SEPTEMBER QUARTER 2004 8412.0

MINERAL AND PETROLEUM EXPLORATION

AUSTRALIA

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CONTENTS

INQUIRIES

■ For further information about these and related statistics, contact the National Information and Referral Service on 1300 135 070 or Fiona Cotsell on Sydney 02 9268 4357.

NOTES

FORTHCOMING ISSUES

ISSUE (Quarter)	*RELEASE DATE*
December 2004	16 March 2005
March 2005	15 June 2005

CHANGES TO THIS ISSUE

For the past five quarters, the Australian Bureau of Statistics has been collecting mineral exploration expenditure on 'new deposits' and 'existing deposits' in response to user feedback. Tables 2 and 3 of this release now include this new disaggregation of expenditure in place of the former split by production leases and other areas, which has now been discontinued. See the Appendix on Page 17 of this issue for further information.

The split of petroleum exploration by production leases and other areas continues.

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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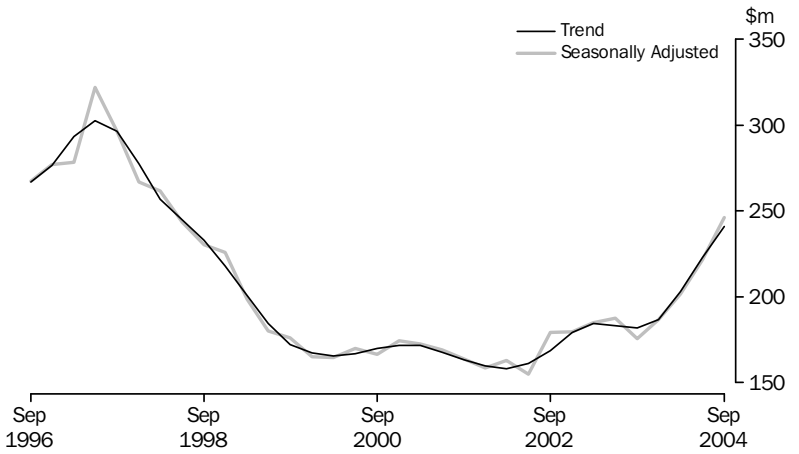
MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

TREND ESTIMATES

The trend estimate for total mineral exploration expenditure increased by 8.0% to $240.7m in the September quarter 2004. The estimate has risen in the last four quarters and is now 32.4% higher than the September quarter 2003.



All states recorded increases this quarter except for Victoria, which had a small decrease. Western Australia had the largest increase of $11.3m (8.7%).

The trend estimate for metres drilled has been increasing for the past four quarters. The current estimate is now 31.5% higher than the September quarter estimate for last year.

MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

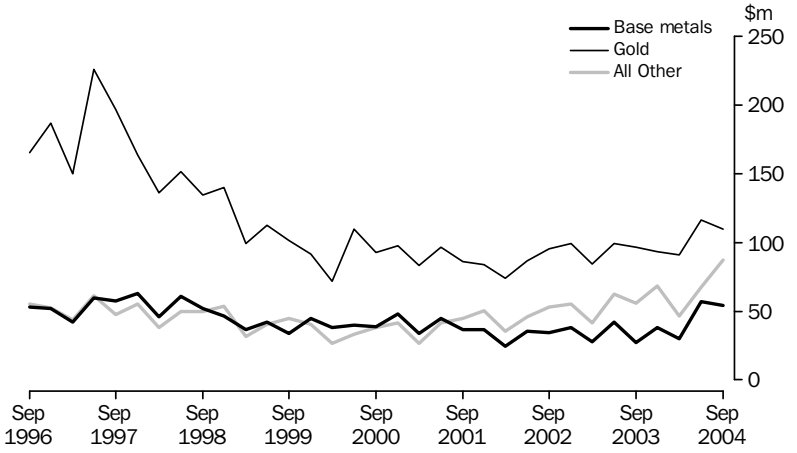
EXPLORATION EXPENDITURE

The seasonally adjusted estimate of mineral exploration expenditure increased by $24.6m or 11.1% this quarter (up 4.0% in original terms). This increase was dominated by exploration on areas of existing deposits, which increased by $15.9m (11.6%) in original terms. Expenditure on areas of new deposits decreased by $5.2m (5.0%) in original terms.

