JUNE QUARTER 2011 8412.0

MINERAL AND PETROLEUM EXPLORATION

AUSTRALIA

EMBARGO: 11.30AM (CANBERRA TIME) WED 14 SEP 2011

CONTENTS

INQUIRIES

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

ISSUE (Quarter)	*RELEASE DATE*
September 2011	14 December 2011
December 2011	14 March 2012
March 2012	13 June 2012
June 2012	12 September 2012

CHANGES TO THIS ISSUE

Original estimates for Queensland coal exploration in the December quarter 2010 and March quarter 2011 have been revised as a result of updated information received from survey respondents. Revisions to seasonally adjusted estimates are due to revisions to original estimates as well as the concurrent methodology for deriving seasonal factors.

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

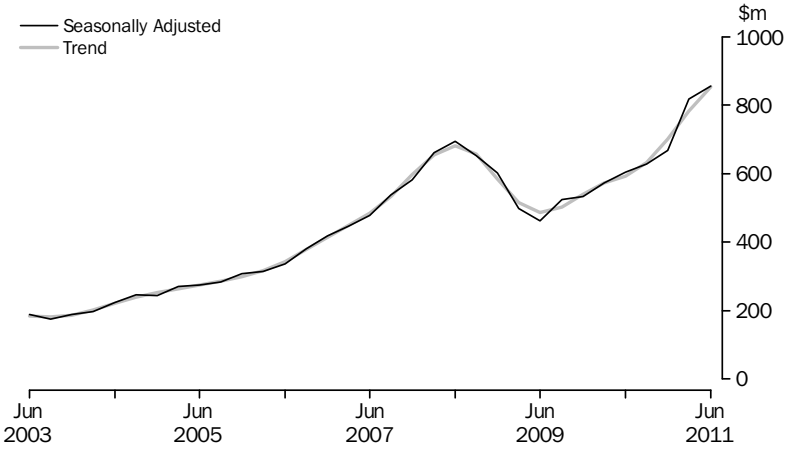
Brian Pink
Australian Statistician

MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

TREND ESTIMATES

The trend estimate for total mineral exploration expenditure rose 8.9% (or $70.1m) to $853.4m in the June quarter 2011. The current quarter estimate is 43.7% higher than the June quarter 2010 estimate.

MINERAL EXPLORATION, Seasonally adjusted and trend series



The largest contribution to the rise in the trend estimate this quarter was in Western Australia (up 6.9% or $28.9m) followed by Queensland (up 14.4% or $25.7m).

The trend estimate for metres drilled rose 7.0% this quarter. The current quarter estimate is 26.2% higher than the June quarter 2010 estimate.

MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

EXPLORATION EXPENDITURE

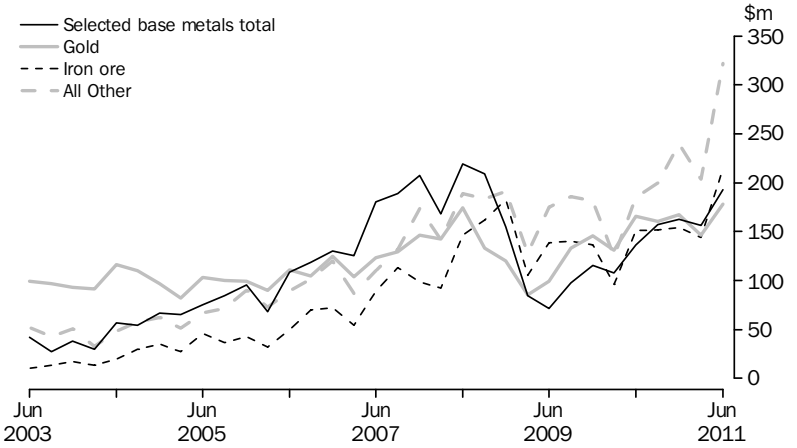
The seasonally adjusted estimate of mineral exploration expenditure rose 4.4% (or $36.0m) to $854.8m in the June quarter 2011. The largest rise this quarter was in Queensland (up 26.0% or $45.1m). The only decrease was in Western Australia (down 5.5% or –$24.9m).

