Australian Bureau of Statistics

MARCH QUARTER 2015

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MINERAL AND PETROLEUM EXPLORATION

AUSTRALIA

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CONTENTS

INQUIRIES

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NOTES

FORTHCOMING ISSUES

ISSUE (Quarter)	*RELEASE DATE*
June 2015	31 August 2015
September 2015	30 November 2015
December 2015	29 February 2016
March 2016	30 May 2016

CHANGES TO THIS ISSUE

- There are no changes to this issue.

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

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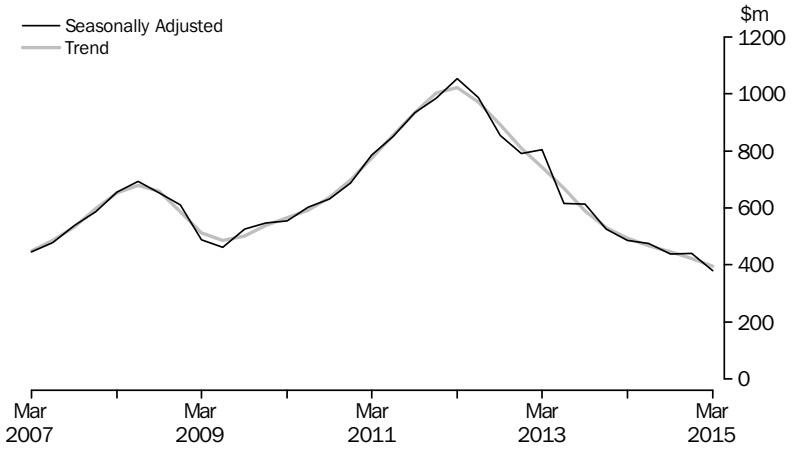
MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

TOTAL EXPENDITURE

The trend estimate for total mineral exploration expenditure fell 6.1% (or -$25.9m) to $396.5m in the March quarter 2015. The largest contributor to the fall in the trend estimate this quarter was Western Australia (down 7.6% or -$18.9m). The current quarter estimate is 19.8% lower than the March quarter 2014 estimate.

The seasonally adjusted estimate for mineral exploration expenditure fell 13.4% (or -$59.0m) to $381.0m in the March quarter 2015. The largest contributors to the fall this quarter were Queensland (down 32.2% or -$30.7m) and Western Australia (down 11.9% or -$30.1m).

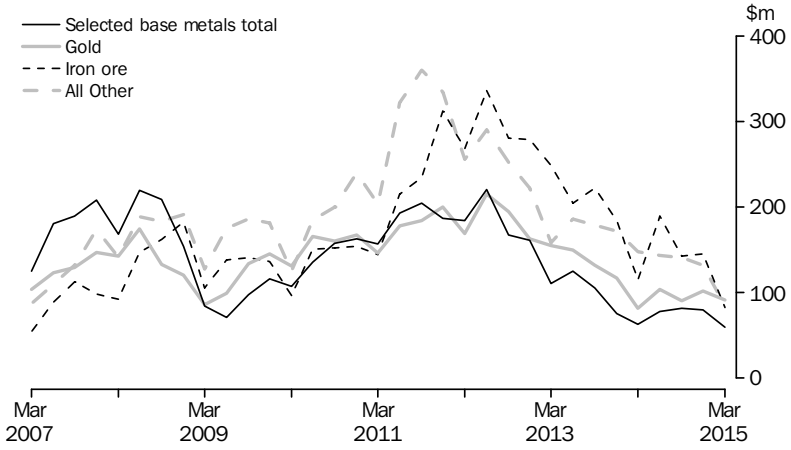
MINERAL EXPLORATION, Seasonally adjusted and trend



In original terms, mineral exploration expenditure fell 30.7% (or -$141.0m) to $318.0m in the March quarter 2015. Exploration on areas of new deposits fell 39.7% (or -$60.0m) and expenditure on areas of existing deposits fell 26.3% (or -$81.0m).

In original terms, the largest decrease by minerals sought came from expenditure on iron ore (down 43.4% or -$63.0m). The next largest decrease came from expenditure on coal (down 44.0% or -$34.3m).

MINERAL EXPLORATION, Original series

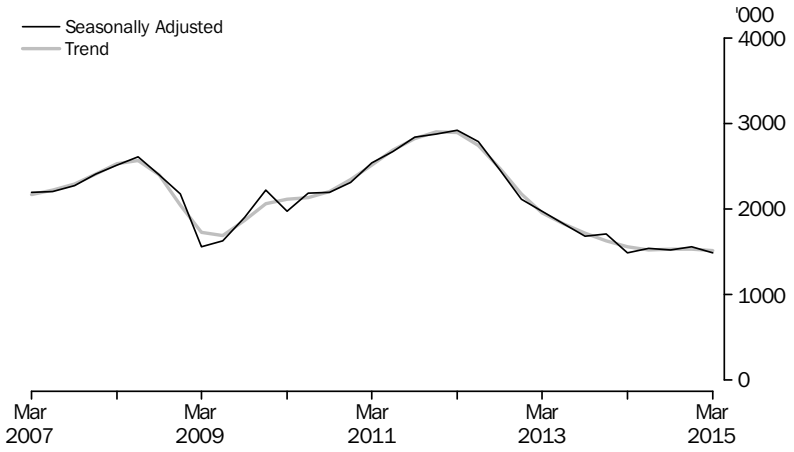


METRES DRILLED

The trend estimate for metres drilled fell 1.2% in the March quarter 2015. The current quarter estimate is 2.9% lower than the March quarter 2014 estimate.

