



**ACTUAL AND EXPECTED
PRIVATE MINERAL EXPLORATION AUSTRALIA**

EMBARGO: 11:30AM (CANBERRA TIME) THURS 25 MAR 1999

C O N T E N T S

	<i>page</i>
Notes	2
Summary of findings	3
 TABLE	
1 Private exploration, actual and expected expenditure	7
2 Mineral exploration (other than for petroleum), expenditure and metres drilled	8
3 Mineral exploration (other than for petroleum), expenditure by state and territory	9
4 Mineral exploration (other than for petroleum), expenditure by mineral sought	10
5 Petroleum exploration expenditure	11
6 Petroleum exploration by region	12
 ADDITIONAL INFORMATION	
Explanatory notes	13

- For further information about these and related statistics, contact Sandra Lowry on Darwin 08 8943 2171, or any ABS office shown on the back cover of this publication.

NOTES

FORTHCOMING ISSUES

ISSUE (Quarter)

RELEASE DATE

March 1999

21 June 1999

June 1999

20 September 1999



CHANGES IN THIS ISSUE

This issue contains some revisions to the September quarter 1998 data.



W. McLennan
Australian Statistician



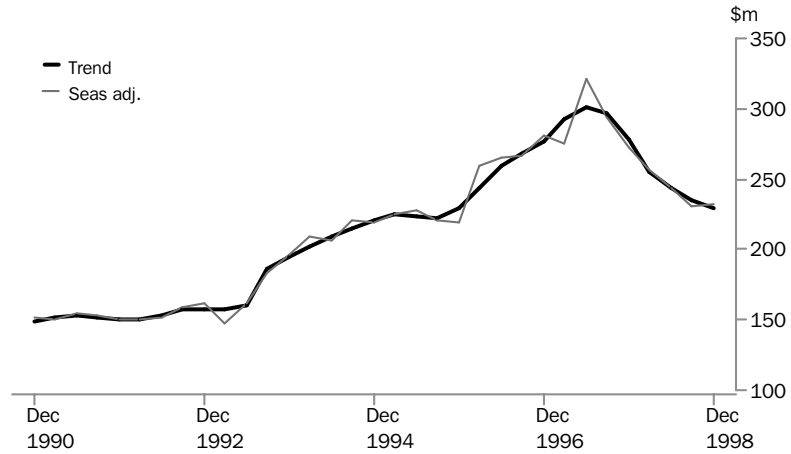
SUMMARY OF FINDINGS

MINERAL EXPLORATION EXPENDITURE (OTHER THAN FOR PETROLEUM)

TREND ESTIMATES

The trend estimate for mineral exploration expenditure has declined for the sixth consecutive quarter in the December quarter 1998.

Between the September and December quarters of 1998 the trend estimate fell \$5m to \$229m.



STATES AND TERRITORIES

With the exception of New South Wales, the trend estimate of expenditure declined in all States and the Northern Territory in the December quarter 1998.

The trend estimate for New South Wales rose by 5% to \$17m however this was 33% (\$8m) lower than the estimate for the December quarter 1997.

METRES DRILLED

The trend estimate for total metres drilled in the December quarter 1998 was marginally lower than for the September quarter 1998 (a fall of less than 1%) and 19% lower than for the December quarter 1997. This decline is consistent with the fall in trend estimate for total expenditure.

SUMMARY OF FINDINGS *continued*

DECEMBER QUARTER

In seasonally adjusted terms, total mineral exploration expenditure rose by 2% (\$4m) to \$233m in the December quarter 1998.

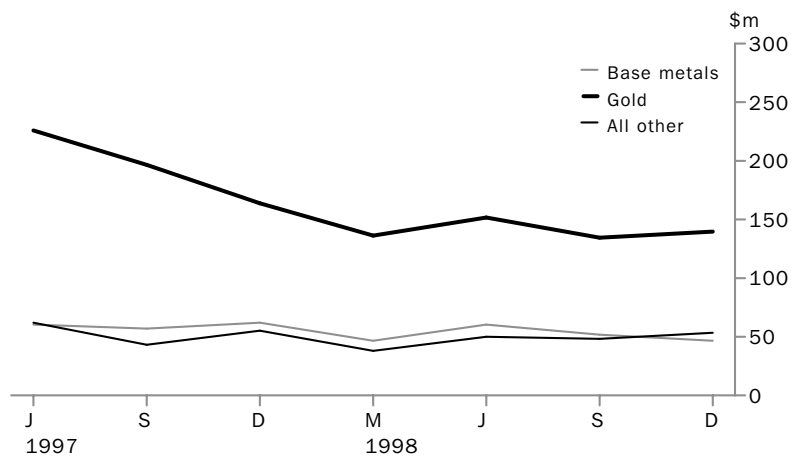
In original terms, mineral exploration expenditure reported for the December quarter 1998 was up 2% (\$4m) to \$240m. This was 15% (\$42m) lower than for the corresponding December quarter of 1997.