In original terms, mineral exploration expenditure rose 39.6% (or $257.3m). Queensland had the largest rise (up 88.1% or $113.7m), followed by Western Australia (up 24.1% or $87.4m).

In original terms, exploration on areas of new deposits rose 35.9% (or $77.1m), while expenditure on areas of existing deposits rose 41.4% (or $180.2m).

In original terms, the largest rise by minerals sought came from expenditure on coal exploration (up 84.9% or $93.1m), with the largest rise occurring in Queensland. The next largest rise came from expenditure on iron ore exploration (up 49.0% or $70.6m).

MINERAL EXPLORATION, Original series

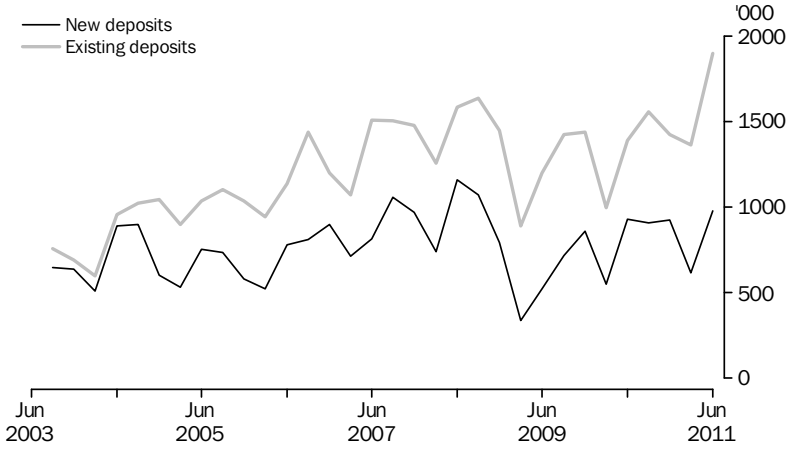


MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

METRES DRILLED

In seasonally adjusted terms, total metres drilled rose 6.7% in the June quarter 2011. In original terms total metres drilled rose 45.3%. Drilling in areas of new deposits rose 58.7% and drilling in areas of existing deposits rose 39.2%.

METRES DRILLED, Original series



PETROLEUM EXPLORATION

OVERVIEW

Expenditure on petroleum exploration for the June quarter 2011 rose 10.9% (or $83.2m) to $849.3m.

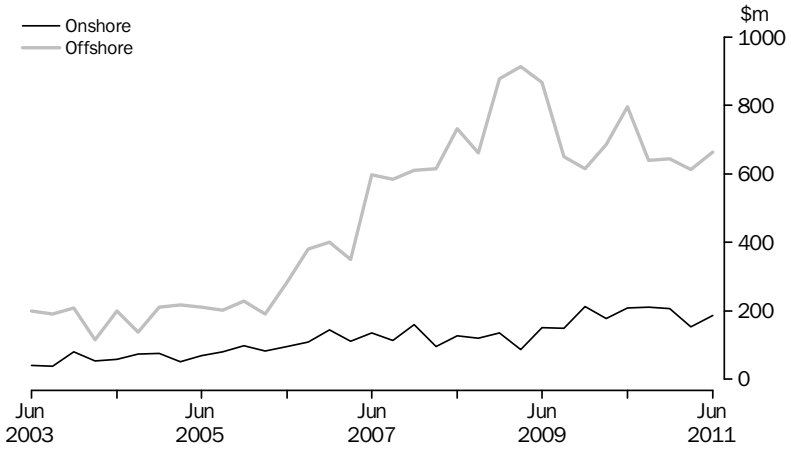
Expenditure on exploration on production leases fell 5.4% (or –$7.7m) to $134.9m, while exploration on all other areas rose 14.6% (or $90.9m) to $714.4m this quarter.

Offshore exploration rose 8.2% (or $50.0m) to $662.9m, while onshore exploration expenditure rose 21.7% (or $33.2m) to $186.4m.