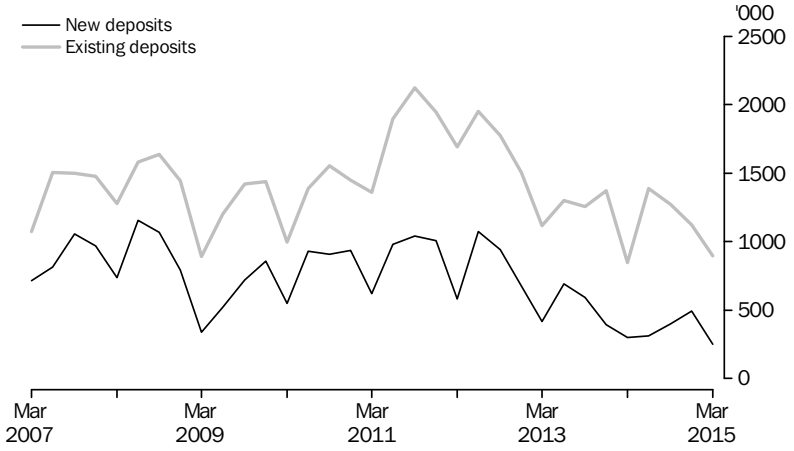
The seasonally adjusted estimate for metres drilled fell 4.8% in the March quarter 2015.

METRES DRILLED, Seasonally adjusted and trend



In original terms, metres drilled fell 29.0%. Drilling in areas of new deposits fell 49.6% and drilling in areas of existing deposits fell 20.1%.

METRES DRILLED, Original series



PETROLEUM EXPLORATION

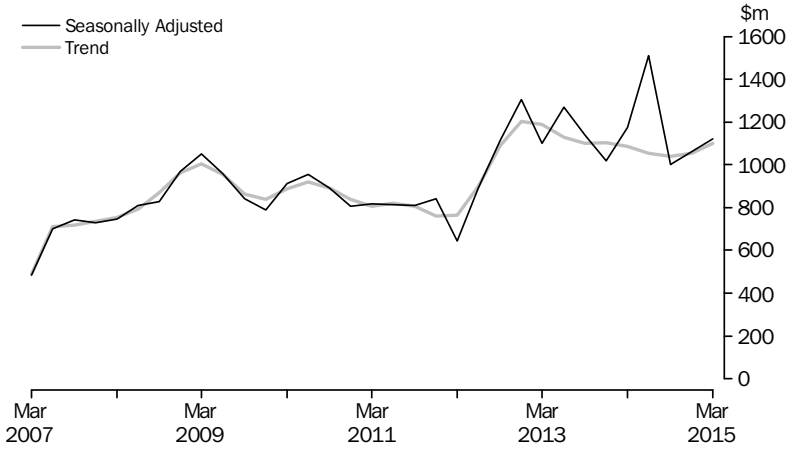
TOTAL EXPENDITURE

The trend estimate for total petroleum exploration expenditure rose 4.4% (or +$46.3m) to $1,100.5m in the March quarter 2015. Exploration expenditure on production leases rose 7.1% (or +$18.1m), while exploration expenditure on all other areas rose 3.0% (or +$24.0m).

The seasonally adjusted estimate for total petroleum exploration expenditure rose 5.7% (or +$60.3m) to $1,122.7m in the March quarter 2015. Exploration expenditure on production leases rose 19.5% (or +$48.4m) and exploration expenditure on all other areas rose 1.5% (or +$11.9m).

The largest contributor to the increase in the trend estimate was South Australia (up 29.1% or +$30.7m) and the largest contributor to the rise in the seasonally adjusted estimate was South Australia (up 69.8% or +$65.4m).

