



# MINERAL AND PETROLEUM EXPLORATION

AUSTRALIA

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- For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Fiona Cotsell on Sydney 02 9268 4280.

## NOTES

### FORTHCOMING ISSUES

#### ISSUE (Quarter)

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### INTRODUCTION

The private sector exploration statistics appearing in this publication have been collected and compiled from the Mineral Exploration and Petroleum Exploration quarterly censuses conducted by the Australian Bureau of Statistics. This publication contains actual and expected exploration expenditure.

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### ABBREVIATIONS

ABS Australian Bureau of Statistics

GST Goods and Services Tax

LPG liquefied petroleum gas

WST wholesale sales tax

JPDA Joint Petroleum Development Area

UNTAET United Nations Transitional Administration in East Timor

ZOC Zone of Cooperation

Dennis Trewin

Australian Statistician

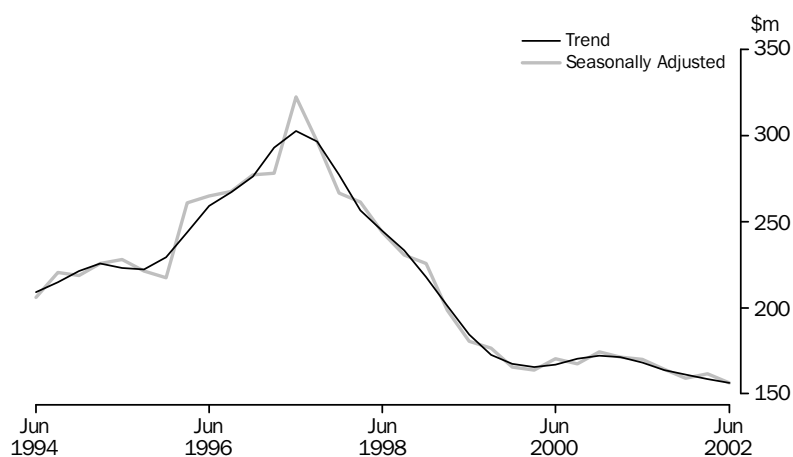
## SUMMARY OF FINDINGS

### MINERAL EXPLORATION EXPENDITURE (OTHER THAN FOR PETROLEUM)

#### TREND ESTIMATES

The trend estimate for total mineral exploration expenditure has decreased by 1% in the June quarter 2002, the sixth consecutive quarter of fall.

The June quarter 2002 trend estimate of \$156m was 7% lower than the trend estimate for the June quarter 2001.



The largest decrease occurred in Western Australia (\$4.4m or 5%), while there was a slight decrease in New South Wales. The Northern Territory remained unchanged while the remaining states and territories recorded small increases.

The trend estimate for metres drilled fell by 9% in the June quarter 2002 and was 21% lower than the June quarter estimate for the previous year.

## SUMMARY OF FINDINGS *continued*

### MINERAL EXPLORATION EXPENDITURE (OTHER THAN FOR PETROLEUM)

#### OVERVIEW

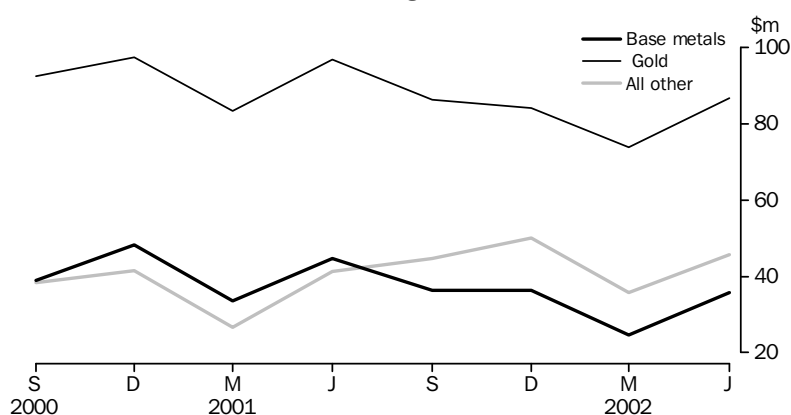
In original terms, mineral exploration expenditure increased by \$34m or 25% in the June quarter 2002, which represented a 3% decrease in seasonally adjusted terms.

