

**MINERAL AND PETROLEUM  
EXPLORATION**

AUSTRALIA

EMBARGO: 11.30AM (CANBERRA TIME) WED 11 JUN 2008

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For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Mark Busby on Sydney (02) 9268 4533.

# NOTES

## FORTHCOMING ISSUES

<i>ISSUE (Quarter)</i>	<i>RELEASE DATE</i>
June 2008	10 September 2008
September 2008	10 December 2008
December 2008	11 March 2009

## FORTHCOMING CHANGES

The revision properties of the seasonally adjusted and trend estimates can be improved by the use of autoregressive integrated moving average (ARIMA) modelling. ARIMA modelling relies on the characteristics of the series being analysed to project future period data. The projected values are temporary, intermediate values, that are only used internally to improve the estimation of the seasonal factors. The projected data do not affect the original estimates and are discarded at the end of the seasonal adjustment process. In the next release, the MinEx collection will use ARIMA modelling where appropriate for individual time series. The ARIMA model is assessed as part of the annual reanalysis and following the 2008 annual reanalysis all of the MinEx series will use an ARIMA model. For more information on the details of ARIMA modelling see feature article: *Use of ARIMA modelling to reduce revisions* in the October 2004 issue of *Australian Economic Indicators* (cat. no. 1350.0).

## ABBREVIATIONS

ABS	Australian Bureau of Statistics
GST	goods and services tax
JPDA	Joint Petroleum Development Area
UNTAET	United Nations Transitional Administration in East Timor
WST	wholesale sales tax
ZOC	Zone of Cooperation

Ian Ewing  
Acting Australian Statistician

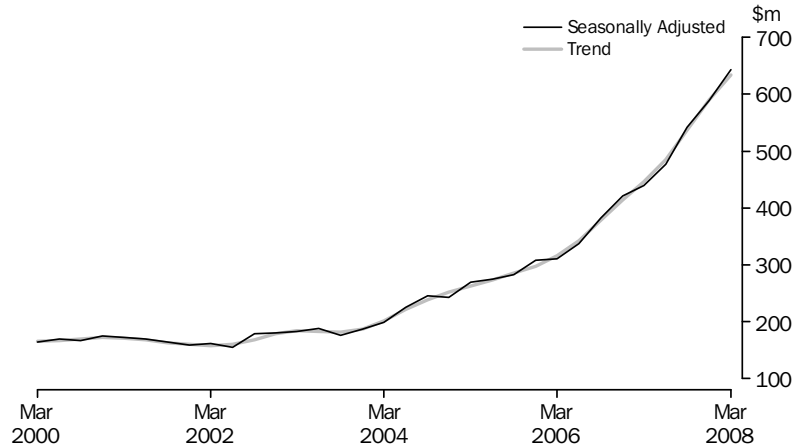
## SUMMARY OF FINDINGS

### MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

#### TREND ESTIMATES

The trend estimate for total mineral exploration expenditure rose \$43.8m (7.4%) to \$633.9m in the March quarter 2008. The estimate is now 41.9% higher than the March quarter 2007 estimate.

#### MINERAL EXPLORATION, Seasonally adjusted and trend series



The largest contributions to the rise this quarter were in Western Australia (up \$23.0m or 7.7%) and Queensland (up \$7.4m or 7.9%). The only fall was in Tasmania (down \$0.5m or 6.0%).

The trend estimate for metres drilled rose 2.5% this quarter. The current estimate is now 14.8% higher than the March quarter estimate for last year.

## SUMMARY OF FINDINGS *continued*

### MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

**EXPLORATION  
EXPENDITURE**

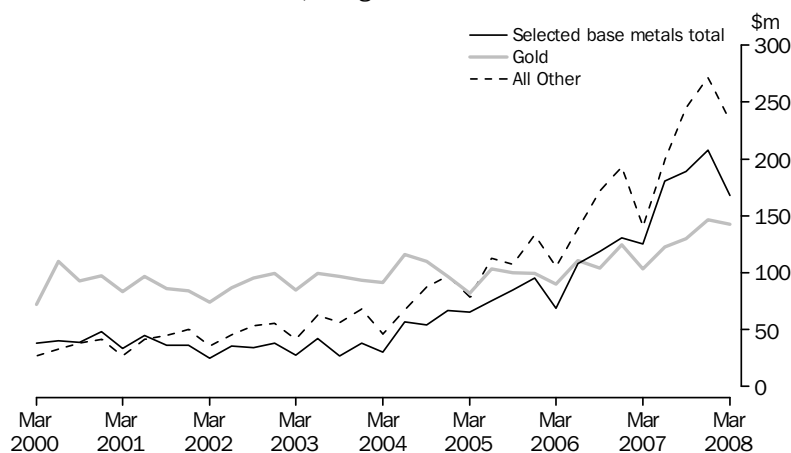
The seasonally adjusted estimate of mineral exploration expenditure rose \$55.6m (9.5%) to \$643.6m in the March quarter 2008. The largest rises this quarter were in Western Australia (up \$30.1m or 10.3%) and Queensland (up \$13.0m or 14.2%).

