



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 Didier Rivet on Sydney 02 9268 4357.

NOTES

FORTHCOMING ISSUES

ISSUE (Quarter)

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June 2003

17 September 2003

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CHANGES TO THIS ISSUE

Tables 3 and 5 have been re-formatted to present a time series of exploration activity for each state. Previously, data for the current quarter only was presented.

Also, the ABS is proposing to change the methodology used to compile the expectations data for mineral exploration contained in Table 1 of this publication. Appendix 1 on Page 18 contains further details and users are invited to comment on the issues raised.

CHANGES TO AUSSTATS TABLES

In line with the changes to publication tables described above, AusStats tables have also been expanded to show a time series of exploration expenditure for each state. For this quarter, tables in both the previous and expanded format have been released. Appendix 2 on Page 20 contains details of these changes.

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ABBREVIATIONS

ABS	Australian Bureau of Statistics
GST	Goods and Services Tax
JPDA	Joint Petroleum Development Area
LPG	liquefied petroleum gas
UNTAET	United Nations Transitional Administration in East Timor
WST	wholesale sales tax
ZOC	Zone of Cooperation

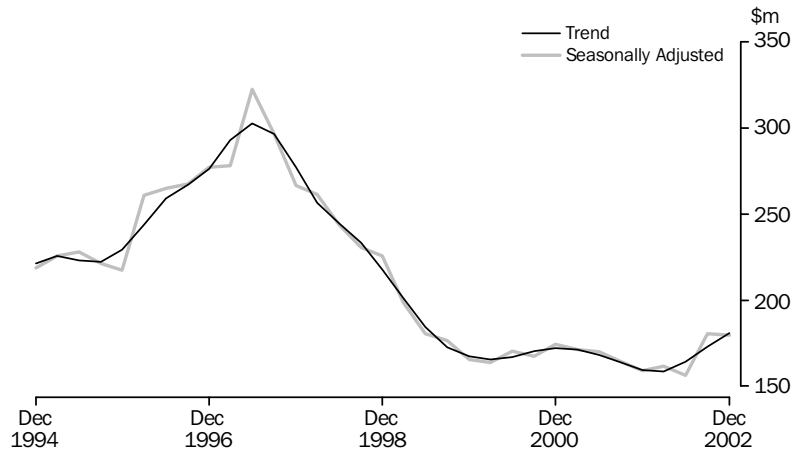
Dennis Trewin
Australian Statistician

SUMMARY OF FINDINGS

MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

TREND ESTIMATES

The trend estimate for total mineral exploration expenditure increased by 4.5% to \$180.7m in the December quarter 2002 following a large seasonally adjusted increase in the previous quarter. The trend estimate is now 13.5% higher than in December quarter 2001.



The largest increases occurred in Western Australia (\$4.5m or 4.5%) and Queensland (\$2.1m or 8.2%). All remaining states recorded slight increases except Victoria, which fell slightly.

The trend estimate for metres drilled increased by 1.1% in the December quarter 2002 but was 3.1% lower than the December quarter estimate for the previous year.

SUMMARY OF FINDINGS *continued*

MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

EXPLORATION EXPENDITURE

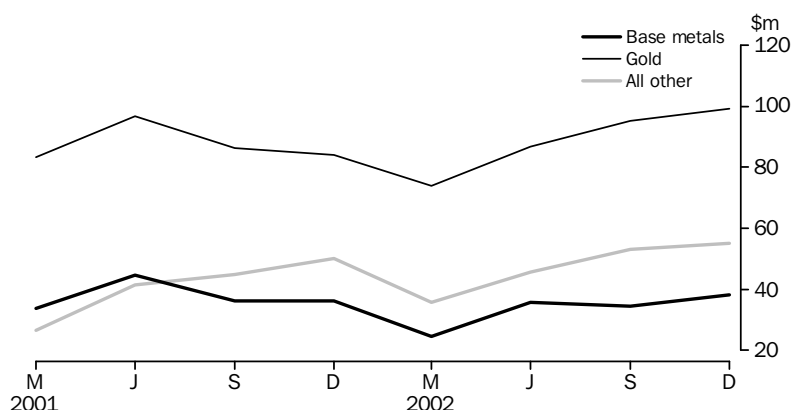
In original terms, mineral exploration expenditure increased by \$9.9m (5.4%) in the December quarter 2002 (down 0.4% in seasonally adjusted terms). Expenditure on production leases increased by \$4.7m (11.2%) and expenditure on all other areas increased by \$5.2m (3.7%).