PETROLEUM EXPLORATION, Seasonally adjusted and trend

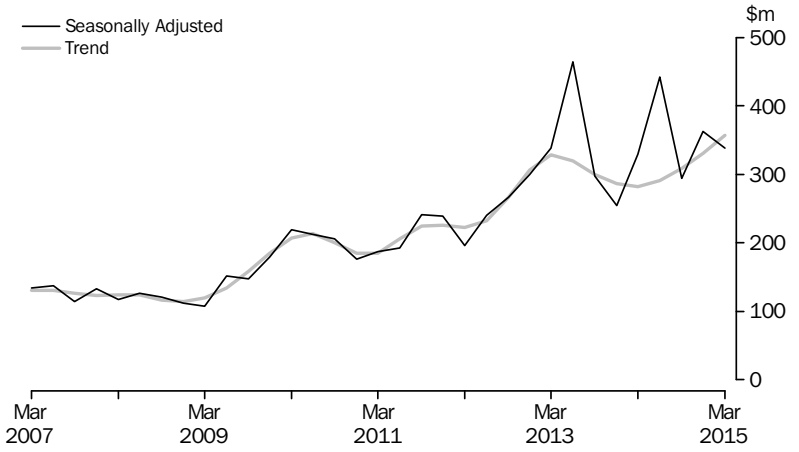


ONSHORE

The trend estimate for onshore petroleum exploration expenditure rose 7.8% (or +$25.9m) to $356.6m in the March quarter 2015. Expenditure on drilling rose 6.5% (or +$12.7m), while other onshore petroleum exploration expenditure rose 8.8% (or +$11.9m).

The seasonally adjusted estimate for onshore petroleum exploration expenditure fell 6.4% (or -$23.3m) to $338.8m in the March quarter 2015. Expenditure on drilling fell 10.4% (or -$23.0m), and other onshore petroleum exploration fell 0.2% (or -$0.3m).

PETROLEUM EXPLORATION: ONSHORE, Seasonally adjusted and trend

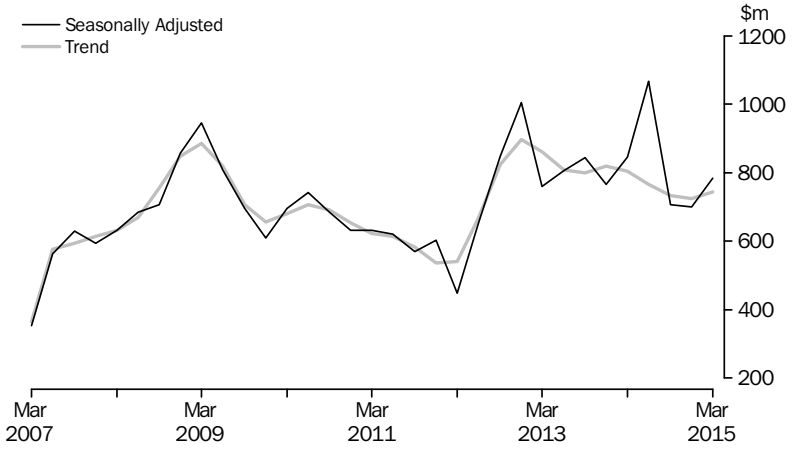


OFFSHORE

The trend estimate for offshore petroleum exploration expenditure rose 2.8% (or +$20.4m) to $743.8m in the March quarter 2015. Expenditure on drilling rose 2.9% (or +$16.8m), while other offshore petroleum exploration expenditure rose 2.4% (or +$3.5m).

The seasonally adjusted estimate for offshore petroleum exploration expenditure rose 12.0% (or +$83.7m) to $784.0m in the March quarter 2015. Expenditure on drilling rose 6.0% (or +$34.3m), and other offshore petroleum exploration expenditure rose 37.5% (or +$49.5m).

PETROLEUM EXPLORATION: OFFSHORE, Seasonally adjusted and trend



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	%
2011–12	3 951.1	3 267.0	120.9	3 507.4	112.7	919.8	1 200.2	76.6	2 277.3	2 017.1	112.9
2012–13	3 055.4	3 086.3	99.0	3 311.5	92.3	1 363.2	2 971.2	45.9	3 430.2	1 135.3	302.1
2013–14	2 108.9	2 445.1	86.2	2 645.8	79.7	1 312.5	2 819.6	46.6	3 512.0	2 003.3	175.3
2013–14											
Dec half	1 185.8	1 507.1	78.7	1 616.6	73.3	609.1	1 295.6	47.0	1 609.6	1 286.6	125.1
Jun half	923.1	938.0	98.4	1 029.2	89.7	703.5	1 524.0	46.2	1 902.4	716.7	265.4
2014–15											
Dec half	916.9	864.6	106.1	979.3	93.6	729.7	1 438.9	50.7	1 403.4	1 149.3	122.1
Jun half	nya	635.4	nya	709.9	nya	nya	818.7	nya	nya	516.3	nya

nya not yet available

(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
2011–12	1 243.0	2 710.0	3 953.0	. .	. .	3 700	7 709	11 409	. .	. .
2012–13	1 018.3	2 037.1	3 055.4	. .	. .	2 730	5 690	8 420	. .	. .
2013–14	682.3	1 426.5	2 108.8	. .	. .	1 598	4 856	6 453	. .	. .
2012–13										
June	275.7	388.9	664.6	616.7	668.9	692	1 300	1 992	1 820	1 819
2013–14										
September	241.9	396.5	638.4	612.3	589.5	593	1 254	1 846	1 680	1 719
December	175.4	372.0	547.4	525.1	530.8	396	1 368	1 764	1 711	1 627
March	121.0	287.0	408.0	487.1	494.5	300	848	1 148	1 484	1 557
June	144.0	371.0	515.0	475.6	466.1	309	1 386	1 695	1 542	1 526
2014–15										
September	129.0	326.0	455.0	437.4	447.4	397	1 272	1 669	1 525	1 528
December	151.0	308.0	459.0	440.0	422.4	492	1 121	1 613	1 560	1 531
March	91.0	227.0	318.0	381.0	396.5	248	896	1 145	1 485	1 512