In original terms, mineral exploration expenditure fell \$81.9m (13.1%). Western Australia had the largest fall of \$42.4m (13.5%), followed by Northern Territory which fell \$15.3m (40.1%).

In original terms, exploration on areas of new deposits fell \$50.6m (18.5%), while expenditure on areas of existing deposits fell \$31.4m (8.9%).

In original terms, the largest fall by minerals sought came from expenditure on nickel and cobalt exploration (down \$21.9m or 25.5%), with the largest component of this fall occurring in Western Australia. The next largest fall came from expenditure on uranium exploration (down \$20.4m or 29.3%). The only rise in exploration expenditure this quarter was on diamonds (up \$0.8m or 15.1%).

**MINERAL EXPLORATION, Original series**



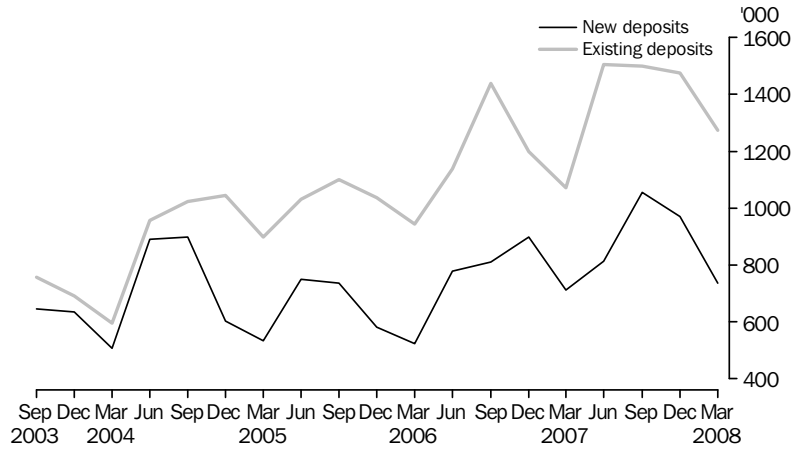
**SUMMARY OF FINDINGS** *continued*

**MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)**

**METRES DRILLED**

In seasonally adjusted terms, total metres drilled fell 3.2% in the March quarter 2008. In original terms total metres drilled fell 17.7%. Drilling in areas of new deposits fell 24.0% and drilling in areas of existing deposits fell 13.6%.

**METRES DRILLED, Original series**



## SUMMARY OF FINDINGS *continued*

### PETROLEUM EXPLORATION

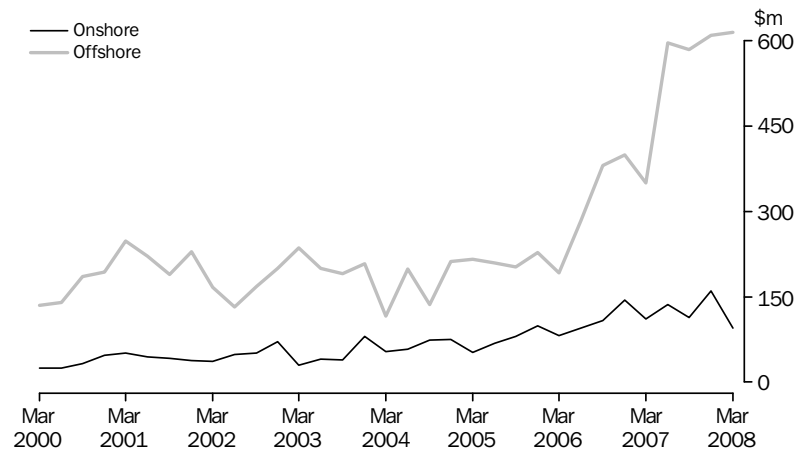
#### OVERVIEW

Expenditure on petroleum exploration for the March quarter 2008 fell \$60.6m (7.9%) to \$709.4m.

Expenditure on exploration on production leases rose \$3.3m (2.3%), while exploration on all other areas fell \$63.7m (10.1%) this quarter.

Offshore exploration rose \$4.6m (0.8%) in the March quarter 2008, while onshore exploration expenditure fell \$65.2m (40.8%).

#### PETROLEUM EXPLORATION, Original series



#### REGIONAL DATA

In the March quarter 2008, South Australia had the largest fall in petroleum exploration expenditure of \$40.7m (56.1%). Victoria had the largest rise of \$22.8m (148.1%).