Seasonally adjusted expenditure in most states and territories increased this quarter, with Western Australia having the largest increase of $10.8m or 8.2%. Tasmania had the only decrease.

In original terms, the largest increase by minerals sought came from expenditure on iron ore exploration (up $10.6m or 55.2%, with most of the increase coming from Western Australia) and coal (up $3.6m, 15.1%). The largest decrease was for exploration on gold which fell by $6.2m (5.3%).

MINERAL EXPLORATION EXPENDITURE, Original series

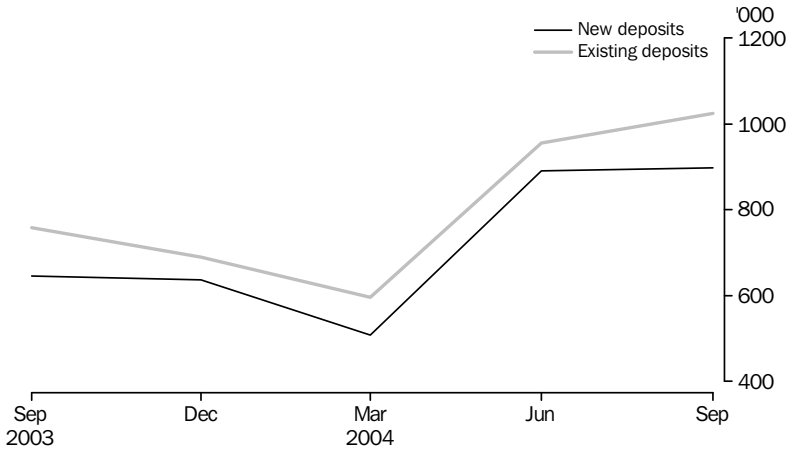


MINERAL EXPLORATION (OTHER THAN FOR PETROLEUM)

METRES DRILLED

In seasonally adjusted terms, total metres drilled increased by 7.8% in the September quarter 2004 (up 4.1% in original terms). The increase was dominated by drilling in areas of existing deposits.

METRES DRILLED, Original Series



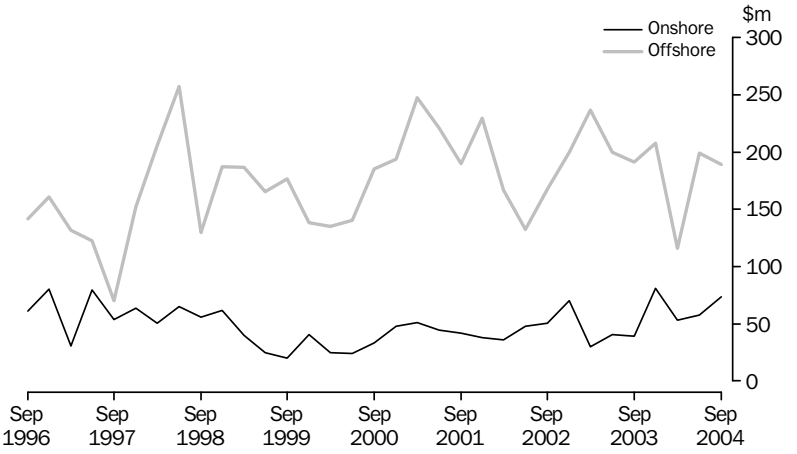
PETROLEUM EXPLORATION EXPENDITURE

OVERVIEW

Expenditure on petroleum exploration for the September quarter 2004 increased by $6.8m (2.7%) to $263.2m.

Expenditure on exploration on production leases increased significantly (by $71.7m), while exploration on all other areas decreased by $64.9m or 30.0% this quarter.

Onshore exploration had a strong increase of $16.3m (28.4%), while offshore exploration expenditure decreased by $9.5m (4.8%).



REGIONAL DATA

In the September quarter 2004 most states showed a rise in petroleum exploration expenditure. South Australia had the largest rise of $10.9m (85.2%), while Western Australia recorded the largest decrease of $15.4m (7.8%). The only other state to show a decrease was Victoria, which fell by $1.3m (9.2%).