Exploration expenditure on production leases rose by 17% (\$9m) while exploration expenditure on all other areas fell 2% (\$5m) in the December quarter 1998.

Gold continued to be the predominant mineral sought, representing 58% (\$140m) of the total mineral exploration expenditure reported for the December quarter 1998. However, the total expenditure on gold exploration was 15% lower than the corresponding December quarter 1997.

Exploration expenditure for copper, silver-lead-zinc, nickel and cobalt decreased by 11%, from \$52m in the September quarter 1998 to \$46m in the December quarter 1998.

MINERAL EXPLORATION EXPENDITURE, *Original Series*



SUMMARY OF FINDINGS *continued*

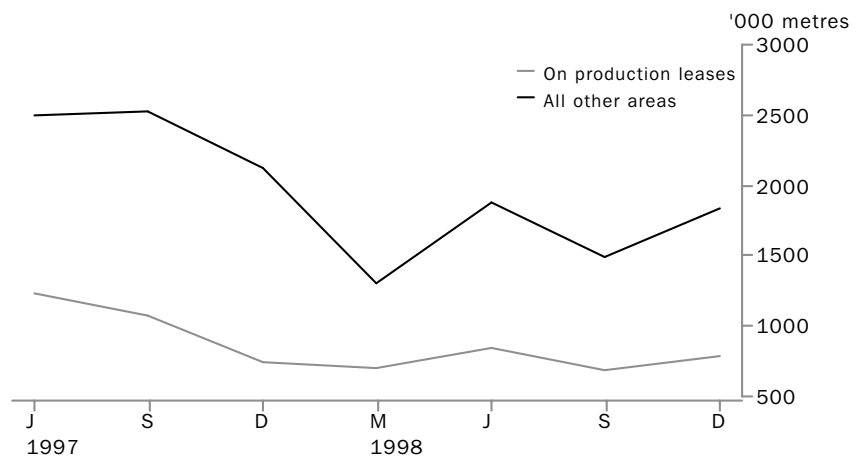
METRES DRILLED

The seasonally adjusted estimate of 2.5 million metres drilled for the December quarter 1998 was 24% higher than the estimate for the September quarter 1998 and 9% less than for the December quarter 1997.

In original terms, 2.6 million metres were drilled for the December quarter 1998. This was 20% higher than the September quarter 1998 and 9% lower than the December quarter 1997.

The number of metres drilled increased on both production leases and all other areas, up 14% and 23% respectively from the September quarter 1998. However, compared to the corresponding December quarter 1997, the number of metres drilled on all other areas has fallen 14%.

METRES DRILLED, Original Series



SUMMARY OF FINDINGS *continued*

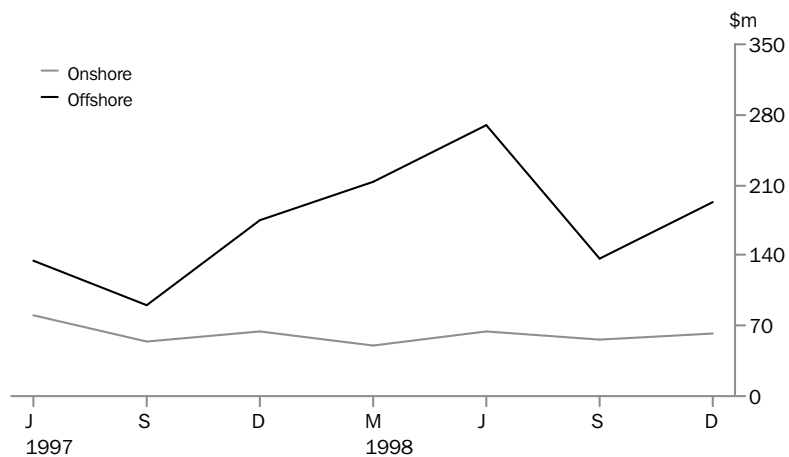
PETROLEUM EXPLORATION EXPENDITURE

OVERVIEW

Expenditure on petroleum exploration was \$255m in the December quarter 1998, 32% higher than for the September quarter 1998. December quarter's expenditure was 7% higher than for the corresponding December quarter 1997.

All quarters of 1998 have shown increased expenditure from the corresponding quarters of 1997, with the total of the four quarters of 1998 showing an increase of 35% from the 1997 calendar year. Expenditure increased for exploration on production leases (up 44%) and all other areas (up 30%) between the September and December quarters 1998.