REGIONAL DATA

In the June quarter 2011, the largest rise in petroleum exploration expenditure was in Western Australia (up 5.3% or $32.0m), followed by Northern Territory (up 461.7% or $27.7m).

PETROLEUM EXPLORATION, Original series



1 PRIVATE EXPLORATION, ACTUAL AND EXPECTED EXPENDITURE

	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*
Period	$m	$m	%	$m	%	$m	$m	%	$m	$m	%
2008–09	2 223.1	2 166.6	102.6	2 464.1	90.2	492.3	497.1	99.0	3 318.4	2 663.4	124.6
2009–10	2 232.5	1 925.8	115.9	2 204.2	101.3	748.6	834.0	89.8	2 745.6	2 658.0	103.3
2010–11	2 951.3	2 406.7	122.6	2 723.8	108.4	756.5	782.2	96.7	2 559.0	2 512.7	101.8
2009–2010											
Jun half	1 096.4	1 060.8	103.4	1 180.5	92.9	387.6	460.3	84.2	1 481.8	1 161.7	127.6
2010–2011											
Dec half	r1 393.8	r1 129.6	r123.4	1 309.5	106.4	416.9	378.6	110.1	1 283.1	1 329.0	96.5
Jun half	1 557.5	1 277.1	122.0	1 414.3	110.1	339.5	403.7	84.1	1 275.8	1 183.7	107.8
2011–2012											
Dec half	nya	1 595.9	nya	1 813.2	nya	nya	456.1	nya	nya	1 104.9	nya

nya not yet available
r revised

(a) Refer to Explanatory Notes paragraphs 14-16.

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

	EXPENDITURE					METRES DRILLED				
	New deposits	*Existing deposits*	*Total*	*Seasonally Adjusted Total*	*Trend Total*	*New deposits*	*Existing deposits*	*Total*	*Seasonally Adjusted Total*	*Trend Total*
Period	$m	$m	$m	$m	$m	'000	'000	'000	'000	'000
2008–09	839.3	1 383.8	2 223.1	. .	. .	2 720	5 167	7 888	. .	. .
2009–10	853.4	1 379.1	2 232.5	. .	. .	3 054	5 244	8 299	. .	. .
2010–11	1 037.5	1 913.8	2 951.3	. .	. .	3 436	6 263	9 699	. .	. .
2009–10										
September	201.8	355.5	557.4	524.8	501.1	719	1 422	2 141	1 900	1 862
December	229.0	349.7	578.8	533.7	538.8	858	1 437	2 294	2 196	2 053
March	173.4	285.9	459.3	572.2	571.7	548	996	1 543	1 984	2 124
June	249.2	387.9	637.1	604.4	593.7	930	1 390	2 320	2 211	2 137
2010–11										
September	240.9	428.5	669.4	628.3	633.2	907	1 556	2 463	2 187	2 195
December	r289.5	r434.9	r724.4	668.4	701.4	r933	r1 449	r2 382	2 268	2 343
March	r215.0	r435.1	r650.1	818.8	783.3	617	1 362	1 979	2 563	2 519
June	292.1	615.3	907.4	854.8	853.4	979	1 896	2 875	2 736	2 696