1 PRIVATE EXPLORATION, Actual and Expected Expenditure(a)

	MINERAL EXPLORATION					PETROLEUM ONSHORE			PETROLEUM OFFSHORE		
	Actual	*Expected*	*Actual as a proportion of expected*	*Expected - Adjusted*(b)	*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	%
2001–02	640.8	578.9	110.7	726.0	88.3	164.5	184.4	89.2	718.1	924.2	77.7
2002–03	732.5	597.3	122.6	751.8	97.4	191.3	200.4	95.5	803.7	693.1	116.0
2003–04	786.7	606.2	129.8	770.6	102.1	230.5	243.1	94.8	713.5	722.8	98.7
2002–03											
Jun half	356.8	285.9	124.8	340.5	104.8	70.6	111.7	63.2	436.0	400.5	108.9
2003–04											
Dec half	379.2	286.9	132.2	388.3	97.7	119.9	114.1	105.0	398.9	314.0	127.0
Jun half	407.5	319.3	127.6	382.3	106.6	110.6	128.9	85.8	314.6	408.9	77.0
2004–05											
Dec half	nya	427.8	nya	520.8	nya	nya	169.0	nya	nya	358.9	nya

nya not yet available

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

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

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

	EXPENDITURE					METRES DRILLED				
	New deposits	*Existing deposits*	*Total*	*Seasonally Adjusted*	*Trend*	*New deposits*	*Existing deposits*	*Total*	*Seasonally Adjusted*	*Trend*
Period	$m	$m	$m	$m	$m	'000	'000	'000	'000	'000
2001–02	na	na	640.6	. .	. .	na	na	4 834	. .	. .
2002–03	na	na	732.8	. .	. .	na	na	5 158	. .	. .
2003–04	311.2	475.6	793.4	. .	. .	2 681	3 001	5 681	. .	. .
2002–03										
December	na	na	192.8	179.7	179.2	na	na	1 095	1 110	1 181
March	na	na	153.4	185.1	184.6	na	na	1 076	1 333	1 273
June	na	na	203.7	187.7	183.2	na	na	1 518	1 346	1 326
2003–04										
September	63.6	115.9	179.1	175.9	181.8	646	758	1 404	1 302	1 324
December	84.1	115.4	205.5	186.9	186.8	636	690	1 326	1 345	1 331
March	60.1	107.1	167.3	201.8	202.8	508	596	1 104	1 364	1 440
June	103.3	137.1	241.4	221.7	222.8	891	957	1 847	1 645	1 597
2004–05										
September	98.1	153.0	251.1	246.3	240.7	898	1 024	1 922	1 773	1 741

. . not applicable

na not available

(a) From July 2000 value data no longer contains Wholesale Sales Tax.

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

Period	New South Wales $m	Victoria $m	Queensland $m	South Australia $m	Western Australia $m	Tasmania $m	Northern Territory $m	Australia $m
NEW DEPOSITS								
2001–02	na	na	na	na	na	na	na	na
2002–03	na	na	na	na	na	na	na	na
2003–04	22.1	np	39.5	17.8	195.7	np	13.3	311.2
2002–03								
December	na	na	na	na	na	na	na	na
March	na	na	na	na	na	na	na	na
June	na	na	na	na	na	na	na	na
2003–04								
September	3.3	np	7.4	2.5	37.4	np	3.1	63.6
December	6.7	1.7	12.6	4.5	54.1	0.9	3.7	84.1
March	4.9	3.4	7.1	3.2	37.6	0.8	3.3	60.1
June	7.2	4.7	12.4	7.6	66.7	1.4	3.3	103.3
2004–05								
September	3.4	1.9	9.1	6.9	68.1	0.5	8.1	98.1
EXISTING DEPOSITS								
2001–02	na	na	na	na	na	na	na	na
2002–03	na	na	na	na	na	na	na	na
2003–04	np	35.0	85.7	np	270.1	3.4	29.2	475.6
2002–03								
December	na	na	na	na	na	na	na	na
March	na	na	na	na	na	na	na	na
June	na	na	na	na	na	na	na	na
2003–04								
September	7.1	4.1	18.7	6.8	71.1	0.1	8.1	115.9
December	8.1	8.9	18.7	5.1	67.9	0.2	6.6	115.4
March	5.8	14.1	18.9	np	59.0	np	4.6	107.1
June	np	7.9	29.5	8.1	72.1	np	9.8	137.1
2004–05								
September	13.8	12.6	31.8	8.6	79.8	0.8	5.7	153.0
TOTAL								
2001–02	48.3	33.9	92.7	32.1	381.1	4.0	48.4	640.6
2002–03	58.8	46.2	114.2	36.7	423.6	4.3	49.0	732.8
2003–04	50.5	53.5	125.2	41.7	465.8	7.5	42.5	793.4
2002–03								
December	13.7	8.9	31.9	10.0	111.1	1.0	16.2	192.8
March	13.2	12.1	23.5	6.0	90.8	1.2	6.6	153.4
June	16.5	14.5	35.7	11.0	111.6	1.0	13.4	203.7
2003–04								
September	10.4	12.9	26.0	9.3	108.5	1.2	11.2	179.1
December	14.8	10.6	31.2	9.6	122.0	1.0	10.3	205.5
March	10.6	17.4	26.0	7.1	96.5	1.7	7.9	167.3
June	14.7	12.6	42.0	15.7	138.8	3.6	13.1	241.4
2004–05								
September	17.2	14.5	40.9	15.5	147.9	1.3	13.8	251.1