# 1

## PRIVATE EXPLORATION, ACTUAL AND EXPECTED EXPENDITURE

Period	MINERAL EXPLORATION					PETROLEUM ONSHORE			PETROLEUM OFFSHORE		
	Actual	Expected	Actual as a proportion of expected	Expected Adjusted (a)	Actual as a proportion of expected - Adjusted	Actual	Expected	Actual as a proportion of expected	Actual	Expected	Actual as a proportion of expected
	\$m	\$m	%	\$m	%	\$m	\$m	%	\$m	\$m	%
<b>2004-05</b>	1 028.3	839.9	122.4	1 156.9	88.9	270.1	409.1	66.0	774.6	754.1	102.7
<b>2005-06</b>	1 240.7	927.6	133.7	1 278.2	97.1	355.8	514.3	69.2	906.1	876.7	103.4
<b>2006-07</b>	1 714.6	1 482.9	115.6	1 716.3	99.9	498.2	436.8	114.1	1 727.3	1 542.3	112.0
<b>2006-2007</b>											
Dec half	842.9	626.9	134.5	792.0	106.4	252.3	249.9	101.0	780.7	624.6	125.0
Jun half	871.8	856.0	101.8	1 219.3	71.5	245.9	186.9	131.6	946.5	917.7	103.1
<b>2007-2008</b>											
Dec half	1 189.3	959.1	124.0	1 184.2	100.4	273.2	257.5	106.1	1 195.1	1 267.3	94.3
Jun half	nya	1 168.8	nya	1 642.6	nya	nya	204.4	nya	nya	1 558.7	nya

nya not yet available

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

# 2

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

Period	EXPENDITURE					METRES DRILLED				
	New deposits	Existing deposits	Total	Seasonally Adjusted	Trend	New deposits	Existing deposits	Total	Seasonally Adjusted	Trend
	\$m	\$m	\$m	\$m	\$m	'000	'000	'000	'000	'000
<b>2004-05</b>	404.6	623.8	1 028.3	..	..	2 783	4 001	6 784	..	..
<b>2005-06</b>	457.5	783.4	1 240.7	..	..	2 618	4 219	6 837	..	..
<b>2006-07</b>	610.0	1 104.6	1 714.6	..	..	3 240	5 215	8 455	..	..
<b>2005-06</b>										
June	129.7	227.7	357.4	337.3	343.2	778	1 138	1 916	1 778	1 845
<b>2006-07</b>										
September	138.5	256.1	394.6	382.2	378.7	812	1 439	2 251	2 026	1 992
December	160.2	288.0	448.2	421.2	414.1	900	1 199	2 100	2 142	2 101
March	132.5	236.8	369.3	439.3	446.8	713	1 071	1 784	2 140	2 151
June	178.7	323.7	502.5	477.0	485.5	814	1 506	2 320	2 166	2 207
<b>2007-08</b>										
September	209.5	353.9	563.4	541.8	536.4	1 056	1 501	2 557	2 292	2 309
December	274.2	351.7	625.9	588.0	590.1	970	1 476	2 446	2 495	2 409
March	223.6	320.3	544.0	643.6	633.9	737	1 275	2 013	2 414	2 469

.. not applicable

## MINERAL EXPLORATION, (Other than for petroleum)—Expenditure by type of deposit

<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>
<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>
NEW DEPOSITS								
<b>2004-05</b>	19.5	9.8	47.9	22.3	283.3	3.5	18.2	404.6
<b>2005-06</b>	28.6	30.3	61.4	38.4	268.6	9.7	20.4	457.5
<b>2006-07</b>	48.1	38.2	83.6	63.5	332.0	9.8	34.7	610.0
<b>2005-06</b>								
June	8.4	8.9	18.5	11.2	73.2	3.9	5.5	129.7
<b>2006-07</b>								
September	9.0	6.6	18.9	14.6	77.1	4.1	8.2	138.5
December	10.9	12.6	28.3	9.4	86.4	1.4	11.4	160.2
March	12.5	8.8	14.6	15.2	74.1	1.4	5.8	132.5
June	15.7	10.3	21.9	24.3	94.4	2.9	9.3	178.7
<b>2007-08</b>								
September	17.9	7.8	23.2	31.2	110.9	2.1	16.5	209.5
December	26.2	14.3	39.6	39.7	135.0	3.4	16.1	274.2
March	25.3	12.1	22.7	31.9	117.4	6.7	7.7	223.6
EXISTING DEPOSITS								
<b>2004-05</b>	54.1	41.7	118.5	44.6	322.7	4.8	37.4	623.8
<b>2005-06</b>	85.4	43.8	157.4	108.1	321.6	12.8	54.4	783.4
<b>2006-07</b>	96.0	44.3	188.6	197.2	507.1	14.0	57.4	1 104.6
<b>2005-06</b>								
June	23.7	11.1	46.6	45.2	83.1	3.0	15.0	227.7
<b>2006-07</b>								
September	26.3	15.7	45.3	36.5	113.1	2.5	16.8	256.1
December	32.2	9.5	45.4	49.7	130.8	4.5	15.9	288.0
March	19.8	8.1	39.8	51.3	105.7	1.5	10.5	236.8
June	17.8	11.0	58.1	59.7	157.4	5.4	14.3	323.7
<b>2007-08</b>								
September	20.0	9.9	61.7	56.0	182.5	6.9	16.9	353.9
December	22.1	11.0	60.3	53.8	178.8	3.6	22.1	351.7
March	27.0	11.5	63.5	47.5	154.0	1.5	15.3	320.3
TOTAL								
<b>2004-05</b>	73.6	51.5	166.4	66.9	606.0	8.3	55.6	1 028.3
<b>2005-06</b>	114.0	74.1	218.8	146.5	590.2	22.6	74.7	1 240.7
<b>2006-07</b>	144.1	82.5	272.3	260.7	839.1	23.7	92.2	1 714.6
<b>2005-06</b>								
June	32.2	20.0	65.2	56.5	156.3	6.9	20.5	357.4
<b>2006-07</b>								
September	35.3	22.3	64.2	51.1	190.2	6.6	25.0	394.6
December	43.0	22.1	73.7	59.1	217.3	5.9	27.3	448.2
March	32.3	16.9	54.4	66.5	179.9	3.0	16.4	369.3
June	33.5	21.2	80.0	84.1	251.8	8.4	23.5	502.5
<b>2007-08</b>								
September	38.0	17.7	84.9	87.2	293.3	9.0	33.4	563.4
December	48.3	25.3	99.9	93.5	313.8	7.0	38.2	625.9
March	52.3	23.6	86.3	79.3	271.4	8.2	22.9	544.0