. . not applicable

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				
2011–12	47.1	33.9	291.6	144.2	636.9	16.6	72.7	1 243.0
2012–13	50.6	12.5	223.8	102.4	573.8	16.6	38.6	1 018.3
2013–14	46.3	9.2	161.0	52.8	381.0	8.2	23.2	682.3
2012–13								
June	17.4	4.0	61.1	25.2	158.5	3.7	5.8	275.7
2013–14								
September	12.9	2.4	52.1	15.0	148.0	3.8	7.6	241.9
December	12.9	1.5	51.8	14.4	86.8	1.4	6.6	175.4
March	14.9	2.7	32.7	10.7	53.3	2.3	4.2	121.0
June	5.6	2.5	24.4	12.6	92.9	0.7	4.8	144.0
2014–15								
September	8.7	np	24.8	14.6	69.9	np	7.8	129.0
December	10.3	1.6	41.7	14.0	73.9	2.0	7.3	151.0
March	10.7	0.8	17.8	10.8	43.3	2.0	5.5	91.0
				EXISTING DEPOSITS				
2011–12	195.1	24.5	675.9	184.2	1 469.9	22.7	137.7	2 710.0
2012–13	136.7	26.0	439.9	128.0	1 189.6	23.9	92.9	2 037.1
2013–14	92.6	23.4	290.4	63.5	839.0	21.9	95.1	1 426.5
2012–13								
June	30.6	5.5	80.5	19.4	223.8	5.9	23.2	388.9
2013–14								
September	23.0	5.4	78.8	11.3	247.8	5.6	24.7	396.5
December	21.5	6.6	69.7	21.7	221.5	7.4	23.6	372.0
March	25.8	5.2	67.5	14.1	153.0	4.1	17.2	287.0
June	22.3	6.3	74.4	16.4	216.8	4.9	29.7	371.0
2014–15								
September	25.9	np	62.8	10.7	197.2	np	19.6	326.0
December	22.1	3.5	61.2	13.5	188.4	2.2	17.6	308.0
March	19.0	4.9	35.5	10.9	140.1	2.4	14.0	227.0
				TOTAL				
2011–12	242.2	58.4	967.5	328.4	2 106.8	39.3	210.4	3 953.0
2012–13	187.4	38.6	663.7	230.4	1 763.4	40.5	131.6	3 055.4
2013–14	138.9	32.6	451.4	116.3	1 220.0	30.1	118.3	2 108.8
2012–13								
June	48.0	9.5	141.6	44.6	382.3	9.6	29.0	664.6
2013–14								
September	35.9	7.8	130.9	26.4	395.8	9.3	32.3	638.4
December	34.4	8.1	121.5	36.1	308.3	8.8	30.2	547.4
March	40.7	7.9	100.2	24.8	206.2	6.4	21.4	408.0
June	27.9	8.8	98.8	29.1	309.7	5.6	34.5	515.0
2014–15								
September	34.6	5.6	87.6	25.3	267.1	7.5	27.3	455.0
December	32.4	5.1	102.9	27.5	262.3	4.2	24.8	459.0
March	29.7	5.8	53.2	21.7	183.5	4.4	19.4	318.0