The increase in original terms was mainly due to a 20% increase in expenditure reported on areas other than production leases, with the majority of this increase occurring in Queensland and Northern Territory.

Queensland was also the main contributor to the overall June quarter 2002 increase, followed by Western Australia and the Northern Territory.

In terms of minerals sought, exploration expenditure for gold increased by \$12.9m (17%), copper by \$5m (62%) and diamonds by \$3.9m (68%). The majority of the increase in gold occurred in Western Australia, which increased by \$5.9m. Exploration expenditure for selected base metals (copper, silver, lead-zinc, nickel and cobalt) increased by 45% to \$36m.

MINERAL EXPLORATION EXPENDITURE, Original series



## SUMMARY OF FINDINGS *continued*

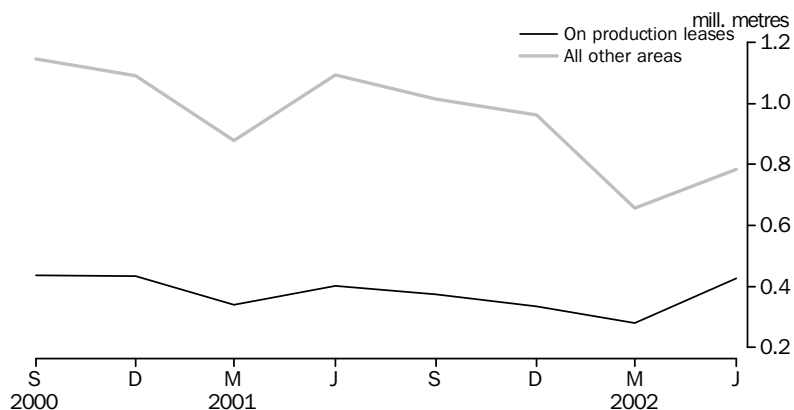
### MINERAL EXPLORATION EXPENDITURE (OTHER THAN FOR PETROLEUM)

#### METRES DRILLED

In original terms, the 1.2 million total metres drilled reported for the June quarter 2002 was 29% higher than the March quarter 2002, although in seasonally adjusted terms this translated into a decrease of 16%.

Drilling on production leases increased by 52% to 0.4 million metres, and drilling on all other areas has increased 20% to 0.8 million metres.

METRES DRILLED, Original series



## SUMMARY OF FINDINGS *continued*

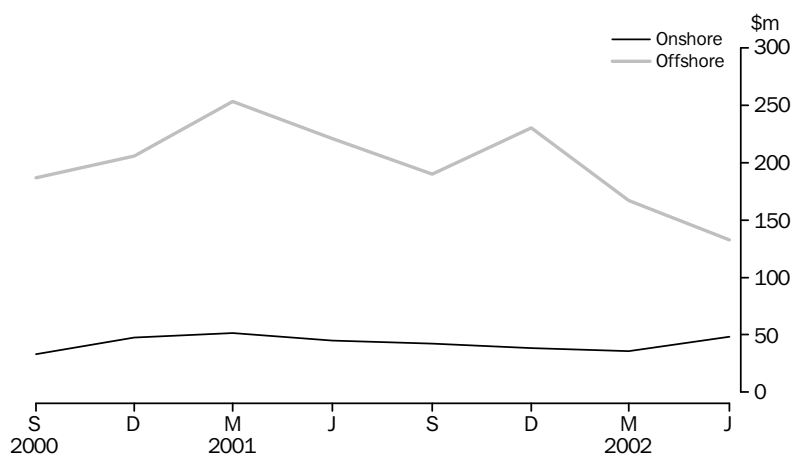
### PETROLEUM EXPLORATION EXPENDITURE

#### OVERVIEW

Expenditure on petroleum exploration fell by 11% in the June quarter 2002 to \$181m, which was 32% lower than in the June quarter 2001.