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

<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
ORIGINAL								
<b>2004-05</b>	73.6	51.5	166.4	66.9	606.0	8.3	55.6	1 028.3
<b>2005-06</b>	114.0	74.1	218.8	146.5	590.2	22.6	74.7	1 240.7
<b>2006-07</b>	144.1	82.5	272.3	260.7	839.1	23.7	92.2	1 714.6
<b>2005-06</b>								
June	32.2	20.0	65.2	56.5	156.3	6.9	20.5	357.4
<b>2006-07</b>								
September	35.3	22.3	64.2	51.1	190.2	6.6	25.0	394.6
December	43.0	22.1	73.7	59.1	217.3	5.9	27.3	448.2
March	32.3	16.9	54.4	66.5	179.9	3.0	16.4	369.3
June	33.5	21.2	80.0	84.1	251.8	8.4	23.5	502.5
<b>2007-08</b>								
September	38.0	17.7	84.9	87.2	293.3	9.0	33.4	563.4
December	48.3	25.3	99.9	93.5	313.8	7.0	38.2	625.9
March	52.3	23.6	86.3	79.3	271.4	8.2	22.9	544.0
SEASONALLY ADJUSTED								
<b>2005-06</b>								
June	32.1	18.8	59.7	49.6	151.0	6.6	19.5	337.3
<b>2006-07</b>								
September	35.8	24.0	64.3	49.4	180.3	6.6	21.8	382.2
December	40.0	21.6	67.5	58.0	202.6	7.2	24.3	421.2
March	34.1	17.2	66.1	81.0	214.5	2.6	23.8	439.3
June	33.8	20.0	73.9	74.8	243.8	8.0	22.7	477.0
<b>2007-08</b>								
September	38.6	19.2	84.6	84.2	277.2	9.0	29.0	541.8
December	44.6	24.2	91.6	92.1	293.1	8.6	33.8	588.0
March	55.0	24.6	104.6	95.6	323.2	7.1	33.5	643.6
TREND								
<b>2005-06</b>								
June	33.7	20.5	61.6	43.5	157.2	6.9	19.8	343.2
<b>2006-07</b>								
September	36.2	21.4	63.8	51.9	176.4	6.9	22.1	378.7
December	36.8	21.1	65.5	62.8	197.9	6.9	23.1	414.1
March	35.7	19.3	68.6	71.9	220.4	7.4	23.5	446.8
June	35.0	18.8	74.2	79.6	244.6	8.2	25.1	485.5
<b>2007-08</b>								
September	39.0	20.6	83.4	84.8	271.6	8.5	28.5	536.4
December	45.7	22.9	93.4	90.2	297.5	8.3	32.1	590.1
March	50.8	24.6	100.8	95.4	320.5	7.8	34.0	633.9