The overall increase was mainly due to exploration for Coal in Queensland (up \$7.4m or 77.9%), with a number of companies contributing to this increase. Gold exploration in Western Australia remained at the high level recorded during the September quarter, while Gold exploration in the Northern Territory increased by \$2.7m (54%).

Expenditure in the remaining states was broadly comparable to the previous quarter's levels.

In terms of minerals sought, both Iron Ore and Coal recorded total increases of \$5.1m (up 56.7% and 31.9%, respectively). Gold exploration increased by \$4.1m (4.3%) and Nickel and Cobalt by \$3.2m (21.8%). Apart from Silver, Lead and Zinc, which recorded an increase of \$1.5m (17%), the remaining minerals recorded decreases in the December quarter 2002. The most significant decreases were Diamonds (down \$3.5m or 33.7%) and Mineral Sands (down \$2.6m or 31.3%).

MINERAL EXPLORATION EXPENDITURE, Original series



SUMMARY OF FINDINGS *continued*

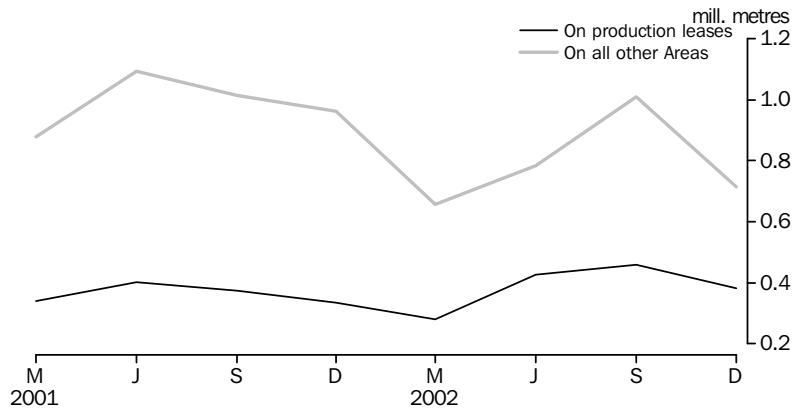
MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

METRES DRILLED

In original terms, total metres drilled decreased by 25.4% in the December quarter 2002 (down 19.6% in seasonally adjusted terms).

The decrease in metres drilled was mainly due to decreased drilling on areas other than production leases, which contributed 79.4% to the overall decrease. This followed a significant increase in metres drilled in the September quarter, with a number of businesses replacing drilling activity this quarter with other activities such as seismic surveys, geophysical mapping and geochemical analysis.

METRES DRILLED, Original series



EXPECTED EXPENDITURE

Expected expenditure for the June half of 2003 is 11.8% higher than the expectations recorded for the comparable period last year.

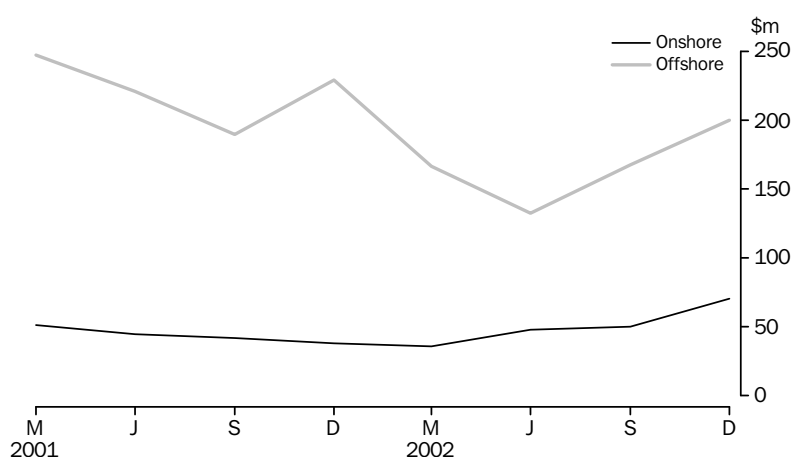
SUMMARY OF FINDINGS *continued*

PETROLEUM EXPLORATION EXPENDITURE

OVERVIEW

In the December quarter 2002, expenditure on petroleum exploration increased by \$52.4m (24.0%) to \$270.4m, which is a similar level to that recorded in the December quarter 2001. The increase this quarter was almost totally due to exploration on areas other than production leases.

Onshore exploration expenditure increased by \$19.9m (39.5%) and Offshore exploration increased by \$32.5m (19.4%), with both drilling and non-drilling activity increasing in each case.