The decrease in total Petroleum exploration expenditure for the June quarter 2002 was the result of a \$34m (21%) decrease in offshore exploration expenditure, partly offset by a \$12m (33%) increase in onshore exploration expenditure.

Between March and June quarters 2002, expenditure for petroleum exploration on areas other than production leases decreased by 14%, while exploration on production leases increased by 18%.



#### REGIONAL DATA

Regional data for petroleum exploration expenditure are available for publication for New South Wales, Victoria, Queensland, South Australia, Western Australia and the Northern Territory/Ashmore and Cartier Islands. Combined, these regions contributed 98% to total exploration expenditure in the June quarter 2002.

Of the published regions, Western Australia was the main contributor, with a reported \$82m on exploration, a decrease of 31% from the March quarter 2002. Queensland reported a doubling in exploration expenditure to \$27m.

## PRIVATE EXPLORATION, Actual and expected expenditure(a)

	MINERAL EXPLORATION			PETROLEUM ONSHORE			PETROLEUM OFFSHORE		
	<i>Actual</i>	<i>Expected(b)</i>	<i>Actual as a proportion of expected</i>	<i>Actual</i>	<i>Expected(b)</i>	<i>Actual as a proportion of expected</i>	<i>Actual</i>	<i>Expected(b)</i>	<i>Actual as a proportion of expected</i>
	\$m	\$m	%	\$m	\$m	%	\$m	\$m	%
<b>1999-2000</b>	676.3	689.8	98.1	110.1	155.3	70.9	613.3	637.0	96.3
<b>2000-01</b>	683.3	667.3	102.4	176.9	174.4	101.4	867.0	934.5	92.8
<b>2001-02</b>	640.6	719.7	89.0	164.5	184.4	89.2	719.6	924.2	77.9
June Half 2001	326.3	314.7	103.7	96.2	55.7	172.8	474.3	560.2	84.7
December Half 2001	338.1	423.0	79.9	80.3	86.8	92.5	419.9	551.9	76.1
June Half 2002	302.5	296.7	102.0	84.2	97.6	86.3	299.7	372.3	80.5
December Half 2002	nya	414.5	nya	nya	88.7	nya	nya	292.5	nya

nya not yet available

(a) From July 2000 value data no longer contains wholesale sales taxes.

(b) Refer to Explanatory Notes paragraphs 13-15.

## MINERAL EXPLORATION, (Other than for petroleum)—Expenditure and metres drilled(a)

Period	EXPENDITURE					METRES DRILLED				
	On production leases	On all other Areas(b)	Total	Seasonally adjusted	Trend estimate	On production leases	On all other areas(b)	Total	Seasonally adjusted	Trend estimate
	\$m	\$m	\$m	\$m	\$m	'000	'000	'000	'000	'000
<b>1999–2000</b>	158.4	517.9	676.3	..	..	1 662	4 342	6 004	..	..
<b>2000–01</b>	157.0	526.2	683.3	..	..	1 611	4 211	5 822	..	..
<b>2001–02</b>	131.4	509.1	640.6	..	..	1 416	3 418	4 834	..	..
<b>2000</b>										
September	43.3	126.5	169.8	167.1	170.3	436	1 145	1 582	1 488	1 539
December	47.2	140.0	187.2	174.4	172.0	433	1 092	1 525	1 552	1 548
<b>2001</b>										
March	33.6	109.9	143.5	171.2	171.3	339	879	1 218	1 578	1 474
June	32.9	149.8	182.8	170.0	168.1	402	1 094	1 496	1 263	1 380
September	37.5	129.9	167.4	164.4	163.7	375	1 014	1 389	1 310	1 312
December	33.5	137.1	170.7	159.0	160.9	334	963	1 297	1 321	1 267
<b>2002</b>										
March	24.3	110.0	134.2	161.5	158.5	280	656	937	1 213	1 193
June	36.1	132.1	168.3	156.4	156.5	427	784	1 211	1 019	1 087

.. not applicable

(b) Refer to glossary for definition.