Offshore exploration expenditure increased by 41% (\$56m) between the September and December quarters 1998, to \$193m. This was 11% (\$18m) higher than the December quarter 1997. Expenditure on offshore drilling increased 51% (\$41m) to \$123m between the September and December quarters 1998.



REGIONAL DATA

Regional data for petroleum exploration are available only for Queensland, Western Australia and Northern Territory and Ashmore Cartier Islands for the December quarter 1998. The most significant rise, in percentage terms, occurred in Western Australia, a rise of 63% (\$58m) followed by Queensland up 11% (\$2m).

PRIVATE EXPLORATION, Actual and Expected Expenditure

Period	MINERAL EXPLORATION ...			PETROLEUM ONSHORE ...			PETROLEUM OFFSHORE		
	<i>Actual</i>	<i>Expected(a)</i>	<i>Actual as a proportion of expected</i>	<i>Actual</i>	<i>Expected(a)</i>	<i>Actual as a proportion of expected</i>	<i>Actual</i>	<i>Expected(a)</i>	<i>Actual as a proportion of expected</i>
	\$m	\$m	%	\$m	\$m	%	\$m	\$m	%
1995-96	960.3	773.6	124.1	174.8	185.6	94.2	550.4	428.0	128.6
1996-97	1 148.6	808.9	142.0	251.9	206.2	122.2	601.0	446.6	134.6
1997-98	1 066.8	901.3	118.4	232.3	145.0	160.2	748.9	773.7	96.8
6 months ended December 1997	583.8	513.7	113.6	117.3	83.3	140.7	265.4	345.8	76.8
6 months ended June 1998	483.1	387.6	124.6	115.0	61.7	186.6	483.5	427.9	113.0
6 months ended December 1998	475.2	299.5	158.7	117.5	71.6	164.2	330.7	246.5	134.1
6 months ended June 1999	n.y.a.	303.4	n.y.a.	n.y.a.	72.6	n.y.a.	n.y.a.	293.6	n.y.a.

n.y.a. not yet available

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

MINERAL EXPLORATION (Other than for Petroleum), Expenditure and Metres Drilled

Period	EXPENDITURE.....					METRES DRILLED.....				
	<i>On production leases</i>	<i>On all other areas</i>	<i>Total</i>	<i>Seasonally adjusted</i>	<i>Trend estimate</i>	<i>On production leases</i>	<i>On all other areas</i>	<i>Total</i>	<i>Seasonally adjusted</i>	<i>Trend estimate</i>
	\$m	\$m	\$m	\$m	\$m	'000 m	'000 m	'000 m	'000 m	'000 m
1995-96	208.8	751.5	960.3	..	..	3 520	6 995	10 514	..	..
1996-97	306.1	842.4	1 148.6	..	..	4 453	8 378	12 831	..	..
1997-98	253.2	813.6	1 066.8	..	..	3 365	7 843	11 209	..	..
1997										
March	57.6	178.0	235.6	275.7	292.4	1 021	1 746	2 768	3 370	3 340
June	107.4	239.7	347.2	321.4	301.8	1 232	2 497	3 729	3 592	3 456
September	83.3	218.5	301.8	294.6	296.4	1 072	2 524	3 596	3 302	3 237
December	64.6	217.4	282.0	272.1	277.7	751	2 127	2 878	2 739	2 867
1998										
March	52.0	168.4	220.4	256.8	255.6	699	1 308	2 007	2 445	2 537
June	53.3	209.3	262.6	243.4	242.8	843	1 885	2 728	2 619	2 380
September	51.5	184.3	235.9	229.2	233.9	690	1 494	2 183	2 006	2 317
December	60.0	179.7	239.6	232.7	229.0	786	1 833	2 619	2 496	2 309

MINERAL EXPLORATION (other than for Petroleum), Expenditure by State and Territory