REGIONAL DATA

Western Australia was the main contributor to the increase in petroleum exploration expenditure, with expenditure this quarter almost doubling to \$170.2m. Most of this increase was due to offshore expenditure on areas other than production leases. South Australia and Queensland also showed significant increases, while Victoria recorded a large decrease following a large increase in the previous quarter.

EXPECTED EXPENDITURE

Expected expenditure for the June half of 2003 is 9% higher than the expectations recorded for the comparable period last year. Expenditure on both Onshore and Offshore exploration is expected to increase.

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PRIVATE EXPLORATION, Actual and Expected Expenditure(a)

	MINERAL EXPLORATION			PETROLEUM ONSHORE			PETROLEUM OFFSHORE		
	Actual	Expected(b)	Actual as a proportion of expected	Actual	Expected(b)	Actual as a proportion of expected	Actual	Expected(b)	Actual as a proportion of expected
	\$m	\$m	%	\$m	\$m	%	\$m	\$m	%
1999-2000	676.3	689.8	98.1	110.1	155.3	70.9	590.6	637.0	92.7
2000-01	683.3	667.3	102.4	176.9	174.4	101.4	847.8	934.5	90.7
2001-02	640.8	719.7	89.0	164.5	184.4	89.2	718.1	924.2	77.7
2001-02									
December half	338.1	423.0	79.9	80.3	86.8	92.5	418.8	551.9	75.9
June half	302.7	296.7	102.0	84.2	97.6	86.3	299.3	372.3	80.4
2002-03									
December half	375.7	414.7	90.6	120.7	88.7	136.1	367.7	292.5	125.7
June half	n/a	331.7	n/a	n/a	111.7	n/a	n/a	400.5	n/a

n/a not yet available

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

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

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

	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
1999-2000	158.4	517.9	676.3	..	..	1 662	4 342	6 004	..	..
2000-01	157.0	526.2	683.3	..	..	1 611	4 211	5 822	..	..
2001-02	131.4	509.1	640.6	..	..	1 416	3 418	4 834	..	..
2000-01										
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
2001-02										
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	159.2	334	963	1 297	1 321	1 246
March	24.3	110.0	134.2	161.5	158.3	280	656	937	1 213	1 206
June	36.1	132.1	168.3	156.4	164.3	427	784	1 211	1 019	1 183
2002-03										
September	42.0	140.9	182.9	180.4	172.9	459	1 009	1 468	1 386	1 194
December	46.7	146.1	192.8	179.7	180.7	381	713	1 095	1 115	1 207

.. not applicable

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

(b) Refer to glossary for definitions.

MINERAL EXPLORATION, (Other than for petroleum) - Expenditure by type of lease(a)

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australia
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
ON PRODUCTION LEASES								
1999-2000	9.9	6.3	18.2	0.4	114.7	np	8.7	158.4
2000-01	7.5	9.1	17.0	2.1	112.3	np	6.5	157.0
2001-02	8.2	7.6	27.0	2.1	75.8	np	9.4	131.4
2000-01								
March	1.8	np	4.7	0.5	19.8	np	1.0	33.6
June	1.7	1.9	3.3	np	23.5	np	1.2	32.9
2001-02								
September	1.2	1.9	6.4	np	22.9	np	4.2	37.5
December	3.4	1.6	7.3	np	17.7	np	2.6	33.5
March	1.7	np	4.6	0.2	14.6	np	np	24.3
June	1.9	np	8.7	np	20.6	np	np	36.1
2002-03								
September	2.9	np	9.3	1.1	26.1	np	np	42.0
December	2.2	np	9.1	0.5	31.7	np	1.6	46.7
ON ALL OTHER AREAS (b)								
1999-2000	46.2	27.5	64.3	22.2	300.4	np	48.8	517.9
2000-01	49.6	23.7	66.0	27.5	311.8	np	41.1	526.2
2001-02	40.1	26.3	65.7	29.9	305.2	np	39.0	509.1
2000-01								
March	10.9	np	12.4	4.4	71.0	np	6.1	109.9
June	13.3	6.5	19.5	np	87.4	np	9.7	149.8
2001-02								
September	11.4	5.3	15.2	np	80.4	np	10.8	129.9
December	9.3	5.5	17.7	np	85.8	np	10.6	137.1
March	8.8	np	12.7	7.1	67.9	np	np	110.0
June	10.6	np	20.0	np	71.1	np	np	132.1
2002-03								
September	12.4	np	13.9	8.6	84.0	np	np	140.9
December	11.5	np	22.7	9.4	79.5	np	14.6	146.1
TOTAL								
1999-2000	56.1	33.8	82.6	22.6	415.0	8.8	57.5	676.3
2000-01	57.2	32.7	83.1	29.6	424.1	9.2	47.5	683.3
2001-02	48.3	33.9	92.7	32.1	381.1	4.0	48.4	640.6
2000-01								
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
2001-02								
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
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
2002-03								
September	15.4	10.7	23.2	9.7	110.1	1.1	12.8	182.9
December	13.7	8.9	31.9	10.0	111.1	1.0	16.2	192.8

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 Glossary for definition.