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

## SELECTED BASE METALS

Period	Copper	Silver, lead, zinc	Nickel, cobalt	Total	Gold	Iron ore	Mineral sands	Uranium	Coal	Diamonds	Other(a)	Total Mineral Exploration
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
NEW SOUTH WALES												
<b>2004-05</b>	8.4	5.5	0.4	14.3	24.8	—	3.1	np	28.1	0.7	np	<b>73.6</b>
<b>2005-06</b>	19.5	6.7	0.9	27.1	22.1	—	4.2	—	56.0	1.0	3.5	<b>114.0</b>
<b>2006-07</b>	24.5	np	np	47.5	22.8	—	6.5	—	59.8	1.2	6.4	<b>144.1</b>
<b>2005-06</b>												
June	4.8	np	np	7.6	6.6	—	np	np	15.3	np	1.1	<b>32.2</b>
<b>2006-07</b>												
September	6.7	np	np	9.5	4.5	—	np	—	18.3	np	1.1	<b>35.3</b>
December	5.7	5.3	0.5	11.5	6.1	—	np	—	20.8	np	np	<b>43.0</b>
March	5.7	5.8	0.9	12.4	5.3	—	np	—	11.6	np	np	<b>32.3</b>
June	6.4	7.0	0.8	14.1	6.8	—	np	—	9.1	np	1.7	<b>33.5</b>
<b>2007-08</b>												
September	9.6	6.6	1.1	17.4	7.3	np	np	np	9.8	np	1.8	<b>38.0</b>
December	6.4	8.2	0.3	14.8	8.9	np	np	—	19.3	np	np	<b>48.3</b>
March	8.2	7.5	0.6	16.4	9.5	np	np	—	21.1	np	np	<b>52.3</b>
VICTORIA												
<b>2004-05</b>	np	—	np	np	37.1	—	3.1	—	8.8	—	2.4	<b>51.5</b>
<b>2005-06</b>	0.8	0.1	0.2	1.1	53.6	—	1.8	—	11.9	—	5.6	<b>74.1</b>
<b>2006-07</b>	—	0.4	0.3	0.7	61.4	—	2.1	—	np	np	2.9	<b>82.5</b>
<b>2005-06</b>												
June	np	np	np	np	15.0	—	np	—	np	np	np	<b>20.0</b>
<b>2006-07</b>												
September	np	np	np	—	13.3	—	0.3	—	np	np	np	<b>22.3</b>
December	np	np	np	np	18.2	—	np	—	1.9	np	np	<b>22.1</b>
March	np	np	np	0.1	14.0	—	np	—	1.8	np	np	<b>16.9</b>
June	np	np	np	np	15.9	—	np	—	3.5	np	np	<b>21.2</b>
<b>2007-08</b>												
September	np	np	np	np	11.8	—	np	—	3.9	np	np	<b>17.7</b>
December	np	np	np	np	14.2	—	np	—	6.7	np	np	<b>25.3</b>
March	np	np	np	np	16.6	np	np	—	np	np	np	<b>23.6</b>
QUEENSLAND												
<b>2004-05</b>	24.8	np	np	39.5	32.3	np	np	0.4	88.1	0.1	5.9	<b>166.4</b>
<b>2005-06</b>	37.9	31.5	11.0	80.4	33.9	1.0	—	4.6	94.0	0.2	4.7	<b>218.8</b>
<b>2006-07</b>	63.0	32.3	7.1	102.4	38.0	1.0	np	np	113.7	0.9	6.1	<b>272.3</b>
<b>2005-06</b>												
June	10.8	np	np	25.7	8.7	np	—	np	26.5	np	1.6	<b>65.2</b>
<b>2006-07</b>												
September	15.4	np	np	28.5	8.1	np	np	1.9	24.0	—	1.2	<b>64.2</b>
December	16.8	5.9	1.4	24.1	9.6	np	np	np	36.5	np	1.1	<b>73.7</b>
March	11.1	np	np	16.9	8.2	np	np	3.5	23.8	np	1.3	<b>54.4</b>
June	19.7	np	np	33.0	12.1	—	np	2.1	29.5	np	2.5	<b>80.0</b>
<b>2007-08</b>												
September	18.5	13.0	1.4	32.9	10.4	np	np	np	34.8	np	1.9	<b>84.9</b>
December	27.1	np	np	41.1	12.3	0.2	np	11.1	30.7	np	3.7	<b>99.9</b>
March	26.9	9.1	1.1	37.1	7.5	np	np	9.1	29.0	np	1.7	<b>86.3</b>

— nil or rounded to zero (including null cells)

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

(a) From September quarter 2000 Publication tin, tungsten, scheelite, wolfram and construction materials were added to this category.