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

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								
2011–12	242.2	58.4	967.5	328.4	2 106.8	39.3	210.4	3 953.0
2012–13	187.4	38.6	663.7	230.4	1 763.4	40.5	131.6	3 055.4
2013–14	138.9	32.6	451.4	116.3	1 220.0	30.1	118.3	2 108.8
2012–13								
June	48.0	9.5	141.6	44.6	382.3	9.6	29.0	664.6
2013–14								
September	35.9	7.8	130.9	26.4	395.8	9.3	32.3	638.4
December	34.4	8.1	121.5	36.1	308.3	8.8	30.2	547.4
March	40.7	7.9	100.2	24.8	206.2	6.4	21.4	408.0
June	27.9	8.8	98.8	29.1	309.7	5.6	34.5	515.0
2014–15								
September	34.6	5.6	87.6	25.3	267.1	7.5	27.3	455.0
December	32.4	5.1	102.9	27.5	262.3	4.2	24.8	459.0
March	29.7	5.8	53.2	21.7	183.5	4.4	19.4	318.0
SEASONALLY ADJUSTED								
2012–13								
June	48.2	9.5	132.3	41.0	347.3	10.1	28.4	616.7
2013–14								
September	35.6	7.8	125.8	26.6	381.3	8.7	26.5	612.3
December	34.5	8.1	112.7	33.5	298.9	8.6	28.8	525.1
March	41.0	7.9	122.3	29.4	249.8	6.7	30.0	487.1
June	27.8	8.8	93.1	26.7	279.8	5.9	33.4	475.6
2014–15								
September	34.4	5.6	84.4	25.6	257.9	6.9	22.7	437.4
December	32.6	5.1	95.2	25.4	253.7	4.2	23.8	440.0
March	29.8	5.8	64.5	25.8	223.6	4.6	27.0	381.0
TREND								
2012–13								
June	43.0	9.3	135.3	36.8	406.5	9.8	28.2	668.9
2013–14								
September	39.7	8.5	124.4	31.9	348.3	9.2	27.5	589.5
December	36.5	8.1	118.5	30.2	300.6	8.0	28.9	530.8
March	34.6	8.2	109.9	29.0	275.3	7.1	30.5	494.5
June	33.7	7.6	100.2	27.6	261.5	6.4	29.2	466.1
2014–15								
September	32.3	6.4	90.6	25.8	260.3	5.7	26.3	447.4
December	31.6	5.5	81.8	25.5	248.3	5.1	24.6	422.4
March	31.5	5.1	75.7	25.5	229.4	4.5	24.8	396.5

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

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
	NEW SOUTH WALES											
2011–12	31.6	34.3	1.0	66.9	np	3.0	np	np	103.8	np	15.3	**242.2**
2012–13	26.7	np	np	54.9	36.8	np	np	np	74.8	np	16.5	**187.4**
2013–14	20.4	np	np	32.6	25.6	np	np	np	60.2	np	16.8	**138.9**
2012–13												
June	7.3	np	np	12.6	12.8	np	np	np	17.3	np	np	**48.0**
2013–14												
September	3.8	np	np	7.5	6.3	np	np	np	18.2	np	2.9	**35.9**
December	4.3	np	np	6.9	7.6	np	np	np	13.3	np	6.0	**34.4**
March	7.4	np	np	10.7	6.6	np	np	—	18.4	np	3.7	**40.7**
June	4.9	2.7	np	7.6	5.1	np	np	np	10.2	np	4.3	**27.9**
2014–15												
September	5.2	np	np	8.2	7.9	np	np	—	16.8	np	1.5	**34.6**
December	np	5.7	np	12.5	6.9	np	np	—	9.8	np	2.8	**32.4**
March	6.2	np	np	9.9	4.7	—	np	—	9.9	np	3.9	**29.7**
	VICTORIA											
2011–12	np	np	np	np	25.7	np	np	—	1.1	—	4.0	**58.4**
2012–13	np	np	np	5.1	19.5	np	4.7	—	np	—	5.6	**38.6**
2013–14	1.3	np	np	1.8	15.0	5.4	3.5	—	np	—	6.6	**32.6**
2012–13												
June	np	np	np	1.2	4.5	np	0.9	—	np	—	np	**9.5**
2013–14												
September	np	np	np	np	4.0	np	0.6	—	0.1	—	1.5	**7.8**
December	np	—	np	np	4.6	np	0.3	—	np	—	1.5	**8.1**
March	np	np	np	0.4	2.3	np	np	—	np	—	1.6	**7.9**
June	np	np	np	0.4	4.1	np	np	—	np	—	2.0	**8.8**
2014–15												
September	np	np	np	0.2	1.9	np	np	—	np	—	2.0	**5.6**
December	np	np	np	0.2	3.0	np	np	np	np	—	1.2	**5.1**
March	np	np	—	0.1	np	np	1.2	—	np	—	0.8	**5.8**
	QUEENSLAND											
2011–12	147.9	6.8	2.3	157.0	44.6	1.5	np	13.4	718.3	np	31.1	**967.5**
2012–13	91.1	10.7	3.1	104.8	74.6	np	1.6	10.8	453.9	np	15.7	**663.7**
2013–14	36.7	np	np	43.9	60.9	0.2	np	7.8	324.2	np	12.3	**451.4**
2012–13												
June	14.2	np	np	18.2	15.8	np	np	np	98.7	0.5	4.7	**141.6**
2013–14												
September	15.3	np	np	16.6	17.4	np	np	3.3	89.3	np	3.9	**130.9**
December	8.0	np	np	10.0	19.1	—	np	2.2	86.5	np	3.3	**121.5**
March	5.1	np	np	6.9	9.4	np	np	0.9	80.9	np	1.6	**100.2**
June	8.3	1.8	np	10.3	15.0	0.1	np	1.3	67.6	np	3.5	**98.8**
2014–15												
September	11.3	np	np	14.4	7.6	—	np	0.9	61.3	np	2.3	**87.6**
December	11.7	np	np	14.7	18.1	0.1	np	1.0	65.2	np	3.4	**102.9**
March	8.4	np	np	9.6	8.0	—	np	0.6	32.9	np	1.7	**53.2**

— 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.