na not available

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

(a) From July 2000 value data no longer contains Wholesale Sales Tax.

4 MINERAL EXPLORATION(a), (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								
2001–02	48.3	33.9	92.7	32.1	381.1	4.0	48.4	640.6
2002–03	58.8	46.2	114.2	36.7	423.6	4.3	49.0	732.8
2003–04	50.5	53.5	125.2	41.7	465.8	7.5	42.5	793.4
2002–03								
December	13.7	8.9	31.9	10.0	111.1	1.0	16.2	192.8
March	13.2	12.1	23.5	6.0	90.8	1.2	6.6	153.4
June	16.5	14.5	35.7	11.0	111.6	1.0	13.4	203.7
2003–04								
September	10.4	12.9	26.0	9.3	108.5	1.2	11.2	179.1
December	14.8	10.6	31.2	9.6	122.0	1.0	10.3	205.5
March	10.6	17.4	26.0	7.1	96.5	1.7	7.9	167.3
June	14.7	12.6	42.0	15.7	138.8	3.6	13.1	241.4
2004–05								
September	17.2	14.5	40.9	15.5	147.9	1.3	13.8	251.1
SEASONALLY ADJUSTED								
2002–03								
December	13.2	10.3	29.2	9.4	102.5	1.0	14.1	179.7
March	14.9	11.9	29.4	8.4	108.7	1.2	10.6	185.1
June	15.3	13.1	31.0	9.0	106.1	1.0	12.2	187.7
2003–04								
September	10.5	12.7	27.2	9.1	105.3	1.2	9.9	175.9
December	14.3	12.5	28.5	9.1	112.6	1.0	8.9	186.9
March	11.9	17.0	32.9	10.0	115.5	1.7	12.8	201.8
June	13.6	11.3	36.2	12.9	132.3	3.5	11.9	221.7
2004–05								
September	17.2	14.3	43.0	15.1	143.1	1.3	12.3	246.3
TREND								
2002–03								
December	13.7	11.0	28.2	9.2	103.6	1.1	12.4	179.2
March	14.3	11.8	29.7	9.0	106.6	1.1	12.1	184.6
June	13.9	12.4	29.5	8.8	106.5	1.1	11.0	183.2
2003–04								
September	13.0	13.2	28.5	8.9	107.1	1.0	10.1	181.8
December	12.3	13.8	29.1	9.3	110.5	1.4	10.4	186.8
March	13.0	14.0	32.5	10.6	119.4	2.0	11.3	202.8
June	14.4	13.8	37.1	12.6	130.4	2.3	12.2	222.8
2004–05								
September	15.5	13.5	40.9	14.4	141.7	2.3	12.4	240.7

(a) From July 2000 value data no longer contains Wholesale Sales Tax.