continued

## SELECTED BASE METALS

Period	Copper	Silver, lead, zinc	Nickel, cobalt	Total	Gold	Iron ore	Mineral sands	Uranium	Coal	Diamonds	Other(a)	Total Mineral Exploration
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
SOUTH AUSTRALIA												
<b>2004-05</b>	32.7	np	np	37.0	9.0	np	5.1	np	0.2	1.8	0.5	<b>66.9</b>
<b>2005-06</b>	66.0	9.0	5.6	80.6	22.4	0.9	6.8	30.3	1.4	1.1	3.1	<b>146.5</b>
<b>2006-07</b>	114.7	25.7	2.2	142.6	31.0	10.1	9.2	63.8	1.3	2.0	0.7	<b>260.7</b>
<b>2005-06</b>												
June	27.6	3.7	0.7	32.1	8.6	np	np	10.5	np	np	np	<b>56.5</b>
<b>2006-07</b>												
September	23.3	2.7	0.2	26.2	6.0	np	1.6	14.2	np	np	np	<b>51.1</b>
December	23.4	8.7	1.1	33.2	6.3	np	np	15.0	np	np	np	<b>59.1</b>
March	27.3	10.3	0.2	37.8	8.7	np	np	12.2	np	np	np	<b>66.5</b>
June	40.8	3.9	0.7	45.4	10.0	3.4	1.9	22.4	np	np	np	<b>84.1</b>
<b>2007-08</b>												
September	24.4	11.1	0.7	36.2	14.6	6.7	1.0	27.4	np	np	np	<b>87.2</b>
December	25.5	5.7	0.7	31.9	16.4	np	2.2	37.3	np	np	np	<b>93.5</b>
March	18.6	9.7	0.7	28.9	15.9	6.1	1.2	26.2	np	np	np	<b>79.3</b>
WESTERN AUSTRALIA												
<b>2004-05</b>	4.7	4.8	148.7	158.2	259.6	136.9	14.8	0.3	1.6	15.9	18.7	<b>606.0</b>
<b>2005-06</b>	9.3	13.9	115.0	138.2	240.3	155.6	12.9	2.2	np	np	26.0	<b>590.2</b>
<b>2006-07</b>	22.8	41.8	158.2	222.8	276.5	272.1	16.5	np	np	14.2	23.2	<b>839.1</b>
<b>2005-06</b>												
June	2.9	5.8	25.0	33.7	63.5	47.4	3.2	np	np	2.5	4.3	<b>156.3</b>
<b>2006-07</b>												
September	4.5	8.7	31.3	44.5	64.7	66.4	3.8	1.7	np	4.7	np	<b>190.2</b>
December	4.8	8.8	37.1	50.7	77.8	71.0	4.2	np	np	6.7	4.9	<b>217.3</b>
March	4.7	9.5	37.4	51.6	63.7	49.6	4.2	2.9	np	np	6.1	<b>179.9</b>
June	8.8	14.8	52.5	76.1	70.3	85.2	4.2	4.6	np	np	np	<b>251.8</b>
<b>2007-08</b>												
September	10.6	16.4	61.2	88.2	76.5	104.5	3.5	6.6	np	np	11.3	<b>293.3</b>
December	9.0	19.7	79.5	108.2	85.8	94.0	3.7	6.4	np	np	12.4	<b>313.8</b>
March	9.0	9.7	58.2	76.9	85.2	82.9	3.2	np	np	3.2	12.8	<b>271.4</b>
TASMANIA												
<b>2004-05</b>	—	3.7	1.6	5.3	2.0	—	np	—	—	—	np	<b>8.3</b>
<b>2005-06</b>	1.1	8.5	5.3	14.9	4.9	0.2	—	—	1.6	—	1.0	<b>22.6</b>
<b>2006-07</b>	3.3	11.2	5.4	20.0	np	—	np	—	—	—	1.5	<b>23.7</b>
<b>2005-06</b>												
June	np	2.6	np	3.7	2.6	np	np	—	np	—	np	<b>6.9</b>
<b>2006-07</b>												
September	np	2.6	np	5.3	1.0	np	np	—	—	—	0.3	<b>6.6</b>
December	0.6	np	np	np	0.7	np	np	—	—	—	np	<b>5.9</b>
March	np	np	np	2.5	np	np	np	—	np	—	np	<b>3.0</b>
June	np	4.9	np	np	0.3	np	np	—	—	—	np	<b>8.4</b>
<b>2007-08</b>												
September	np	5.2	np	7.6	np	0.1	0.1	—	—	—	np	<b>9.0</b>
December	np	np	2.0	np	0.3	0.8	np	—	—	—	1.8	<b>7.0</b>
March	np	1.6	np	np	0.9	np	np	np	—	—	2.1	<b>8.2</b>

— nil or rounded to zero (including null cells)

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

(a) From September quarter 2000 Publication tin, tungsten, scheelite, wolfram and construction materials were added to this category.