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

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												
2011–12	146.2	10.3	3.1	159.6	9.8	78.3	np	33.1	np	np	36.0	**328.4**
2012–13	106.4	np	np	125.6	np	47.9	np	np	1.0	np	17.6	**230.4**
2013–14	52.0	9.7	2.6	64.3	np	np	np	4.8	np	np	9.4	**116.3**
2012–13												
June	21.8	np	np	28.4	np	5.3	np	2.9	np	np	1.8	**44.6**
2013–14												
September	10.8	np	np	15.5	np	2.4	np	np	np	np	2.2	**26.4**
December	11.0	2.6	0.9	14.5	np	np	np	np	np	np	2.1	**36.1**
March	15.4	np	np	17.6	np	2.2	np	0.6	np	np	2.7	**24.8**
June	14.7	1.3	0.5	16.6	np	7.9	np	0.8	np	np	2.4	**29.1**
2014–15												
September	12.1	1.4	0.4	14.0	np	5.4	np	1.2	np	np	2.0	**25.3**
December	10.6	2.0	0.9	13.4	1.6	np	np	np	np	np	1.6	**27.5**
March	10.4	0.9	0.7	12.0	1.8	4.7	np	0.3	np	np	2.0	**21.7**
WESTERN AUSTRALIA												
2011–12	92.1	19.4	256.8	368.3	557.4	1 025.9	12.7	78.2	np	np	57.6	**2 106.8**
2012–13	76.6	16.6	157.2	250.4	466.5	921.8	15.1	35.1	10.5	0.7	63.9	**1 763.4**
2013–14	58.4	14.0	94.9	167.3	295.3	634.4	16.4	22.6	9.5	1.7	73.4	**1 220.0**
2012–13												
June	16.7	4.4	37.8	58.9	103.4	186.3	3.0	5.3	np	np	23.4	**382.3**
2013–14												
September	21.5	3.2	36.7	61.5	96.3	206.1	4.3	6.8	np	np	19.9	**395.8**
December	16.9	4.3	17.9	39.2	76.2	158.9	5.6	5.4	np	np	17.6	**308.3**
March	6.6	2.9	15.5	25.0	56.2	102.1	3.7	3.7	np	np	13.4	**206.2**
June	13.3	3.5	24.8	41.6	66.6	167.3	2.8	6.7	np	np	22.4	**309.7**
2014–15												
September	13.6	3.9	23.8	41.2	61.9	130.3	6.3	4.7	0.6	1.0	21.1	**267.1**
December	9.6	4.9	21.0	35.5	64.0	131.5	2.0	9.0	np	np	17.9	**262.3**
March	4.6	2.2	18.4	25.2	67.3	70.0	3.0	5.9	np	np	11.2	**183.5**
TASMANIA												
2011–12	np	np	np	np	np	np	np	np	—	—	20.8	**39.3**
2012–13	np	np	0.4	8.5	np	np	np	—	np	—	18.0	**40.5**
2013–14	np	np	0.1	5.4	np	np	—	—	np	—	11.4	**30.1**
2012–13												
June	np	np	np	2.7	np	np	—	—	np	—	3.7	**9.6**
2013–14												
September	np	np	—	np	np	np	—	—	np	—	3.1	**9.3**
December	np	np	np	np	np	1.4	—	—	np	—	4.2	**8.8**
March	np	np	np	1.1	np	1.1	—	—	np	—	2.4	**6.4**
June	np	np	np	0.5	np	0.9	—	—	np	—	1.7	**5.6**
2014–15												
September	np	np	np	0.9	np	2.4	—	—	np	—	3.3	**7.5**
December	np	np	—	1.3	0.4	np	—	—	np	—	1.7	**4.2**
March	np	np	—	1.4	np	np	—	—	—	—	1.6	**4.4**

— 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.