. . not applicable
r revised

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

Period	New South Wales $m	Victoria $m	Queensland $m	South Australia $m	Western Australia $m	Tasmania $m	Northern Territory $m	Australia $m
NEW DEPOSITS								
2008–09	78.7	29.4	102.7	81.9	465.7	11.9	69.0	839.3
2009–10	44.1	25.8	99.1	99.6	483.3	13.5	88.0	853.4
2010–11	33.9	27.3	172.3	131.5	566.4	17.0	89.2	1 037.5
2009–10								
September	19.2	8.1	18.7	30.1	97.9	1.8	26.0	201.8
December	9.1	5.9	27.6	19.2	135.8	3.7	27.8	229.0
March	8.3	5.3	21.9	17.6	101.8	4.0	14.4	173.4
June	7.5	6.5	31.0	32.8	147.7	4.0	19.7	249.2
2010–11								
September	6.5	5.7	31.1	28.6	135.4	3.5	30.1	240.9
December	9.3	6.9	r46.6	32.4	166.0	5.7	22.5	r289.5
March	8.1	6.4	r29.8	29.3	119.0	4.1	18.2	r215.0
June	9.9	8.2	64.8	41.2	146.0	3.7	18.3	292.1
EXISTING DEPOSITS								
2008–09	96.6	32.8	249.0	138.8	781.1	8.4	77.1	1 383.8
2009–10	86.3	57.5	337.5	68.3	760.7	7.2	61.5	1 379.1
2010–11	119.3	30.2	491.2	123.1	1 023.7	20.3	106.0	1 913.8
2009–10								
September	19.5	6.9	85.2	18.1	201.0	1.7	23.2	355.5
December	19.3	18.1	95.9	18.4	185.9	0.8	11.3	349.7
March	24.3	18.8	58.7	16.5	155.3	1.7	10.6	285.9
June	23.2	13.7	97.7	15.3	218.5	3.1	16.4	387.9
2010–11								
September	25.0	6.7	98.7	18.8	249.2	4.5	25.7	428.5
December	27.6	5.6	r115.1	27.1	227.7	4.5	27.2	r434.9
March	30.9	6.7	r99.3	33.3	243.2	5.3	16.4	r435.1
June	35.8	11.2	178.1	43.9	303.6	6.0	36.7	615.3
TOTAL								
2008–09	175.3	62.2	351.7	220.7	1 246.8	20.4	146.1	2 223.1
2009–10	130.4	83.3	436.6	167.9	1 244.1	20.7	149.5	2 232.5
2010–11	153.1	57.5	663.5	254.6	1 590.1	37.3	195.2	2 951.3
2009–10								
September	38.7	15.0	103.8	48.2	298.9	3.5	49.2	557.4
December	28.4	24.0	123.5	37.6	321.7	4.4	39.1	578.8
March	32.6	24.2	80.6	34.0	257.1	5.7	25.0	459.3
June	30.7	20.2	128.7	48.1	366.3	7.1	36.1	637.1
2010–11								
September	31.5	12.4	129.8	47.4	384.6	8.0	55.8	669.4
December	36.9	12.5	r161.8	59.5	393.7	10.2	49.8	r724.4
March	39.0	13.1	r129.1	62.6	362.2	9.4	34.7	r650.1
June	45.8	19.4	242.8	85.2	449.6	9.6	55.0	907.4

r revised

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

Period	New South Wales $m	Victoria $m	Queensland $m	South Australia $m	Western Australia $m	Tasmania $m	Northern Territory $m	Australia $m
				ORIGINAL				
2008–09	175.3	62.2	351.7	220.7	1 246.8	20.4	146.1	2 223.1
2009–10	130.4	83.3	436.6	167.9	1 244.1	20.7	149.5	2 232.5
2010–11	153.1	57.5	663.5	254.6	1 590.1	37.3	195.2	2 951.3
2009–10								
September	38.7	15.0	103.8	48.2	298.9	3.5	49.2	557.4
December	28.4	24.0	123.5	37.6	321.7	4.4	39.1	578.8
March	32.6	24.2	80.6	34.0	257.1	5.7	25.0	459.3
June	30.7	20.2	128.7	48.1	366.3	7.1	36.1	637.1
2010–11								
September	31.5	12.4	129.8	47.4	384.6	8.0	55.8	669.4
December	36.9	12.5	r161.8	59.5	393.7	10.2	49.8	r724.4
March	39.0	13.1	r129.1	62.6	362.2	9.4	34.7	r650.1
June	45.8	19.4	242.8	85.2	449.6	9.6	55.0	907.4
				SEASONALLY ADJUSTED				
2009–10								
September	39.4	16.0	99.7	47.6	278.2	3.5	40.4	524.8
December	26.9	22.2	112.3	36.2	296.3	4.5	35.2	533.7
March	33.4	25.7	107.2	40.4	322.5	5.6	37.4	572.2
June	31.0	19.2	116.3	43.4	351.1	7.2	36.2	604.4
2010–11								
September	32.1	13.3	124.4	46.8	358.3	8.0	45.3	628.3
December	35.2	11.7	146.8	57.1	362.1	10.1	45.3	668.4
March	39.9	13.8	173.5	75.1	455.4	9.3	51.9	818.8
June	45.9	18.6	218.6	76.3	430.5	9.9	55.0	854.8
				TREND				
2009–10								
September	34.8	15.9	94.8	39.8	274.4	3.2	38.0	501.1
December	32.2	21.7	105.6	40.3	297.3	4.4	37.3	538.8
March	30.7	23.3	111.7	40.1	323.8	5.7	36.5	571.7
June	31.0	19.6	115.2	41.8	340.4	7.1	38.5	593.7
2010–11								
September	32.7	14.5	125.6	49.0	360.3	8.4	42.6	633.2
December	35.7	12.8	149.0	59.3	388.2	9.3	47.2	701.4
March	40.2	14.2	178.2	69.9	419.7	9.7	51.2	783.3
June	43.5	16.7	203.9	77.3	448.6	9.9	53.5	853.4