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

	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory	Australia
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
ORIGINAL								
1999-2000	56.1	33.8	82.6	22.6	415.0	8.8	57.5	676.3
2000-01	57.2	32.7	83.1	29.6	424.1	9.2	47.5	683.3
2001-02	48.3	33.9	92.7	32.1	381.1	4.0	48.4	640.6
2000-01								
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
2001-02								
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
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
2002-03								
September	15.4	10.7	23.2	9.7	110.1	1.1	12.8	182.9
December	13.7	8.9	31.9	10.0	111.1	1.0	16.2	192.8
SEASONALLY ADJUSTED								
2000-01								
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
2001-02								
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
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
2002-03								
September	16.1	10.8	23.2	10.6	108.1	1.2	10.4	180.4
December	12.9	9.1	30.0	9.5	102.7	1.0	14.5	179.7
TREND ESTIMATES								
2000-01								
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
2001-02								
September	13.0	7.4	21.6	7.6	101.3	1.4	11.4	163.7
December	11.9	7.6	22.4	7.6	96.7	1.0	12.0	159.2
March	11.8	8.8	22.8	7.9	94.2	0.9	11.9	158.3
June	12.9	10.1	23.9	8.7	96.0	1.0	11.7	164.3
2002-03								
September	13.9	10.4	25.7	9.4	100.2	1.1	12.2	172.9
December	14.2	10.1	27.8	9.9	104.7	1.1	12.9	180.7

(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
NEW SOUTH WALES												
1999-2000	2.8	8.5	8.8	20.1	14.3	—	4.7	—	14.7	0.1	2.2	56.1
2000-01	3.3	8.0	6.9	18.2	16.3	—	8.3	—	11.3	0.3	2.8	57.2
2001-02	2.5	2.7	1.6	6.8	15.7	—	10.6	—	14.2	0.1	0.9	48.3
2000-01												
March	0.8	2.4	1.1	4.3	4.3	—	1.4	—	2.2	—	0.3	12.7
June	0.9	2.6	0.6	4.1	4.6	—	2.4	—	3.3	—	0.6	15.1
2001-02												
September	0.5	0.7	0.6	1.8	4.6	—	2.8	—	3.0	—	0.3	12.5
December	0.6	0.5	np	np	3.4	—	3.1	—	4.4	—	np	12.6
March	0.6	0.7	0.5	1.8	3.9	—	1.6	—	np	—	np	10.5
June	0.8	0.8	0.1	1.7	3.9	—	np	—	3.6	—	np	12.6
2002-03												
September	0.7	1.3	np	np	4.1	—	3.3	—	4.1	np	0.8	15.4
December	np	1.8	np	2.8	4.5	—	1.9	—	4.0	np	0.6	13.7
VICTORIA												
1999-2000	1.0	1.4	0.3	2.7	25.9	—	4.8	—	0.2	0.1	1.2	33.8
2000-01	0.9	0.9	—	1.8	25.6	—	4.9	—	—	0.1	0.3	32.7
2001-02	0.3	0.3	—	0.7	24.2	—	7.8	—	—	—	1.2	33.9
2000-01												
March	np	np	—	np	6.2	—	1.5	—	—	—	np	8.4
June	np	np	—	np	5.7	—	1.3	—	—	np	0.2	8.4
2001-02												
September	np	np	—	np	4.7	—	1.7	—	—	—	np	7.2
December	np	np	—	np	4.4	—	2.4	—	—	—	np	7.1
March	—	—	—	np	6.6	—	1.6	—	—	—	np	8.4
June	np	np	—	np	8.5	np	2.0	—	—	np	np	11.2
2002-03												
September	np	np	—	np	8.8	—	np	—	—	np	np	10.7
December	np	np	—	0.2	7.7	—	0.4	—	—	—	np	8.9
QUEENSLAND												
1999-2000	14.8	14.3	0.7	29.8	28.2	—	np	np	20.1	np	np	82.6
2000-01	16.2	18.6	1.3	36.1	21.0	—	np	np	23.4	np	np	83.1
2001-02	18.5	14.8	0.5	33.8	21.7	—	np	np	34.1	np	np	92.7
2000-01												
March	2.5	np	np	7.7	4.9	—	np	—	3.9	—	np	17.1
June	6.2	np	np	10.6	4.6	—	np	—	6.9	—	np	22.8
2001-02												
September	4.6	3.0	0.2	7.8	4.3	—	np	—	8.7	—	np	21.6
December	4.6	np	np	8.6	6.4	—	np	—	9.2	—	np	25.0
March	2.9	2.2	—	5.1	4.8	—	np	—	6.7	—	np	17.3
June	6.4	5.8	np	np	6.3	—	np	np	9.5	np	0.2	28.7
2002-03												
September	5.2	2.4	np	7.6	4.8	—	np	np	9.5	np	0.5	23.2
December	4.9	1.8	np	np	6.5	—	np	np	16.9	np	np	31.9