(a) From July 2000 value data no longer contains wholesale sales taxes.

## MINERAL EXPLORATION, (Other than for petroleum)—Expenditure(a)

State	TYPE OF LEASE		
	On production leases	On all other Areas(b)	Total
	\$m	\$m	\$m
New South Wales	1.9	10.6	12.6
Victoria	np	np	11.2
Queensland	8.7	20.0	28.7
South Australia	np	np	9.9
Western Australia	20.6	71.1	91.8
Tasmania	np	np	0.9
Northern Territory	np	np	13.0
<b>Australia</b>	<b>36.1</b>	<b>132.1</b>	<b>168.3</b>

np not available for publication but included in totals where applicable, unless otherwise indicated

(a) From July 2000 value data no longer contains wholesale sales taxes.

(b) Refer to Glossary for definition.



## MINERAL EXPLORATION, (Other than for petroleum)—Expenditure by state and territory(a)

<i>Period</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>
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
<b>ORIGINAL</b>								
<b>1999–2000</b>	56.1	33.8	82.6	22.6	415.0	8.8	57.5	676.3
<b>2000–01</b>	57.2	32.7	83.1	29.6	424.1	9.2	47.5	683.3
<b>2001–02</b>	48.3	33.9	92.7	32.1	381.1	4.0	48.4	640.6
<b>2000</b>								
September	13.6	8.6	21.8	5.5	104.4	1.7	14.2	169.8
December	15.8	7.3	21.4	6.8	118.0	2.6	15.3	187.2
<b>2001</b>								
March	12.7	8.4	17.1	4.9	90.8	2.5	7.2	143.5
June	15.1	8.4	22.8	12.4	110.9	2.3	10.9	182.8
September	12.5	7.2	21.6	6.9	103.3	0.9	15.0	167.4
December	12.6	7.1	25.0	8.0	103.5	1.2	13.3	170.7
<b>2002</b>								
March	10.5	8.4	17.3	7.3	82.5	1.0	7.2	134.2
June	12.6	11.2	28.7	9.9	91.8	0.9	13.0	168.3
<b>SEASONALLY ADJUSTED</b>								
<b>2000</b>								
September	14.5	8.9	21.8	5.9	102.5	1.9	11.6	167.1
December	14.7	7.3	20.0	6.6	109.6	2.5	13.7	174.4
<b>2001</b>								
March	13.8	8.3	20.9	6.6	107.8	2.3	11.5	171.2
June	14.2	8.3	20.4	9.7	104.5	2.4	10.5	170.0
September	13.2	7.3	21.7	7.5	101.5	1.0	12.2	164.4
December	11.8	7.2	23.5	7.6	95.8	1.2	11.9	159.0
<b>2002</b>								
March	11.5	8.3	21.1	9.8	98.2	0.9	11.7	161.5
June	11.8	11.0	25.8	7.7	86.6	1.0	12.5	156.4
<b>TREND</b>								
<b>2000</b>								
September	14.2	8.7	21.0	5.5	105.9	1.9	13.1	170.3
December	14.5	8.2	20.7	6.4	107.5	2.3	12.4	172.0
<b>2001</b>								
March	14.3	7.9	20.5	7.0	107.5	2.4	11.7	171.3
June	13.8	7.8	21.0	7.3	104.8	2.0	11.4	168.1
September	13.0	7.4	21.6	7.6	101.3	1.4	11.4	163.7
December	12.2	7.6	22.3	7.8	98.0	1.1	11.9	160.9
<b>2002</b>								
March	11.7	8.7	23.2	7.8	94.1	0.9	12.1	158.5
June	11.6	10.1	24.1	7.9	89.7	1.0	12.1	156.5

(a) From July 2000 value data no longer contains wholesale sales taxes.