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

continued

	SELECTED BASE METALS											
Period	*Copper* $m	*Silver, lead, zinc* $m	*Nickel, cobalt* $m	*Total* $m	*Gold* $m	*Iron ore* $m	*Mineral sands* $m	*Uranium* $m	*Coal* $m	*Diamonds* $m	*Other*(a) $m	***Total Mineral Exploration*** $m
						NORTHERN TERRITORY						
2011–12	13.6	np	np	20.3	77.6	np	np	28.9	np	np	35.8	**210.4**
2012–13	9.6	4.6	0.1	14.3	46.5	np	1.7	10.1	np	np	24.6	**131.6**
2013–14	np	np	np	6.7	27.7	36.2	0.8	8.7	np	np	27.2	**118.3**
2012–13												
June	1.5	np	np	2.7	8.6	8.8	np	2.4	np	np	3.6	**29.0**
2013–14												
September	np	np	—	1.7	6.1	np	0.1	3.8	np	np	6.8	**32.3**
December	1.3	np	np	2.3	6.3	7.6	np	2.2	np	np	8.5	**30.2**
March	0.4	np	np	1.3	5.0	np	np	1.1	—	np	5.1	**21.4**
June	0.6	np	np	1.4	10.3	12.1	np	1.5	np	np	6.8	**34.5**
2014–15												
September	np	np	np	2.7	9.7	np	np	3.0	np	np	6.4	**27.3**
December	1.5	np	np	2.6	7.9	np	0.2	2.4	np	np	7.2	**24.8**
March	0.7	np	np	1.3	5.8	np	np	0.7	np	np	5.0	**19.4**
						AUSTRALIA						
2011–12	442.7	87.4	265.4	795.5	768.0	1 150.7	42.3	153.7	834.3	9.2	199.3	**3 953.0**
2012–13	319.3	79.9	164.5	563.7	661.7	1 011.2	37.8	69.4	544.0	6.3	161.2	**3 055.4**
2013–14	176.7	45.8	99.4	321.9	434.3	710.5	np	43.8	398.7	np	156.3	**2 108.8**
2012–13												
June	63.7	20.6	40.3	124.7	150.0	204.2	8.7	12.8	119.7	1.7	42.9	**664.6**
2013–14												
September	54.6	13.1	37.8	105.5	132.2	222.2	np	16.1	109.6	np	40.1	**638.4**
December	43.5	12.3	19.2	75.0	116.5	184.2	8.1	11.0	106.4	3.1	43.0	**547.4**
March	36.2	10.1	16.8	63.0	81.7	115.2	6.5	6.4	101.8	2.5	30.5	**408.0**
June	42.5	10.3	25.6	78.4	103.9	189.0	6.5	10.4	80.9	2.7	42.8	**515.0**
2014–15												
September	44.2	13.1	24.3	81.7	90.0	142.9	10.7	9.9	80.3	1.8	38.0	**455.0**
December	40.8	16.9	22.5	80.1	101.7	145.1	4.4	12.8	78.0	1.5	35.6	**459.0**
March	31.3	8.7	19.5	59.5	91.5	82.1	6.2	7.5	43.7	0.9	26.0	**318.0**

— nil or rounded to zero (including null cells)

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

(a) From 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 leases*(a)	*Total*
Period	$m	$m	$m	$m	$m	$m	$m	$m	$m
					ORIGINAL				
2011–12	636.9	282.8	919.7	1 652.4	624.9	2 277.3	590.4	2 606.6	3 197.0
2012–13	949.3	414.0	1 363.2	2 638.5	791.7	3 430.2	1 367.3	3 426.1	4 793.4
2013–14	721.9	590.7	1 312.5	2 768.8	743.3	3 512.1	1 361.7	3 462.9	4 824.6
2012–13									
June	342.8	106.7	449.5	672.3	179.3	851.6	399.0	902.1	1 301.1
2013–14									
September	189.0	116.1	305.1	697.7	112.6	810.2	343.6	771.7	1 115.3
December	198.6	105.4	303.9	634.5	164.9	799.4	395.1	708.3	1 103.3
March	163.0	110.9	273.9	593.2	205.0	798.2	331.4	740.7	1 072.1
June	171.2	258.3	429.6	843.4	260.8	1 104.2	291.7	1 242.2	1 533.8
2014–15									
September	153.2	145.1	298.3	578.5	103.2	681.6	284.8	695.0	979.9
December	281.0	150.4	431.4	585.6	136.1	721.7	288.2	865.0	1 153.1
March	163.9	118.0	281.9	560.2	179.8	739.9	210.4	811.4	1 021.8
					SEASONALLY ADJUSTED				
2011–12	632.0	282.6	914.5	1 652.4	620.8	2 273.1	580.8	2 606.9	3 187.7
2012–13	952.6	415.8	1 368.4	2 621.7	795.1	3 416.8	1 337.6	3 447.6	4 785.2
2013–14	726.8	595.9	1 322.7	2 790.8	730.3	3 521.0	1 392.1	3 451.6	4 843.7
2012–13									
June	355.3	108.7	463.9	651.8	153.9	805.7	385.3	884.3	1 269.6
2013–14									
September	192.0	105.2	297.2	703.9	139.7	843.6	311.3	829.5	1 140.8
December	156.7	97.6	254.4	608.7	156.7	765.4	339.6	680.1	1 019.7
March	198.0	131.3	329.3	636.1	208.6	844.8	458.7	715.3	1 174.1
June	180.0	261.7	441.8	842.0	225.3	1 067.3	282.5	1 226.6	1 509.1
2014–15									
September	160.6	133.5	294.1	577.3	128.6	705.9	258.4	741.6	1 000.0
December	222.0	140.1	362.1	568.3	131.9	700.3	247.6	814.8	1 062.4
March	199.0	139.8	338.8	602.6	181.4	784.0	296.0	826.7	1 122.7
					TREND				
2011–12	622.7	280.5	903.2	1 689.2	636.4	2 325.5	585.7	2 643.1	3 228.8
2012–13	810.5	409.9	1 220.4	2 615.1	774.2	3 389.3	1 301.1	3 308.6	4 609.7
2013–14	726.5	432.5	1 159.0	2 484.2	702.8	3 187.1	1 412.8	2 933.3	4 346.0
2012–13									
June	215.6	104.5	320.1	654.1	153.8	807.9	325.5	802.5	1 128.0
2013–14									
September	192.5	107.6	300.2	655.1	144.2	799.2	343.3	756.1	1 099.4
December	179.7	106.9	286.5	647.1	171.3	818.4	375.2	729.8	1 105.0
March	175.3	106.5	281.9	606.4	197.2	803.6	368.3	717.2	1 085.5
June	178.9	111.5	290.4	575.7	190.1	765.8	326.0	730.2	1 056.2
2014–15									
September	186.1	122.1	308.1	570.0	162.7	732.7	272.8	768.4	1 040.9
December	195.9	134.9	330.7	576.2	147.2	723.4	256.4	797.9	1 054.2
March	208.6	146.8	356.6	593.0	150.7	743.8	274.5	821.9	1 100.5