— nil or rounded to zero (including null cells)

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 tax.

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

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

continued

	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
SOUTH AUSTRALIA												
1999-2000	3.4	4.2	0.2	7.9	10.9	0.1	np	0.4	np	0.2	0.8	22.6
2000-01	6.3	6.7	0.1	13.2	6.8	0.1	np	1.4	np	0.3	0.7	29.6
2001-02	13.6	5.2	1.5	20.2	4.2	—	np	1.6	np	0.7	0.2	32.1
2000-01												
March	1.0	1.0	—	2.0	1.1	—	np	np	np	—	0.1	4.9
June	2.8	np	np	4.7	np	—	np	np	np	—	0.1	12.4
2001-02												
September	2.5	np	np	5.2	np	—	np	0.3	np	—	—	6.9
December	np	1.3	np	4.5	1.5	—	np	np	np	—	0.1	8.0
March	np	0.9	np	4.9	0.8	—	np	np	np	np	—	7.3
June	4.7	0.6	np	np	1.4	np	np	0.6	np	0.4	np	9.9
2002-03												
September	4.1	0.8	np	5.2	2.1	np	np	np	np	np	np	9.7
December	3.1	1.2	np	np	2.8	np	np	np	np	np	np	10.0
WESTERN AUSTRALIA												
1999-2000	4.9	22.7	60.7	88.3	253.1	29.5	9.1	np	np	24.8	9.0	415.0
2000-01	2.7	19.3	60.5	82.5	271.9	23.2	7.4	np	np	26.3	11.1	424.1
2001-02	4.4	10.5	47.1	62.1	238.1	25.2	8.2	np	np	29.2	17.5	381.1
2000-01												
March	0.6	3.7	12.3	16.6	62.2	3.4	2.0	—	np	np	2.8	90.8
June	1.0	3.9	15.4	20.3	73.7	5.3	2.0	—	np	5.6	np	110.9
2001-02												
September	1.4	3.4	13.3	18.1	64.8	4.4	2.0	—	np	np	5.9	103.3
December	1.4	2.6	14.7	18.8	60.4	6.9	np	—	np	9.8	6.0	103.5
March	0.6	2.1	8.5	11.2	53.5	7.4	2.4	—	—	4.3	3.7	82.5
June	1.1	2.3	10.6	14.0	59.4	6.5	2.3	np	np	7.1	1.9	91.8
2002-03												
September	0.6	2.9	12.5	16.0	70.1	np	1.9	np	np	7.3	4.2	110.1
December	1.1	4.4	13.8	19.2	69.8	np	1.8	np	np	3.9	2.6	111.1
TASMANIA												
1999-2000	—	np	np	3.9	2.4	—	—	—	—	—	2.5	8.8
2000-01	—	np	np	5.7	1.9	np	—	—	—	—	1.5	9.2
2001-02	np	np	np	2.1	1.9	—	—	—	—	—	0.1	4.0
2000-01												
March	—	np	np	np	0.4	—	—	—	—	—	np	2.5
June	—	np	np	np	np	—	—	—	—	—	0.6	2.3
2001-02												
September	—	np	np	np	np	—	—	—	—	—	—	0.9
December	—	np	np	0.5	0.7	—	—	—	—	—	—	1.2
March	np	np	np	0.5	0.4	—	—	—	—	—	—	1.0
June	np	np	np	0.5	0.5	—	—	—	—	—	—	0.9
2002-03												
September	—	np	np	np	0.3	—	—	—	—	—	np	1.1
December	np	np	np	0.7	0.3	—	—	—	—	—	np	1.0

— nil or rounded to zero (including null cells)

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 tax.