## MINERAL EXPLORATION, (Other than for petroleum)—Expenditure by mineral sought(a)

	Copper	Silver, lead, zinc	Nickel, cobalt	Selected base metals total(b)	Gold	Iron ore	Mineral sands	Uranium	Coal	Diamonds	Other(c)	Total
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
JUNE QUARTER 2002												
New South Wales	0.8	0.8	0.1	1.7	3.9	—	np	—	3.6	—	np	12.6
Victoria	np	np	—	np	8.5	np	2.0	—	—	np	np	11.2
Queensland	6.4	5.8	np	np	6.3	—	np	np	9.5	np	0.2	28.7
South Australia	4.7	0.6	np	np	1.4	np	np	0.6	np	0.4	np	9.9
Western Australia	1.1	2.3	10.6	14.0	59.4	6.5	2.3	np	np	7.1	1.9	91.8
Tasmania	np	np	np	0.5	0.5	—	—	—	—	—	—	0.9
Northern Territory	0.1	0.3	np	np	6.8	—	np	np	—	1.9	np	13.0
Australia	13.1	10.3	12.3	35.6	86.8	6.5	9.7	2.7	13.9	9.6	3.4	168.3

## AUSTRALIA

<b>1999–2000</b>	28.4	55.4	73.0	156.8	374.8	29.7	21.5	11.7	35.4	29.8	16.7	676.3
<b>2000–01</b>	32.8	59.8	72.8	165.4	370.2	23.4	23.6	8.4	41.3	31.8	19.3	683.3
<b>2001–02</b>	41.6	37.6	53.7	132.9	331.3	25.2	33.2	8.8	50.3	35.4	23.4	640.6
September 2000	6.9	14.9	17.1	38.9	92.5	7.2	4.9	np	9.2	11.3	np	169.8
December 2000	7.7	16.3	24.1	48.2	97.5	7.4	6.1	2.9	9.3	9.7	6.0	187.2
March 2001	5.8	13.1	14.7	33.6	83.3	3.4	5.8	1.1	7.6	4.1	4.6	143.6
June 2001	12.3	15.5	16.9	44.7	96.8	5.4	6.8	np	15.1	6.7	np	182.8
September 2001	10.0	11.4	14.9	36.3	86.4	4.4	7.8	3.0	11.9	9.4	8.2	167.4
December 2001	10.3	9.3	16.7	36.3	84.2	6.9	8.7	2.1	14.4	10.7	7.3	170.7
March 2002	8.1	6.7	9.8	24.6	73.9	7.4	7.0	0.9	10.2	5.7	4.6	134.3
June 2002	13.1	10.3	12.3	35.6	86.8	6.5	9.7	2.7	13.9	9.6	3.4	168.3

— nil or rounded to zero (including null cells)

(b) Selected base metal total is copper, silver, lead-zinc, nickel, cobalt.

np not available for publication but included in totals where applicable, unless otherwise indicated

(c) From September quarter 2000 this category includes tin, tungsten, scheelite, wolfram, and construction materials.

(a) From July 2000 value data no longer contains wholesale sales taxes.

## PETROLEUM EXPLORATION EXPENDITURE(a)

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(b)</i>	<i>Total</i>
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
<b>1999-2000</b>	53.8	56.3	110.1	381.8	231.4	613.2	121.9	601.4	723.3
<b>2000-01</b>	98.4	78.5	176.9	543.3	323.7	867.0	212.5	831.3	1 043.9
<b>2001-02</b>	98.2	66.3	164.5	456.8	262.8	719.6	111.0	773.1	884.1
<b>2000</b>									
September	17.3	15.8	33.1	129.2	57.4	186.6	42.3	177.5	219.8
December	26.8	20.8	47.6	104.4	101.6	206.0	60.0	193.5	253.5
<b>2001</b>									
March	28.2	23.2	51.4	157.8	95.3	253.1	59.7	244.8	304.5
June	26.1	18.7	44.8	151.8	69.4	221.2	50.5	215.5	266.0
September	28.8	13.3	42.1	137.3	52.5	189.8	40.5	191.4	231.8
December	23.2	15.0	38.3	152.3	77.8	230.1	23.1	245.2	268.3
<b>2002</b>									
March	16.7	19.4	36.1	94.6	72.5	167.1	21.8	181.4	203.1
June	29.6	18.6	48.1	72.6	60.1	132.7	25.7	155.1	180.8

(a) From July 2000 value data no longer contains wholesale sales taxes.