Period	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australia
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
ORIGINAL								
1995-96	80.4	42.6	181.0	24.1	519.5	18.8	93.8	960.3
1996-97	94.1	51.8	160.7	35.1	691.7	26.0	88.9	1 148.6
1997-98	88.2	43.1	133.2	45.0	660.4	20.7	75.9	1 066.8
1997								
March	22.0	9.6	31.6	7.2	144.2	6.0	14.8	235.6
June	30.4	13.2	45.7	14.5	211.6	10.1	21.6	347.2
September	23.3	9.5	41.9	12.5	182.7	9.7	22.1	301.8
December	26.1	13.4	41.7	11.4	162.3	3.8	23.4	282.0
1998								
March	20.8	10.6	21.5	9.2	142.0	3.7	12.6	220.4
June	18.0	9.6	28.2	12.0	173.4	3.5	17.8	262.6
September	14.2	9.0	22.2	12.6	154.0	2.4	21.2	235.9
December	18.4	11.0	25.0	8.9	157.3	3.0	16.0	239.6
SEASONALLY ADJUSTED								
1997								
March	23.7	10.1	41.4	8.8	164.5	5.9	21.3	275.7
June	26.6	13.2	42.6	12.4	197.9	9.0	19.6	321.4
September	23.9	10.1	41.0	13.2	176.0	11.0	19.5	294.6
December	27.3	12.0	36.5	10.6	159.9	3.8	21.9	272.1
1998								
March	22.4	11.3	28.3	11.2	161.6	3.8	18.2	256.8
June	15.7	9.6	26.2	10.3	162.2	3.1	16.2	243.4
September	14.6	9.6	21.8	13.3	148.4	2.7	18.7	229.2
December	19.4	9.8	22.0	8.4	155.2	3.0	15.0	232.7
TREND								
1997								
March	23.8	11.9	40.5	9.6	178.1	7.2	21.3	292.4
June	25.3	11.2	42.4	11.7	182.3	8.7	20.2	301.8
September	26.2	11.5	40.4	12.3	177.4	8.3	20.2	296.4
December	25.1	11.4	35.7	11.5	167.9	6.1	19.8	277.7
1998								
March	21.4	10.8	30.0	11.1	159.6	3.7	18.9	255.6
June	17.8	10.3	25.4	11.2	157.5	2.9	17.6	242.8
September	16.1	9.7	22.7	11.0	154.7	2.9	16.7	233.9
December	16.9	9.5	21.5	10.2	151.7	2.8	16.3	229.0

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

	<i>Copper, silver-lead- zinc, nickel and cobalt</i>	<i>Gold</i>	<i>Iron ore</i>	<i>Mineral sands</i>	<i>Tin, tungsten, scheelite and wolfram</i>	<i>Uranium</i>	<i>Coal</i>	<i>Construction materials</i>	<i>Diamonds</i>	<i>Other</i>	<i>Total</i>
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
DECEMBER QUARTER 1998											
New South Wales	5.5	6.5	—	1.0	—	—	4.8	—	—	0.7	18.4
Victoria	n.p.	6.7	n.p.	1.8	—	—	—	—	n.p.	n.p.	11.0
Queensland	7.9	10.1	—	—	—	n.p.	4.7	n.p.	—	1.8	25.0
South Australia	4.0	4.1	n.p.	—	—	0.2	—	—	n.p.	0.6	8.9
Western Australia	24.2	102.0	13.3	2.9	—	n.p.	—	n.p.	12.4	1.2	157.3
Tasmania	n.p.	1.0	—	—	—	—	—	—	—	n.p.	3.0
Northern Territory	1.8	9.4	n.p.	—	—	1.9	—	—	2.5	n.p.	16.0
Australia	46.4	139.8	13.7	5.8	—	3.6	9.4	0.2	15.3	5.5	239.6
AUSTRALIA											
1995-96	251.8	547.1	14.1	9.3	0.5	7.4	52.7	0.7	52.9	24.0	960.3
1996-97	206.8	728.3	25.8	13.9	0.6	13.0	70.5	0.9	59.3	29.4	1 148.6
1997-98	227.1	648.4	30.0	14.0	0.1	22.2	64.8	0.4	42.8	13.1	1 066.8
March 1997	41.8	150.1	6.6	3.4	—	2.2	15.7	0.1	11.7	4.0	235.6
June 1997	59.7	225.9	9.3	3.5	0.4	5.1	22.5	0.2	15.6	5.0	347.2
September 1997	57.6	196.7	4.0	3.2	—	4.9	19.1	n.p.	12.4	n.p.	301.8
December 1997	62.7	163.9	6.3	2.9	0.1	6.2	21.3	0.3	13.1	5.3	282.0
March 1998	45.9	136.1	7.1	3.5	n.p.	5.1	12.5	n.p.	7.4	2.8	220.4
June 1998	60.9	151.7	12.6	4.5	n.p.	6.0	11.9	n.p.	9.9	5.1	262.6
September 1998	52.0	134.3	12.6	3.6	n.p.	7.4	9.6	n.p.	13.1	3.0	235.9
December 1998	46.4	139.8	13.7	5.8	—	3.6	9.4	0.2	15.3	5.5	239.6