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

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

continued

	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
NORTHERN TERRITORY												
1999-2000	1.4	2.1	0.7	4.1	40.0	—	—	8.2	—	4.3	0.8	57.5
2000-01	3.3	3.8	0.7	7.9	26.7	—	—	6.7	—	4.7	1.6	47.5
2001-02	2.2	2.6	2.5	7.3	25.4	—	0.8	7.1	—	5.2	2.7	48.4
2000-01												
March	np	np	—	0.8	4.2	—	—	np	—	np	0.4	7.2
June	np	np	np	2.6	5.5	—	—	np	—	np	0.6	10.9
2001-02												
September	np	1.2	np	2.5	7.1	—	—	2.7	—	np	np	15.0
December	1.0	np	np	2.2	7.4	—	np	np	—	0.8	0.7	13.3
March	0.3	np	0.4	np	4.0	—	np	np	—	np	0.2	7.2
June	0.1	0.3	np	np	6.8	—	np	np	—	1.9	np	13.0
2002-03												
September	0.5	1.0	0.9	2.3	5.0	—	np	np	—	2.3	np	12.8
December	np	np	2.2	3.2	7.7	—	np	np	—	2.1	1.2	16.2
AUSTRALIA												
1999-2000	28.4	55.4	73.0	156.8	374.8	29.7	21.5	11.7	35.4	29.8	16.7	676.3
2000-01	32.8	59.8	72.8	165.4	370.2	23.4	23.6	8.4	41.3	31.8	19.3	683.3
2001-02	41.6	37.6	53.7	132.9	331.3	25.2	33.2	8.8	50.3	35.4	23.4	640.6
2000-01												
March	5.8	13.1	14.7	33.6	83.3	3.4	5.8	1.1	7.6	4.1	4.6	143.5
June	12.3	15.5	16.9	44.7	96.8	5.4	6.8	np	15.1	6.7	np	182.8
2001-02												
September	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	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	8.1	6.7	9.8	24.6	73.9	7.4	7.0	0.9	10.2	5.7	4.6	134.2
June	13.1	10.3	12.3	35.6	86.8	6.5	9.7	2.7	13.9	9.6	3.4	168.3
2002-03												
September	11.1	8.8	14.7	34.5	95.2	9.0	8.3	2.5	16.0	10.4	7.0	182.9
December	10.1	10.3	17.9	38.3	99.3	14.1	5.7	2.0	21.1	6.9	5.4	192.8

— nil or rounded to zero (including null cells)

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 tax.

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

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

PETROLEUM EXPLORATION EXPENDITURE (a)

Period	ONSHORE			OFFSHORE			TOTAL EXPENDITURE		
	Drilling	Other	Total	Drilling	Other	Total	On production leases	On all other areas (b)	Total
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1999-2000	53.8	56.3	110.1	372.6	217.9	590.6	117.1	583.5	700.7
2000-01	98.4	78.5	176.9	525.2	322.7	847.8	212.5	812.2	1 024.7
2001-02	98.2	66.3	164.5	456.8	261.2	718.1	111.0	771.5	882.6
2000-01									
March	28.2	23.2	51.4	152.4	95.0	247.4	59.7	239.1	298.8
June	26.1	18.7	44.8	151.8	69.3	221.2	50.5	215.4	266.0
2001-02									
September	28.8	13.3	42.1	137.3	52.3	189.6	40.5	191.2	231.7
December	23.2	15.0	38.3	152.3	76.9	229.2	23.1	244.3	267.4
March	16.7	19.4	36.1	94.6	72.3	166.9	21.8	181.2	203.0
June	29.6	18.6	48.1	72.6	59.8	132.4	25.7	154.8	180.5
2002-03									
September	31.6	18.8	50.4	122.0	45.6	167.6	35.5	182.5	218.0
December	41.6	28.7	70.3	129.2	70.9	200.1	35.6	234.8	270.4

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

(b) Refer to Glossary for definition.

PETROLEUM EXPLORATION, By state and territory(a)

	<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(b)</i>	<i>Total</i>
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
1999–2000	np	63.2	50.6	np	444.1	np	111.0	700.7
2000–01	6.4	74.4	84.8	66.8	687.5	np	82.5	1 024.7
2001–02	8.7	85.1	73.4	35.8	479.8	np	169.9	882.6
2000–01								
March	np	10.3	19.2	np	216.4	np	np	298.8
June	1.1	44.0	16.1	25.0	156.0	np	np	266.0
2001–02								
September	2.7	np	19.4	12.1	136.3	np	np	231.7
December	np	np	14.0	np	141.7	np	78.6	267.4
March	np	21.7	13.3	np	119.7	—	40.5	203.0
June	0.8	13.8	26.7	9.7	82.0	np	np	180.5
2002–03								
September	np	54.0	27.2	11.9	85.3	1.2	np	218.0
December	4.5	29.0	38.6	23.4	170.2	0.6	4.0	270.4

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

— nil or rounded to zero (including null cells)

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

(b) Also contains some additional areas. See paragraphs 5 and 6 of the Explanatory Notes.