(b) Refer to Glossary for definition.

## PETROLEUM EXPLORATION, By region(a)

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory/ Ashmore and Cartier Islands	Joint Petroleum Development Area(b)	Total
<i>Period</i>	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
<b>1999–2000</b>	np	63.2	50.6	np	444.1	np	88.3	45.2	723.3
<b>2000–01</b>	6.4	74.4	84.8	66.7	687.5	np	63.4	np	1 043.9
<b>2001–02</b>	8.7	85.1	73.4	35.8	479.8	29.9	168.3	np	884.1
<b>2000</b>									
September	np	6.7	22.3	np	148.8	np	30.8	np	219.8
December	np	13.3	27.1	np	166.3	np	8.6	np	253.5
<b>2001</b>									
March	np	10.3	19.2	np	216.4	np	np	np	304.5
June	1.1	44.0	16.1	25.0	156.0	np	np	0.1	266.0
September	2.7	np	19.4	12.1	136.3	np	np	0.4	231.8
December	np	np	14.0	np	141.7	np	77.7	1.8	268.3
<b>2002</b>									
March	np	21.7	13.3	np	119.7	—	40.3	0.3	203.1
June	0.8	13.8	26.7	9.7	82.0	np	np	np	180.8

np not available for publication but included in totals where applicable,  
unless otherwise indicated

(a) From July 2000 value data no longer contains wholesale sales taxes.

(b) Refer to Explanatory Notes paragraphs 2–5.

— nil or rounded to zero (including null cells)

## EXPLANATORY NOTES

### INTRODUCTION

**1** The private sector exploration statistics appearing in this publication have been collected and compiled from the Mineral Exploration and Petroleum Exploration quarterly censuses conducted by the Australian Bureau of Statistics. This publication contains actual and expected exploration expenditure.

### SCOPE AND COVERAGE

**2** The Mineral Exploration and Petroleum Exploration censuses cover private enterprises known to be engaged in exploration in Australia, in Australian waters including the area formerly known as ZOCC, and in the Joint Petroleum Development Area (JPDA) formerly known as ZOCA, regardless of the main activity of the explorer.

**3** The Joint Petroleum Development Area (JPDA) is an area in the Timor Sea, about 500 km north west of Darwin. The JPDA consists of the area previously referred to as Area A of the Zone of Cooperation (ZOC). A Treaty was signed with Indonesia in 1989 to enable exploration for and development of petroleum resources in this area. Following East Timor's separation from Indonesia, arrangements continued on a transitional basis since 25 October 1999 with Australia and the United Nations Transitional Administration in East Timor (UNTAET) on behalf of East Timor. These arrangements were terminated when East Timor became independent on 20 May 2002. Australia and East Timor have agreed on a Framework Arrangement which came into effect upon East Timorese independence.

**4** The areas formerly known as Areas B and C of the Zone of Cooperation will no longer exist under this arrangement. Since 20 May 2002, ZOCC is simply a part of Australia's waters, and ZOCC a part of East Timor's.

**5** Given that these changes occurred during the most recent period covered by this publication, exploration activity in the various areas of the former Zone of Cooperation have been compiled in line with the previous arrangements. From the September quarter 2002 issue, data in this publication will align with the post-20 May 2002 arrangements and, to enable the compilation of consistent time series, data for previous periods will be amended to align with the new treatment.

**6** The 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 the Northern Territory data.

### SEASONAL ADJUSTMENT

**7** 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. Seasonal adjustment does not aim to remove the irregular or non-seasonal influences which may be present in any particular series.