5 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												
2001–02	2.5	2.7	np	np	15.7	—	np	—	np	0.1	0.9	**48.3**
2002–03	2.1	7.4	np	np	19.9	—	np	—	15.6	0.4	2.1	**58.8**
2003–04	4.3	np	np	9.4	20.5	—	4.7	—	13.6	np	1.9	**50.5**
2002–03												
December	np	1.8	np	2.8	4.5	—	1.9	—	4.0	np	0.6	**13.7**
March	np	2.2	np	3.0	5.3	—	1.7	—	2.9	np	0.3	**13.2**
June	np	2.2	np	2.5	6.0	—	np	—	4.5	np	0.5	**16.5**
2003–04												
September	0.2	0.7	0.1	0.9	4.4	—	1.2	—	np	np	np	**10.4**
December	1.4	np	np	2.5	5.5	—	np	—	np	np	np	**14.8**
March	1.2	1.2	—	2.4	4.8	—	np	—	2.1	np	0.5	**10.6**
June	1.5	1.9	0.1	3.5	5.8	—	np	—	3.1	np	0.7	**14.7**
2004–05												
September	2.0	1.0	0.1	3.1	7.6	—	np	np	5.5	np	0.3	**17.2**
VICTORIA												
2001–02	0.3	0.3	—	0.7	24.2	np	7.8	—	—	np	1.2	**33.9**
2002–03	0.3	—	np	0.3	np	np	2.6	—	3.7	0.1	2.8	**46.2**
2003–04	np	np	np	0.1	np	—	3.6	—	6.1	—	np	**53.5**
2002–03												
December	np	np	—	0.2	7.7	—	0.4	—	—	—	np	**8.9**
March	np	np	—	np	10.4	—	0.4	—	np	np	0.7	**12.1**
June	np	—	np	—	np	np	np	—	np	np	np	**14.5**
2003–04												
September	np	—	—	np	9.3	—	1.5	—	np	np	0.3	**12.9**
December	np	—	—	np	7.6	—	np	—	np	np	np	**10.6**
March	np	—	—	np	15.2	—	np	—	np	np	np	**17.4**
June	—	np	np	np	10.0	—	np	—	np	np	np	**12.6**
2004–05												
September	—	—	np	—	11.1	—	np	—	np	—	np	**14.5**
QUEENSLAND												
2001–02	18.5	np	0.5	np	21.7	—	np	np	34.1	np	np	**92.7**
2002–03	np	np	1.0	np	24.3	—	np	np	55.2	np	np	**114.2**
2003–04	15.0	13.7	np	29.5	26.0	—	0.1	np	60.6	np	np	**125.2**
2002–03												
December	4.9	1.8	np	np	6.5	—	np	np	16.9	0.2	np	**31.9**
March	4.6	1.0	0.1	5.6	5.8	—	np	np	10.3	np	0.7	**23.5**
June	np	2.4	np	7.0	7.2	—	np	np	18.6	np	np	**35.7**
2003–04												
September	3.4	1.7	0.3	5.5	5.8	np	np	np	14.2	—	0.4	**26.0**
December	3.1	np	np	5.4	6.5	—	np	np	16.8	np	2.3	**31.2**
March	3.1	2.9	0.1	6.1	5.6	—	np	np	10.3	—	np	**26.0**
June	5.3	np	np	12.6	8.1	—	np	np	19.3	np	2.0	**42.0**
2004–05												
September	4.9	np	0.5	9.7	8.7	np	np	—	20.7	0.1	1.7	**40.9**

— nil or rounded to zero (including null cells)

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

(a) From September quarter 2000 Publication (8412.0) this category includes tin, tungsten, scheelite, wolfram and construction materials.