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 have continued on a transitional basis between Australia and the United Nations Transitional Administration in East Timor (UNTAET) on behalf of East Timor. On 20 May 2002, the newly independent East Timor and Australia accepted arrangements as proposed in the new Timor Sea Treaty (based on an 'Exchange of Notes' between the two countries). A new Treaty, which was ratified in March 2003, provides the necessary framework arrangements for companies to exploit resources in the JPDA.

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 Exploration in the JPDA is included in estimates for the Northern Territory. Further, as a reflection of the joint Australia/East Timor jurisdiction in the JPDA, a proportion of exploration expenditure in the JPDA is excluded from the estimates.

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.

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

EXPLANATORY NOTES *continued*

TREND ESTIMATES *continued*

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.

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)

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.

EXPLANATORY NOTES *continued*

ABS DATA AVAILABLE
ELECTRONICALLY *continued*

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.

APPENDIX 1 EXPECTATIONS DATA

ADJUSTMENTS TO EXPECTATIONS DATA

The ABS proposes to change the methodology used to compile the expected expenditure on mineral exploration series presented in Table 1 of this publication.

From June quarter 2000, an adjustment was applied to the expectations for each period so that the expectations data would be a more reliable indicator of expenditure for the period. These adjustments were applied to the time series back to the December half 1989 in order to present the full time series on a consistent basis. The June quarter 2000 issue of this publication contains details of how these adjustments were derived.

Subsequent investigations have shown that these adjustments have not been successful in creating a reliable expectations series. For expectations to be a reliable predictor, the most important feature is their consistency over time in terms of their relationship with actual expenditure (the "realisation ratio"). For example, if a particular expectations series consistently understates actual expenditure by 30% over time, then the expectations data is a useful predictor of the actual outcome. In the case of the mineral exploration expectations series, the adjustments have not removed the volatility in these realisation ratios to any great degree, although they have removed the downward bias in the unadjusted series.

From next quarter's release, the ABS intends to present the expectations data and consequent realisation ratios in their unadjusted forms. These data will be available for the full time series. Information on average realisation ratios will also be provided. The adjusted expectation series will be retained to assist users in making their assessments of the likely expenditure for the periods covered by the expectations data.

The table below presents the actual expenditure, expectations as collected and the adjusted expectations through the time series from December 1989, as well as the adjustment factors which had been applied to the expectations previously released and comparative realisation ratios.

APPENDIX 1 EXPECTATIONS DATA *continued*

ADJUSTMENTS TO EXPECTATIONS DATA *continued*

MINERAL EXPLORATION: COMPARISON OF UNADJUSTED AND ADJUSTED EXPECTED EXPENDITURE

Half Year	Actual	Unadjusted expected	Adjusted expected	Adjustment factor applied	Actual as a proportion of unadjusted expected	Actual as a proportion of adjusted expected
	\$m	\$m	\$m	%	%	%
Dec 1989	316.0	270.7	376.3	1.390100	116.7	84.0
Jun 1990	291.6	268.3	309.0	1.151696	108.7	94.4
Dec 1990	310.5	228.4	336.4	1.472855	135.9	92.3
Jun 1991	291.1	224.2	252.3	1.125335	129.8	115.4
Dec 1991	317.7	222.3	330.7	1.487629	142.9	96.1
Jun 1992	286.3	244.3	278.2	1.138764	117.2	102.9
Dec 1992	335.5	257.0	363.4	1.414008	130.5	92.3
Jun 1993	296.3	275.8	318.7	1.155547	107.4	93.0
Dec 1993	396.4	223.6	331.9	1.484347	177.3	119.4
Jun 1994	396.2	319.4	374.8	1.173450	124.0	105.7
Dec 1994	458.4	349.2	450.4	1.289805	131.3	101.8
Jun 1995	443.0	428.7	515.4	1.202239	103.3	86.0
Dec 1995	456.5	372.3	472.2	1.268332	122.6	96.7
Jun 1996	503.8	401.3	480.2	1.196611	125.5	104.9
Dec 1996	565.7	361.8	462.3	1.277778	156.4	122.4
Jun 1997	582.8	447.1	539.1	1.205771	130.4	108.1
Dec 1997	583.8	513.7	605.7	1.179093	113.6	96.4
Jun 1998	483.1	387.6	462.5	1.193240	124.6	104.5
Dec 1998	475.2	299.2	403.3	1.347928	158.8	117.8
Jun 1999	362.3	303.4	354.2	1.167436	119.4	102.3
Dec 1999	356.9	252.8	359.5	1.422073	141.2	99.3
Jun 2000	319.4	284.8	330.3	1.159761	112.1	96.7
Dec 2000	357.0	245.6	352.7	1.436075	145.4	101.2
Jun 2001	326.3	272.7	314.7	1.154015	119.7	103.7
Dec 2001	338.1	320.1	423.0	1.321462	105.6	79.9
Jun 2002	302.7	258.7	296.7	1.146888	117.0	102.0
Dec 2002	375.7	311.4	414.7	1.331728	118.0	103.0
Jun 2003	n.y.a.	285.9	331.7	1.160196	n.y.a.	n.y.a.