**8** These irregular influences that are volatile or unsystematic can make it difficult to interpret the movement of the series even after adjustment for seasonal variation. This means that quarter-to-quarter movements of seasonally adjusted estimates may not be reliable indicators of trend behaviour.

**9** 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.

### TREND ESTIMATES

**10** The smoothing of seasonally adjusted series to create trend estimates reduces the impact of the irregular component of the seasonally adjusted series.

## EXPLANATORY NOTES *continued*

### TREND ESTIMATES *continued*

**11** The trend estimates are derived by applying a 7-term Henderson moving average to the seasonally adjusted series. The 7-term Henderson average 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.

**12** *Information Paper: A Guide to Interpreting Time Series, Monitoring Trends, an Overview* (cat. no. 1348.0), can be obtained by contacting Time Series Analysis Canberra on (02) 6252 6345 or e-mail [timeseries@abs.gov.au](mailto:timeseries@abs.gov.au).

### EXPECTED EXPLORATION EXPENDITURE

**13** Expected expenditure is collected in June and December quarter each year. Businesses are asked to report their expected expenditure for the next six months.

**14** From the June quarter 2000 publication, the basis for the Expected Mineral Exploration Expenditure series changed. Prior to June 2000, the expected estimates released were simple aggregates of data compiled through the quarterly Mineral Exploration collection. However, these aggregates underestimated actual expenditure to a fairly consistent degree. The consistency with which the published data underestimated actual expenditure suggested that adjustments to improve the accuracy and usefulness of the estimates of expected expenditure would be possible.

**15** In the period since June 2000, such adjustments have been made to reported expected exploration data resulting in estimates which better predict actual expenditure for the same period. For more information regarding the adjustments made to the Expected Mineral Exploration Expenditure series, see the feature article in *Mineral and Petroleum Exploration Australia June quarter 2000* (cat. no. 8412.0).

### TAX REFORM

**16** The Goods and Services Tax (GST) which came into effect on 1 July 2000 is not included in the value of exploration expenditure. Enterprises in the censuses are asked to report actual expenditure based on the expected net cost to them under the New Tax System. That is, the Wholesale Sales Tax no longer applies and the exploration expenditure estimates should exclude the 10% GST where this amount can be returned to the business as a tax credit. The GST replaced the wholesale sales tax (WST) which was included in the value of exploration expenditure estimates for periods up to June quarter 2000.

### ACKNOWLEDGEMENT

**17** ABS publications draw extensively on information provided freely by individuals, businesses, government and other organisations. Their continued cooperation is appreciated: without it a wide range of statistics published by the ABS would not be available. Information received by the ABS is treated in strict confidence as required by the Census and Statistics Act 1905.

### RELATED PUBLICATIONS

**18** Users may also wish to refer to the following publications which are for sale and available on request:

- *Australian Business Expectations* (cat. no. 5250.0)
- *Private New Capital Expenditure and Expected Expenditure, Australia* (cat. no. 5625.0)
- *Australian Mining Industry* (cat. no. 8414.0)
- *Mining Operations* (cat. no. 8415.0)

## EXPLANATORY NOTES *continued*

### ABS DATA AVAILABLE ELECTRONICALLY

**19** This publication and other downloadable products can be purchased online using a credit card. They can be downloaded (with no credit card needed) by AusStats and ABS@ subscribers, Australian universities and at some public libraries.

**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 or on the ABS' web site [www.abs.gov.au](http://www.abs.gov.au).

**21** Publications showing the details of wells and metres drilled in petroleum exploration are available from the Petroleum Resources Program of Geoscience Australia.