r revised

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

Period	SELECTED BASE METALS											
	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						
2008–09	14.4	np	np	27.2	21.4	np	np	np	105.0	np	13.1	**175.3**
2009–10	18.2	10.2	0.3	28.7	48.8	0.4	np	—	39.7	np	7.6	**130.4**
2010–11	27.5	np	np	45.8	43.2	np	np	np	51.8	np	8.2	**153.1**
2009–10												
September	2.8	np	np	6.4	16.0	np	np	—	12.1	np	2.8	**38.7**
December	5.2	1.7	0.2	7.0	8.2	0.2	np	—	9.8	np	1.6	**28.4**
March	6.2	2.3	—	8.5	12.2	np	np	—	9.0	np	1.6	**32.6**
June	4.0	np	np	6.8	12.5	np	np	—	8.7	np	1.6	**30.7**
2010–11												
September	5.3	np	np	7.9	12.0	np	np	—	8.7	np	1.9	**31.5**
December	7.8	np	np	11.0	12.1	np	np	np	11.0	np	2.1	**36.9**
March	7.0	np	np	12.0	8.3	np	np	np	16.6	np	1.3	**39.0**
June	7.4	np	np	14.8	10.9	np	np	—	15.5	np	2.9	**45.8**
						VICTORIA						
2008–09	np	np	np	np	43.4	np	1.9	—	np	np	np	**62.2**
2009–10	3.5	np	np	5.5	63.1	np	np	—	np	—	0.8	**83.3**
2010–11	np	np	np	np	40.4	np	np	—	0.8	—	2.0	**57.5**
2009–10												
September	0.6	np	np	0.8	11.6	np	np	—	np	—	np	**15.0**
December	1.1	np	np	np	18.3	—	np	—	np	—	0.3	**24.0**
March	np	np	np	np	17.5	np	np	—	5.1	—	np	**24.2**
June	np	np	np	1.8	15.8	np	np	—	np	—	np	**20.2**
2010–11												
September	0.3	np	np	0.5	11.1	np	np	—	np	—	np	**12.4**
December	np	np	np	np	9.1	np	np	—	np	—	np	**12.5**
March	np	np	np	np	8.4	—	np	—	np	—	np	**13.1**
June	np	np	np	np	11.9	np	np	—	0.3	—	0.6	**19.4**
						QUEENSLAND						
2008–09	65.1	np	np	88.6	38.8	np	np	np	173.3	np	19.5	**351.7**
2009–10	64.0	np	np	72.7	45.8	np	np	np	262.6	0.2	32.5	**436.6**
2010–11	96.0	np	np	111.0	44.5	np	np	17.6	456.4	np	30.4	**663.5**
2009–10												
September	14.6	np	np	17.5	11.9	np	0.1	5.6	65.9	np	2.9	**103.8**
December	17.7	np	np	20.7	14.3	np	np	np	69.8	0.1	12.0	**123.5**
March	13.8	np	np	14.7	8.3	np	0.1	np	45.1	np	8.2	**80.6**
June	17.8	np	np	19.9	11.3	np	—	np	81.8	np	9.4	**128.7**
2010–11												
September	22.4	np	np	27.5	12.1	np	np	np	74.8	np	7.7	**129.8**
December	21.9	np	np	26.3	13.0	np	np	np	r107.2	np	9.9	r**161.8**
March	20.3	np	np	23.7	6.7	np	np	np	r90.1	np	5.5	r**129.1**
June	31.5	np	np	33.6	12.6	np	np	4.1	184.4	np	7.3	**242.8**