continued

## SELECTED BASE METALS

Period	Copper	Silver, lead, zinc	Nickel, cobalt	Total	Gold	Iron ore	Mineral sands	Uranium	Coal	Diamonds	Other(a)	Total Mineral Exploration
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
NORTHERN TERRITORY												
<b>2004-05</b>	np	1.1	5.0	np	26.7	0.9	1.6	6.9	np	5.2	np	<b>55.6</b>
<b>2005-06</b>	4.9	1.4	8.0	14.3	22.4	3.6	3.5	19.1	—	6.8	5.2	<b>74.7</b>
<b>2006-07</b>	6.2	7.2	5.6	19.0	np	2.0	2.2	30.1	np	8.3	6.1	<b>92.2</b>
<b>2005-06</b>												
June	np	np	np	np	5.6	np	0.9	4.8	—	1.2	1.8	<b>20.5</b>
<b>2006-07</b>												
September	np	np	np	4.7	6.8	np	np	7.0	—	2.1	2.2	<b>25.0</b>
December	np	2.8	np	5.8	6.3	np	0.4	8.9	np	3.0	2.6	<b>27.3</b>
March	1.8	1.8	0.5	4.1	np	np	0.5	5.7	np	1.8	0.4	<b>16.4</b>
June	1.1	np	np	4.4	7.5	np	np	8.5	np	1.5	0.8	<b>23.5</b>
<b>2007-08</b>												
September	1.7	np	np	np	np	np	0.1	12.0	np	1.9	2.9	<b>33.4</b>
December	1.5	4.1	1.3	6.9	8.7	np	np	14.9	np	1.4	4.6	<b>38.2</b>
March	1.6	np	np	3.8	6.7	np	np	8.0	np	1.2	2.0	<b>22.9</b>
AUSTRALIA												
<b>2004-05</b>	71.3	31.2	158.6	261.1	391.7	138.0	27.6	20.7	126.8	23.7	38.7	<b>1 028.3</b>
<b>2005-06</b>	139.5	71.1	145.9	356.6	399.7	161.2	29.2	56.1	166.4	22.6	49.0	<b>1 240.7</b>
<b>2006-07</b>	234.5	139.4	181.1	555.0	455.8	285.3	37.4	114.1	193.3	26.9	46.8	<b>1 714.6</b>
<b>2005-06</b>												
June	46.7	25.5	36.0	108.2	110.5	49.7	7.2	18.3	46.7	4.6	12.3	<b>357.4</b>
<b>2006-07</b>												
September	52.7	26.3	39.8	118.8	104.3	70.1	7.7	24.7	50.5	8.6	9.9	<b>394.6</b>
December	53.5	34.1	42.8	130.4	125.0	72.5	10.8	27.6	60.0	10.2	11.9	<b>448.2</b>
March	51.2	33.5	40.6	125.3	103.6	54.0	9.5	24.3	38.8	3.3	10.6	<b>369.3</b>
June	77.1	45.5	57.9	180.5	123.0	88.8	9.3	37.5	43.9	4.8	14.5	<b>502.5</b>
<b>2007-08</b>												
September	65.2	56.9	66.8	189.0	129.6	112.8	7.2	50.0	50.1	5.0	19.6	<b>563.4</b>
December	70.2	51.5	85.9	207.6	146.7	98.5	10.5	69.6	59.8	5.3	27.8	<b>625.9</b>
March	64.8	39.0	64.0	167.8	142.4	91.9	8.9	49.2	54.1	6.1	23.5	<b>544.0</b>

— nil or rounded to zero (including null cells)

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

(a) From September quarter 2000 Publication tin, tungsten, scheelite, wolfram and construction materials were added to this category.

## 6

## PETROLEUM EXPLORATION EXPENDITURE

Period	ONSHORE			OFFSHORE			TOTAL EXPENDITURE		
	Drilling	Other	Total	Drilling	Other	Total	On production leases(a)	On all other areas(a)	Total
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
<b>2004-05</b>	152.5	117.6	270.1	511.4	263.2	774.6	222.7	822.0	1 044.7
<b>2005-06</b>	229.3	126.6	355.8	492.2	413.9	906.1	455.2	806.7	1 262.0
<b>2006-07</b>	310.0	188.3	498.2	1 121.0	606.3	1 727.3	533.7	1 691.7	2 225.5
<b>2005-06</b>									
June	64.5	31.0	95.4	132.1	152.3	284.4	109.3	270.5	379.9
<b>2006-07</b>									
September	64.8	43.0	107.8	240.8	140.0	380.8	131.3	357.3	488.6
December	92.5	52.0	144.5	253.4	146.5	400.0	135.1	409.3	544.5
March	62.6	47.8	110.3	219.9	130.1	350.0	112.0	348.3	460.3
June	90.1	45.5	135.6	406.9	189.7	596.5	155.3	576.9	732.1
<b>2007-08</b>									
September	90.2	23.2	113.4	413.0	171.9	584.9	153.1	545.2	698.3
December	124.4	35.4	159.8	397.6	212.7	610.2	142.3	627.6	770.0
March	58.3	36.3	94.6	403.1	211.8	614.8	145.6	563.9	709.4

(a) Refer to Glossary for definition.