SURVEY PROCEDURES

The main deficiencies in these unadjusted expectations result from the inability of some businesses to accurately predict their expenditure for the following 6 months. The ABS is intending to modify the procedures used in the quality assurance process for these expectations, including imputation for missing data, over coming quarters. This is expected to increase the usefulness of these expectations as a predictor of actual expenditure. Information will be included in the release which quantifies the quality improvements that arise from the change in survey procedures so that estimates compiled on the old and new basis are comparable.

Expectations for petroleum exploration are unaffected by this change. These data have previously been compiled by aggregating the reported expectations data without adjustment and this will continue to be the case.

Please contact John Blanchette on 02 9268 4429 or by email
<john.blanchette@abs.gov.au> for more information.

APPENDIX 2 CHANGES TO AUSSTATS

CHANGES TO AUSSTATS TABLES

From March quarter 2003, the Mineral and Petroleum Exploration data in AusStats (cat.no. 8412.0) is being restructured to align more closely with the paper publication. Users will now be able to access a broader range of data across eight tables rather than the previous four tables.

The new tables will be:

TABLE 1.

Contains the same information as the former TABLE 1, but includes additional mineral exploration expenditure information relating to 'Actual as a proportion of expected'.

TABLE 2.

Contains mineral exploration expenditure and metres drilled in Original, Seasonally Adjusted and Trend terms.

TABLE 3.

Contains mineral exploration expenditure by state and type of lease.

TABLE 4.

Replaces content from the former TABLE 2, that is, it contains mineral exploration expenditure by state, in Original, Seasonally Adjusted and Trend terms.

TABLE 5.

Contains mineral exploration expenditure by state and mineral sought.

TABLE 6a.

Contains petroleum exploration expenditure by type of activity and onshore/offshore. Replaces the former TABLE 3 and TABLE 4 and has additional content.

TABLE 6b.

Contains petroleum exploration expenditure by type of lease.

TABLE 7.

Contains petroleum exploration expenditure by state.

For this December quarter 2002 release, the four tables issued in the September quarter and previous releases remain unchanged.

To enable users to incorporate the new tables in time for the March quarter 2003 release, each of the new tables have also been included. In each case, the new table uses the numbering convention detailed above but, to avoid confusion with the existing tables this quarter, the suffix "N" follows the table name.

Please contact Didier Rivet on 02 9268 4357 or by email <didier.rivet@abs.gov.au> for more information.

GLOSSARY

Development	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.
Exploration	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.
Exploration expenditure	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.
Exploration licence/permit	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.
Minerals	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).
Mining licence/lease	Covers the commercial mining phase of a project for the licenced area. This licence authorises both full recovery and further exploration to occur.
Offshore	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> .
Onshore	Includes all Australian territorial lands to the low water mark.
Petroleum	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.
Retention licence	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.
Selected base metals	Are made up of the following minerals: copper, silver, lead-zinc, nickel and cobalt.
Type of expenditure	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.

FOR MORE INFORMATION . . .

- INTERNET* **www.abs.gov.au** the ABS web site is the best place to start for access to summary data from our latest publications, information about the ABS, advice about upcoming releases, our catalogue, and Australia Now—a statistical profile.
- LIBRARY* A range of ABS publications is available from public and tertiary libraries Australia-wide. Contact your nearest library to determine whether it has the ABS statistics you require, or visit our web site for a list of libraries.
- CPI INFOLINE* For current and historical Consumer Price Index data, call 1902 981 074 (call cost 77c per minute).
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