— nil or rounded to zero (including null cells)

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

r revised

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

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

continued

Period	Copper	Silver, lead, zinc	Nickel, cobalt	Total	Gold	Iron ore	Mineral sands	Uranium	Coal	Diamonds	Other(a)	**Total Mineral Exploration**
	SELECTED BASE METALS											
	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m	$m
	SOUTH AUSTRALIA											
2008–09	62.0	15.2	1.8	79.0	42.1	14.2	6.7	72.6	np	np	1.6	**220.7**
2009–10	61.9	np	np	67.6	18.9	16.2	np	52.7	2.3	np	1.6	**167.9**
2010–11	101.5	7.0	1.7	110.3	9.0	48.0	np	53.7	4.4	np	np	**254.6**
2009–10												
September	8.5	0.3	0.2	9.0	8.3	2.3	np	25.2	np	np	np	**48.2**
December	13.4	1.1	0.2	14.7	5.7	2.4	np	11.8	np	np	0.2	**37.6**
March	17.1	np	np	18.9	2.5	4.7	np	5.6	0.6	np	np	**34.0**
June	23.0	1.6	0.4	25.0	2.4	6.7	2.6	10.1	np	np	np	**48.1**
2010–11												
September	18.6	np	np	20.2	np	7.0	np	13.4	0.7	np	1.0	**47.4**
December	23.6	1.2	0.1	24.9	np	9.8	np	17.5	np	np	np	**59.5**
March	25.1	2.2	0.6	27.9	1.7	13.9	np	9.3	np	np	np	**62.6**
June	34.1	np	np	37.2	2.7	17.3	np	13.5	np	np	11.4	**85.2**
	WESTERN AUSTRALIA											
2008–09	28.1	24.5	246.8	299.5	262.7	558.7	12.9	28.3	8.6	5.0	71.2	**1 246.8**
2009–10	45.9	21.5	194.7	262.1	348.5	497.1	11.8	55.4	3.9	0.2	65.2	**1 244.1**
2010–11	78.7	25.4	261.0	365.1	452.5	585.0	10.8	100.7	np	np	68.9	**1 590.1**
2009–10												
September	7.9	4.4	46.1	58.4	70.7	134.2	3.8	10.6	np	np	20.1	**298.9**
December	14.3	3.7	48.0	66.0	87.0	131.2	np	18.7	np	0.1	15.3	**321.7**
March	8.3	6.2	46.3	60.8	81.8	89.4	np	8.6	0.5	np	13.7	**257.1**
June	15.4	7.2	54.3	76.9	109.0	142.3	3.1	17.5	np	np	16.2	**366.3**
2010–11												
September	19.2	7.2	67.4	93.8	105.3	136.2	2.1	26.8	np	np	18.8	**384.6**
December	22.9	7.7	59.8	90.4	116.0	134.5	2.4	31.1	np	np	16.7	**393.7**
March	15.6	5.4	65.1	86.0	108.9	124.4	2.6	22.6	np	np	16.2	**362.2**
June	21.0	5.1	68.8	94.9	122.3	189.9	3.7	20.2	np	np	17.1	**449.6**
	TASMANIA											
2008–09	np	np	1.5	np	3.0	6.2	np	np	np	—	np	**20.4**
2009–10	np	np	0.8	5.0	5.8	np	np	np	np	—	6.2	**20.7**
2010–11	np	np	2.1	np	9.1	2.6	—	np	np	—	np	**37.3**
2009–10												
September	0.2	np	np	1.0	0.8	np	np	—	—	—	1.2	**3.5**
December	—	np	np	np	1.3	np	—	np	np	—	1.1	**4.4**
March	np	np	0.2	np	1.1	1.2	—	np	np	—	1.9	**5.7**
June	0.4	np	np	1.6	2.5	0.9	—	np	np	—	2.1	**7.1**
2010–11												
September	0.6	np	np	2.0	np	0.6	—	np	np	—	np	**8.0**
December	np	1.2	np	np	np	np	—	—	np	—	4.4	**10.2**
March	np	np	0.5	np	2.3	1.0	—	—	np	—	np	**9.4**
June	np	1.0	np	np	1.9	np	—	—	np	—	5.0	**9.6**