n.p. not published

5

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 leases</i>	<i>Total</i>
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1995-96	95.5	79.4	174.8	367.1	183.2	550.4	78.8	646.5	725.1
1996-97	179.6	72.3	251.9	412.0	189.1	601.0	137.7	715.3	853.0
1997-98	174.1	58.2	232.3	501.2	247.6	748.9	68.8	912.4	981.2
1997									
March	22.3	8.4	30.7	96.3	50.2	146.5	17.2	160.1	177.3
June	54.5	25.2	79.7	74.2	61.2	135.4	31.1	184.0	215.1
September	38.4	15.2	53.6	64.3	26.2	90.6	10.8	133.4	144.2
December	48.0	15.6	63.6	90.1	84.8	174.9	8.2	230.3	238.5
1998									
March	38.4	11.9	50.3	139.4	74.6	214.0	22.5	241.8	264.3
June	49.2	15.5	64.8	207.5	62.0	269.5	27.3	306.9	334.2
September	34.3	21.7	56.0	81.6	55.7	137.3	24.3	169.0	193.3
December	44.7	16.9	61.6	123.0	70.4	193.3	35.1	219.8	254.9

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>
<i>\$m</i>	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>	<i>\$m</i>
1995-96	n.p.	n.p.	106.5	55.1	319.1	n.p.	96.2	89.3	725.1
1996-97	n.p.	45.8	134.5	n.p.	444.1	n.p.	41.5	n.p.	853.0
1997-98	n.p.	34.5	107.1	n.p.	464.0	n.p.	n.p.	n.p.	981.2
1997									
March	n.p.	n.p.	12.5	n.p.	78.5	—	n.p.	30.1	177.3
June	n.p.	6.7	45.0	n.p.	101.5	n.p.	15.8	35.0	215.1
September	n.p.	6.0	46.4	n.p.	46.8	n.p.	7.4	n.p.	144.2
December	n.p.	8.3	29.0	n.p.	106.9	n.p.	28.0	45.7	238.5
1998									
March	0.1	10.4	11.9	n.p.	165.0	n.p.	n.p.	n.p.	264.3
June	n.p.	9.9	19.8	n.p.	145.2	n.p.	n.p.	n.p.	334.2
September	n.p.	4.0	17.2	n.p.	90.9	n.p.	n.p.	n.p.	193.3
December	n.p.	n.p.	19.1	n.p.	148.5	n.p.	36.7	n.p.	254.9

(a) Includes expenditure on Western Australian leases in the Zone of Cooperation Area B. (b) Refer to Explanatory Notes paragraph 14.

— nil or rounded to zero, including null cells

n.p. not available for publication

EXPLANATORY NOTES

INTRODUCTION	<p>1 This publication contains annual and quarterly statistics of private sector exploration for minerals (other than oil shale) and petroleum in Australia.</p>
SOURCE	<p>2 Data are collected and compiled from exploration censuses conducted by the Australian Bureau of Statistics (ABS).</p>
SCOPE AND COVERAGE	<p>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.</p>
SEASONAL ADJUSTMENT	<p>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.</p> <p>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.</p> <p>6 Irregular influences that are highly volatile can make it difficult to interpret the series even after adjustment for seasonal variation.</p> <p>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.</p>
TREND ESTIMATES	<p>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 <i>Information Paper: A Guide to Interpreting Time Series—Monitoring Trends, an Overview</i> (Cat. no. 1348.0) or contact the Assistant Director, Time Series Analysis on Canberra (02) 6252 6345.</p>
CLASSIFICATIONS	<p>9 The following categories are used:</p> <ul style="list-style-type: none">▪ 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 <i>Petroleum (Submerged Lands) Act 1967</i> or under any Acts administered by State and Territory Governments.▪ Drilling/Other, where <i>drilling expenditure</i> includes cost of access (roads, vessel hire, etc.) to the drilling site and site preparation etc., and <i>other expenditure</i> includes costs of surveys, report writing, map preparation and all other activities attributable to exploration.

EXPLANATORY NOTES

DEFINITIONS

- MINERALS 10** In the broad sense these comprise metallic minerals, construction materials, gemstones, other non-metallic minerals and petroleum (oil or gas).
- EXPLORATION 11** 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.
- EXPLORATION EXPENDITURE 12** 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.
- EXPECTED EXPENDITURE 13** 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.
- ZONE OF COOPERATION (ZOC) 14** 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.
- ASHMORE AND CARTIER ISLANDS 15** 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

RELATED PUBLICATIONS

16 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)

17 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.

18 Publications showing the details of wells and metres drilled in petroleum exploration are available from the Petroleum Resources Program of the Australian Geological Survey Organisation.

EFFECTS OF ROUNDING

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

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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