## 7

## PETROLEUM EXPLORATION, By state and territory

Period	New South Wales	Victoria	Queensland	South Australia	Western Australia	Tasmania	Northern Territory(a)	Total
	\$m	\$m	\$m	\$m	\$m	\$m	\$m	\$m
<b>2004-05</b>	26.9	162.5	104.0	80.8	526.5	44.9	99.2	1 044.7
<b>2005-06</b>	10.0	69.8	135.1	132.3	593.6	22.0	299.2	1 262.0
<b>2006-07</b>	np	np	191.9	161.2	1 481.0	17.5	279.4	2 225.5
<b>2005-06</b>								
June	np	9.0	42.6	33.0	168.7	np	114.3	379.9
<b>2006-07</b>								
September	np	np	36.2	41.1	289.9	2.4	101.4	488.6
December	3.2	11.0	56.6	43.4	346.1	9.0	75.2	544.5
March	4.4	7.0	49.8	28.1	319.5	2.5	49.1	460.3
June	5.5	45.8	49.4	48.6	525.4	3.7	53.8	732.1
<b>2007-08</b>								
September	4.0	12.6	43.9	52.7	546.5	5.0	33.5	698.3
December	8.4	15.4	43.7	72.5	512.7	4.0	113.3	770.0
March	9.0	38.2	22.7	31.8	498.7	24.5	84.4	709.4

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

(a) 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, and in Australian waters including the Joint Petroleum Development Area (JPDA), 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 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 entered into force on the 2 April 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 no longer exist under this arrangement. Since 20 May 2002, ZOCCB 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 administration of exploration and production activity in the JPDA, 50% of exploration expenditure in the JPDA is excluded from the estimates. The feature article 'Statistical Treatment of Economic Activity in the Timor Sea' published in the September Quarter 2003 issue of *Australian National Accounts: National Income, Expenditure and Product* (cat. no. 5206.0) provides further details.

**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** In this publication, the seasonally adjusted estimates are produced by the concurrent seasonal adjustment method which takes account of the latest available original estimates. This method improves the estimation of seasonal factors, and therefore, the seasonally adjusted and trend estimates for the current and previous quarters. As a result of this improvement, revisions to the seasonally adjusted and trend estimates will be observed for recent periods. In most instances the only noticeable revisions will be to the previous quarter and the same quarter one year ago. A more detailed review is conducted annually prior to the June quarter release using data up to and including the March quarter. The concurrent seasonal adjustment methodology replaces the forward factor methodology used previously.

## EXPLANATORY NOTES *continued*

### 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 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. 1349.0), can be obtained by contacting Time Series Analysis Canberra on (02) 6252 6345 or e-mail <time.series.analysis@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 the June quarter 2000 and the appendix in the December quarter 2002 issue of this publication. Since the June quarter 2003 issue, both unadjusted and adjusted expectations data have been presented in this publication.

### ACKNOWLEDGMENT

**16** 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

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

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

### ABS DATA AVAILABLE ELECTRONICALLY

**18** All ABS publications (html and pdf) can be downloaded free of charge from the ABS web site. See the back page for more details.

**19** Current publications produced by the ABS are listed in the *Catalogue of Publications and Products* (cat. no. 1101.0), which is available from any ABS office. The ABS also issues a *Release Advice* which lists publications to be released in the next few days. The Catalogue and Release Advice are available on the ABS web site <<http://www.abs.gov.au>>.

**EXPLANATORY NOTES** *continued*

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ABS DATA AVAILABLE  
ELECTRONICALLY *continued*

**20** 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

**21** 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, and the JPDA. 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. Liquid Petroleum Gas), 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.

## GLOSSARY *continued*

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<b>Type of deposit</b>	<p>Classification used:</p> <p><i>Existing deposits</i> – Exploration that is delineating or proving up an existing deposit, including extensions and infill, which has been classified as an Inferred Mineral Resource or higher.</p> <p><i>New deposits</i> – Exploration on previously unknown mineralisations or known mineralisations yet to be classified as an Inferred Mineral Resource or higher. They include:</p> <ul style="list-style-type: none"><li>– Exploration resulting in finding mineralisation that was previously unknown.</li><li>– Exploration on previously known mineralisation that has not been subjected to modern exploration.</li><li>– Exploration within an existing mining tenement for the purpose of finding new sources of mineralisation that have not already been classified as at least an Inferred Mineral Resource.</li></ul>
<b>Type of expenditure</b>	<p>Classification used:</p> <p><i>Drilling expenditure</i> – 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.</p> <p><i>Other expenditure</i> – 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.</p>
<b>Type of lease</b>	<p>Classifications used:</p> <p><i>Production lease</i> – 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.</p> <p><i>All other areas</i> – are those areas outside the Production lease. These include areas under exploration licence/permit or retention licence, as well as non-licensed areas being assessed for exploration, e.g. through airborne surveys.</p>



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