	—	—	—	—	—	—	—	—	—
Uranium	—	—	—	—	—	—	—	—	—
Coal	—	—	—	n.p.	—	n.p.	—	n.p.	2.7
Construction materials	—	—	—	—	—	n.p.	—	—	n.p.
Diamonds	n.p.	n.p.	—	n.p.	n.p.	n.p.	2.1	n.p.	18.7
Bauxite	—	—	—	—	—	—	—	—	—
Other	n.p.	—	—	—	—	n.p.	n.p.	n.p.	n.p.
Total	136.0	77.8	43.5	60.0	2.4	57.0	56.9	52.4	486.0

(a) Excludes overseas subsidiaries of Australian resident companies.

(b) Includes Canada.

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

<i>Drilling method</i>	<i>New South Wales</i>	<i>Victoria</i>	<i>Queensland</i>	<i>South Australia</i>	<i>Western Australia</i>	<i>Tasmania</i>	<i>Northern Territory</i>	<i>Australia</i>
EXPENDITURE								
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
Diamond	15.8	3.7	18.8	n.p.	87.3	n.p.	n.p.	138.8
Reverse circulation	5.1	2.5	12.2	n.p.	86.2	n.p.	10.8	117.9
Percussion	1.2	0.5	11.2	n.p.	n.p.	n.p.	n.p.	15.5
Rotary air blast	1.3	n.p.	7.1	0.9	32.7	n.p.	n.p.	46.9
Other	1.2	n.p.	0.4	n.p.	n.p.	—	n.p.	10.3
Total	24.6	6.9	47.8	2.9	215.8	5.9	25.5	329.4
METRES DRILLED								
	'000 m	'000 m	'000 m	'000 m	'000 m	'000 m	'000 m	'000 m
Diamond	178.2	39.1	122.7	n.p.	898.4	n.p.	n.p.	1 358.0
Reverse circulation	141.9	91.2	312.7	n.p.	2 947.8	n.p.	385.3	3 919.0
Percussion	34.3	15.5	233.4	n.p.	n.p.	n.p.	n.p.	363.6
Rotary air blast	100.5	n.p.	428.2	90.4	3 028.1	n.p.	n.p.	4 027.5
Other	68.7	n.p.	22.5	n.p.	n.p.	—	n.p.	719.8
Total	523.6	153.7	1 119.5	130.2	7 474.8	69.8	916.6	10 388.1

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.

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 1, 2, 3, and 4 are contained in the September quarter 1990 issue.

SEASONAL ADJUSTMENT

5 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.

6 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.

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

8 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

9 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 *A Guide to Interpreting Time Series — Monitoring "Trends": an Overview* (1348.0) or contact the Assistant Director, Time Series Analysis on (06) 252 6345.

CLASSIFICATIONS

10 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

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

12 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.

13 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.

14 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.

15 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 Indonesian authorities but Australia must be notified of any changes to tenements in the area and to pay Australia 10% of Contractors Income Tax collected by the Republic of Indonesia from corporations producing petroleum.

16 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.

EXPLANATORY NOTES *continued*

OVERSEAS EXPLORATION

17 The ABS conducted a supplementary collection to collect details of overseas exploration expenditure by Australian resident companies for 1995-96. 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

18 A supplementary collection was also conducted during 1996 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 10 of these notes.

19 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

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

Australian Mining Industry (8414.0)

Australian Business Expectations (5250.0)

Private New Capital Expenditure and Expected Expenditure, Australia (5625.0)

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

22 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

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

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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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