— 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												
2008–09	4.1	np	np	11.4	26.7	np	np	54.5	np	2.0	41.6	**146.1**
2009–10	np	np	3.6	15.5	44.4	np	np	38.7	np	np	33.4	**149.5**
2010–11	11.9	5.3	1.5	18.7	53.4	24.5	np	41.9	np	np	48.5	**195.2**
2009–10												
September	2.4	1.2	1.3	4.9	14.1	np	np	12.5	np	np	10.2	**49.2**
December	2.3	np	np	4.5	10.8	np	np	12.1	np	np	9.3	**39.1**
March	0.8	0.9	0.4	2.1	7.3	np	np	5.5	np	np	6.6	**25.0**
June	np	1.6	np	4.0	12.2	np	np	8.5	np	np	7.3	**36.1**
2010–11												
September	2.5	np	np	5.3	15.4	6.4	np	12.3	np	np	15.0	**55.8**
December	3.9	np	np	5.5	12.0	8.5	np	12.1	np	np	10.0	**49.8**
March	1.0	1.0	0.2	2.2	10.0	4.5	np	8.7	np	np	7.3	**34.7**
June	4.5	np	np	5.7	15.9	5.0	np	8.8	np	np	16.2	**55.0**
AUSTRALIA												
2008–09	178.7	80.5	259.8	519.0	438.1	588.7	30.5	185.3	297.3	10.1	154.1	**2 223.1**
2009–10	201.6	51.6	203.9	457.2	575.4	524.1	28.3	169.0	321.1	10.3	147.1	**2 232.5**
2010–11	323.0	75.5	270.9	669.4	652.1	664.9	26.1	213.9	519.7	8.9	196.3	**2 951.3**
2009–10												
September	37.0	12.3	48.6	97.9	133.4	140.5	9.5	53.9	82.1	2.7	37.4	**557.4**
December	54.0	10.4	51.3	115.8	145.5	136.5	6.5	49.1	84.7	1.0	39.7	**578.8**
March	47.0	13.0	47.6	107.5	130.8	96.3	np	23.7	60.4	np	32.5	**459.3**
June	63.7	15.9	56.4	135.9	165.7	150.8	np	42.4	94.0	np	37.5	**637.1**
2010–11												
September	68.9	19.0	69.3	157.2	160.3	152.0	np	58.6	85.1	np	48.4	**669.4**
December	81.8	18.7	62.4	162.8	167.3	154.2	np	65.3	r122.3	np	44.2	r**724.4**
March	70.9	18.0	67.6	156.5	146.4	144.1	6.2	43.4	r109.6	0.6	43.4	r**650.1**
June	101.5	19.8	71.6	192.9	178.2	214.7	np	46.6	202.7	np	60.3	**907.4**