(a) Refer to Glossary for definition

7 PETROLEUM EXPLORATION, Expenditure by state and territory

Period	New South Wales $m	Victoria $m	Queensland $m	South Australia $m	Western Australia $m	Tasmania $m	Northern Territory(a) $m	Total $m
ORIGINAL								
2011–12	145.5	41.5	467.6	174.3	2 117.2	np	np	3 197.0
2012–13	158.1	21.5	655.3	386.3	3 293.7	1.5	277.0	4 793.4
2013–14	145.5	34.4	612.6	531.3	2 990.5	0.4	509.9	4 824.6
2012–13								
June	np	np	283.8	75.4	841.2	np	35.7	1 301.1
2013–14								
September	np	np	169.6	91.4	752.2	np	75.5	1 115.3
December	np	np	150.1	81.5	677.4	np	130.6	1 103.3
March	np	np	126.3	92.7	737.1	np	72.9	1 072.1
June	np	np	166.6	265.7	823.9	np	231.0	1 533.8
2014–15								
September	np	np	153.5	60.3	591.5	np	127.2	979.9
December	np	np	290.2	92.0	605.4	np	123.1	1 153.1
March	np	4.2	154.4	177.1	500.5	np	np	1 021.8
SEASONALLY ADJUSTED								
2011–12	145.2	np	464.1	172.1	2 113.5	np	np	3 187.7
2012–13	158.8	np	657.3	383.6	3 286.1	np	276.3	4 785.2
2013–14	145.8	np	619.3	533.7	3 001.8	np	508.5	4 843.7
2012–13								
June	np	np	291.7	69.9	809.2	np	35.8	1 269.6
2013–14								
September	np	np	158.5	106.6	772.7	np	75.6	1 140.8
December	np	np	123.2	81.7	631.3	np	128.3	1 019.7
March	np	np	165.9	84.1	797.7	np	73.1	1 174.1
June	np	np	171.7	261.4	800.0	np	231.5	1 509.1
2014–15								
September	np	np	145.4	72.1	606.3	np	127.9	1 000.0
December	24.3	np	238.4	93.7	570.4	np	121.8	1 062.4
March	22.0	np	208.1	159.1	556.7	np	167.5	1 122.7
TREND								
2011–12	138.8	np	456.8	174.9	2 172.7	np	np	3 228.8
2012–13	149.7	np	522.1	393.9	3 238.5	np	275.2	4 609.7
2013–14	159.2	np	608.0	334.3	2 818.1	np	391.3	4 346.0
2012–13								
June	np	np	148.4	96.4	785.3	np	50.7	1 128.0
2013–14								
September	np	np	147.1	88.3	743.4	np	73.5	1 099.4
December	np	np	149.2	87.6	724.4	np	96.3	1 105.0
March	np	np	149.7	83.8	693.7	np	108.6	1 085.5
June	np	np	162.0	74.5	656.6	np	112.9	1 056.2
2014–15								
September	np	np	181.8	83.1	608.0	np	124.3	1 040.9
December	30.0	np	201.9	105.6	568.4	np	139.6	1 054.2
March	22.4	np	218.8	136.3	559.6	np	148.8	1 100.5

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.

INFORMATION AND REFERRAL SERVICE

Our consultants can help you access the full range of information published by the ABS that is available free of charge from our website. Information tailored to your needs can also be requested as a 'user pays' service. Specialists are on hand to help you with analytical or methodological advice.

PHONE	1300 135 070
EMAIL	client.services@abs.gov.au
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