### EFFECTS OF ROUNDING

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

## GLOSSARY

<b>Development</b>	Phase usually following exploration where a prospective discovery (e.g. proven oil or gas field or concentrate of ore) is brought into production or for extending the life of a current mine or well. Activities may include preparing the ground by the removal of overburden, constructing shafts, drives and winzes; or by drilling and completing wells. All activities are for the purposes of commencing extraction/mining or extending production.
<b>Exploration</b>	Activity involves searching for concentrations of naturally occurring solid, liquid or gaseous materials and includes new field wildcat and stratigraphical and extension/appraisal wells and mineral appraisals intended to delineate or greatly extend the limits of known deposits by geological, geophysical, geochemical, drilling or other methods. This includes drilling of boreholes, construction of shafts and adits primarily for exploration purposes but excludes activity of a developmental or production nature. Exploration for water is excluded.
<b>Exploration expenditure</b>	Covers all expenditure (capitalised and non-capitalised) during the exploratory or evaluation stages in Australia, Australian waters, JPDA and Areas B and C of the original ZOC. Costs include cost of exploration, determination of recoverable reserves, engineering and economic feasibility studies, procurement of finance, gaining access to reserves, construction of pilot plants and all technical and administrative overheads directly associated with these functions. Examples are costs of satellite imagery, airborne and seismic surveys, use of geophysical and other instruments, geochemical surveys and map preparation; licence fees, land access and legal costs; geologist inspections, chemical analysis and payments to employees and contractors. Cash bids for offshore petroleum exploration permits are also included.
<b>Exploration licence/permit</b>	Is designed to cover the exploration phase of a project and confers exclusive rights to the exploration for and recovery of samples from the area designated. These rights are granted by relevant Commonwealth, State or Territory Governments.
<b>Minerals</b>	Are a naturally occurring inorganic element or compound having an orderly internal structure and characteristic chemical composition, crystal form, and physical properties. These, for example, comprise of metallic minerals, such as copper, silver, lead-zinc, nickel, cobalt, gold, iron ore, mineral sands, uranium and non-metallic minerals such as coal, diamonds and other precious and semi-precious stones and construction materials (e.g. gravel and sand).
<b>Mining licence/lease</b>	Covers the commercial mining phase of a project for the licenced area. This licence authorises both full recovery and further exploration to occur.
<b>Offshore</b>	Commences from the low water mark to three nautical miles out (referred to as coastal waters) under State and Northern Territory legislation and extends to those areas beyond coastal waters governed by the Commonwealth under the <i>Petroleum (Submerged Lands) Act 1967</i> .
<b>Onshore</b>	Includes all Australian territorial lands to the low water mark.
<b>Petroleum</b>	Is a naturally occurring hydrocarbon or mixture of hydrocarbons. As oil or gas in solution (e.g. LPG), it is widespread in Australian sedimentary rocks.
<b>Retention licence</b>	Is an intermediate form of tenure between the exploration licence and mining licence allowing the holder of the exploration licence to retain title to the area for a limited time. It is designed to ensure the retention of rights pending the transition of a project from the exploration phase to the commercial mining phase.
<b>Selected base metals</b>	Are made up of the following minerals: copper, silver, lead-zinc, nickel and cobalt.
<b>Type of expenditure</b>	Classification used:



## GLOSSARY *continued*

### Type of expenditure *continued*

*Drilling expenditure* — includes wages and salaries paid to employees; purchase, rental, hiring as well as operation and maintenance of drilling equipment together with activities associated with accessing the areas where drilling is to occur (e.g. road creation, vessel/transport hiring, site preparation and restoration). Also includes expenditure on drilling done by contractors.

*Other expenditure* — includes all other exploration costs, other than those associated with drilling expenditure. This expenditure includes purchase of capital and non-capital items, rental or hiring fees, service fees relating to surveying and analysis, administrative and legal fees associated with obtaining licences/permits, land access, map preparation, feasibility studies, environmental impacts studies and restoration costs.

### Type of lease

Classifications used:

*Production lease* — is an area on which development to extract coal, minerals, liquids or gaseous materials is underway or where extraction/mining of these substances is already occurring. See also mining licence/lease.

*All other areas* — are those areas outside the Production lease. These include areas under exploration licence/permit or retention licence, as well as non-licenced areas being assessed for exploration, e.g. through airborne surveys.





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