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

r revised

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

6 PETROLEUM EXPLORATION, Expenditure by onshore and offshore

	ONSHORE			OFFSHORE			TOTAL EXPENDITURE		
	Drilling	*Other*	*Total*	*Drilling*	*Other*	*Total*	*On production leases*(a)	*On all other areas*(a)	*Total*
Period	$m	$m	$m	$m	$m	$m	$m	$m	$m
2008–09	317.7	174.6	492.3	2 159.4	1 159.0	3 318.4	943.4	2 867.4	3 810.8
2009–10	564.3	184.3	748.6	2 181.0	564.6	2 745.6	849.2	2 645.0	3 494.1
2010–11	624.0	132.5	756.5	2 118.3	440.7	2 559.0	818.4	2 497.1	3 315.4
2009–10									
September	118.1	30.6	148.7	462.9	186.1	649.0	307.2	490.5	797.7
December	159.2	53.1	212.3	469.8	144.9	614.7	181.4	645.7	827.0
March	127.5	50.9	178.4	576.9	108.2	685.1	128.3	735.2	863.5
June	159.5	49.7	209.2	671.4	125.3	796.7	232.3	773.6	1 005.9
2010–11									
September	175.1	35.5	210.5	552.2	87.7	639.9	273.4	577.0	850.4
December	178.4	28.0	206.4	521.1	122.1	643.2	267.4	582.2	849.6
March	126.7	26.5	153.2	519.3	93.6	612.9	142.6	623.5	766.1
June	143.8	42.5	186.4	525.7	137.2	662.9	134.9	714.4	849.3

(a) Refer to Glossary for definition.

7 PETROLEUM EXPLORATION, Expenditure by state and territory

	New South Wales	*Victoria*	*Queensland*	*South Australia*	*Western Australia*	*Tasmania*	*Northern Territory*(a)	*Total*
Period	$m	$m	$m	$m	$m	$m	$m	$m
2008–09	np	140.8	288.2	112.2	2 945.1	np	246.7	3 810.8
2009–10	108.9	134.2	480.5	np	2 484.6	np	152.3	3 494.1
2010–11	127.1	np	463.1	np	2 402.3	np	88.0	3 315.4
2009–10								
September	8.2	25.1	95.7	27.1	603.9	4.2	33.4	797.7
December	21.3	np	144.6	28.1	541.7	np	49.0	827.0
March	39.5	9.3	113.2	13.7	646.7	3.7	37.4	863.5
June	39.9	np	127.0	np	692.3	6.2	32.5	1 005.9
2010–11								
September	20.9	np	145.1	np	597.1	np	25.7	850.4
December	54.0	np	125.3	15.1	559.2	np	22.5	849.6
March	23.8	np	88.1	28.3	607.0	np	6.0	766.1
June	28.4	np	104.6	38.0	639.0	np	33.7	849.3

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, ZOCB 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. A more detailed review is conducted on an annual basis.

10 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

SEASONAL ADJUSTMENT *continued*

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. The Mineral Exploration collection uses ARIMA modelling where appropriate for individual time series. The ARIMA model is assessed as part of the annual review. For more information on the details of ARIMA modelling see the feature article: *Use of ARIMA modelling to reduce revisions* in the October 2004 issue of *Australian Economic Indicators* (cat. no. 1350.0).

TREND ESTIMATES

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

12 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.

13 *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

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

15 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.

16 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

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 available from the ABS web site:

- *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

19 Current publications and other products released by the ABS are available from the Statistics View. The ABS also issues a daily *Release Advice* on the web site which details products to be released in the week ahead.

20 Details of wells and metres drilled in petroleum exploration are available from Geoscience Australia's *Oil and Gas Resources of Australia* available at www.ga.gov.au.

EFFECTS OF ROUNDING

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

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, 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.

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 *Petroleum (Submerged Lands) Act 1967*.

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. Liquid Petroleum Gas), 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 deposit Classification used:

Existing deposits – 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.

New deposits – Exploration on previously unknown mineralisations or known mineralisations yet to be classified as an Inferred Mineral Resource or higher. They include:

- Exploration resulting in finding mineralisation that was previously unknown.
- Exploration on previously known mineralisation that has not been subjected to modern exploration.
- 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.

Type of expenditure Classification used:

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 website is the best place for data from our publications and information about the ABS.

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