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
SOUTH AUSTRALIA												
2001–02	13.6	np	1.5	np	np	np	np	1.6	np	np	np	**32.1**
2002–03	13.6	np	2.3	np	8.3	1.0	np	1.5	np	3.4	0.6	**36.7**
2003–04	13.7	2.6	np	21.9	9.2	np	2.9	np	0.1	np	np	**41.7**
2002–03												
December	3.1	1.2	np	np	2.8	np	np	np	np	np	np	**10.0**
March	2.3	0.6	0.6	3.6	1.2	—	np	0.2	np	0.4	0.1	**6.0**
June	4.0	np	np	5.4	2.2	—	np	np	np	np	0.1	**11.0**
2003–04												
September	2.8	np	np	3.3	3.4	—	0.8	np	np	0.3	0.1	**9.3**
December	2.6	0.4	1.8	4.8	1.9	np	np	np	np	np	0.1	**9.6**
March	2.7	0.6	0.5	3.8	1.5	—	np	0.8	np	0.4	0.2	**7.1**
June	5.7	np	np	10.1	2.5	np	np	1.8	np	0.4	np	**15.7**
2004–05												
September	7.9	0.9	0.3	9.0	np	np	np	3.4	np	np	0.2	**15.5**
WESTERN AUSTRALIA												
2001–02	4.4	10.5	47.1	62.1	238.1	25.2	np	np	np	np	17.5	**381.1**
2002–03	np	np	54.1	72.5	265.6	43.4	np	np	np	17.7	12.9	**423.6**
2003–04	np	np	70.6	80.0	276.7	np	np	0.2	np	17.0	16.8	**465.8**
2002–03												
December	1.1	4.4	13.8	19.2	69.8	np	1.8	np	np	3.9	2.6	**111.1**
March	1.0	2.2	10.1	13.3	58.5	11.2	1.8	np	np	2.8	3.0	**90.8**
June	np	np	17.7	24.0	67.2	np	np	np	np	3.8	3.1	**111.6**
2003–04												
September	0.3	2.6	12.9	15.7	68.0	np	3.0	—	np	4.9	3.6	**108.5**
December	np	np	20.0	23.3	66.4	np	2.4	np	np	5.8	5.9	**122.0**
March	0.7	0.7	14.3	15.8	59.3	np	1.6	np	np	2.7	3.2	**96.5**
June	1.2	0.6	23.4	25.2	83.0	19.1	3.6	np	np	3.5	4.1	**138.8**
2004–05												
September	np	0.7	28.7	30.0	73.9	29.6	np	0.1	0.4	4.6	4.9	**147.9**
TASMANIA												
2001–02	np	np	np	np	np	—	—	—	—	—	0.1	**4.0**
2002–03	np	np	np	np	1.3	—	—	—	—	—	np	**4.3**
2003–04	np	1.5	3.0	4.7	np	np	—	—	—	—	np	**7.5**
2002–03												
December	np	np	np	0.7	0.3	—	—	—	—	—	—	**1.0**
March	np	0.5	np	0.9	0.3	—	—	—	—	—	—	**1.2**
June	—	np	np	0.6	0.4	—	—	—	—	—	0.1	**1.0**
2003–04												
September	np	np	np	np	0.2	—	—	—	—	—	np	**1.2**
December	—	np	np	np	0.6	np	—	—	—	—	—	**1.0**
March	np	np	np	np	0.7	np	—	—	—	—	0.1	**1.7**
June	np	np	np	np	1.0	—	—	—	—	—	0.2	**3.6**
2004–05												
September	np	np	np	0.9	np	—	np	—	—	—	0.1	**1.3**

— 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 (8412.0) this category includes tin, tungsten, scheelite, wolfram and construction materials.

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												
2001–02	np	2.6	np	7.3	25.4	—	0.8	7.1	—	5.2	2.7	**48.4**
2002–03	np	2.4	np	np	np	—	1.8	5.3	—	np	np	**49.0**
2003–04	1.5	np	np	6.3	20.0	np	2.0	4.8	—	6.6	np	**42.5**
2002–03												
December	np	np	2.2	3.2	7.7	—	np	np	—	2.1	1.2	**16.2**
March	—	0.2	0.9	1.2	3.1	np	np	np	—	1.1	0.6	**6.6**
June	np	np	np	np	np	np	np	np	—	np	0.7	**13.4**
2003–04												
September	—	0.3	0.3	0.7	5.6	np	np	2.1	—	1.8	0.6	**11.2**
December	np	np	0.5	1.6	4.7	—	np	np	—	1.1	np	**10.3**
March	np	np	np	1.0	4.1	—	np	np	np	1.8	0.4	**7.9**
June	np	0.1	np	3.0	5.7	np	np	np	np	1.8	1.1	**13.1**
2004–05												
September	0.1	0.2	1.1	1.4	6.8	np	np	np	—	1.6	np	**13.8**
AUSTRALIA												
2001–02	41.6	37.6	53.7	132.9	331.3	25.2	33.2	8.8	50.3	35.4	23.4	**640.6**
2002–03	39.7	36.6	65.9	142.3	378.4	44.4	27.3	6.9	77.9	29.8	25.8	**732.8**
2003–04	37.8	29.7	84.2	151.8	397.1	63.7	23.8	10.5	81.5	25.8	32.5	**793.4**
2002–03												
December	10.1	10.3	17.9	38.3	99.3	14.1	5.7	2.0	21.1	6.9	5.4	**192.8**
March	8.6	6.7	12.3	27.6	84.6	11.2	5.3	0.7	14.0	4.6	5.5	**153.4**
June	10.0	10.9	21.0	41.9	99.3	10.2	8.0	1.7	26.7	8.0	7.9	**203.7**
2003–04												
September	7.0	5.8	14.4	27.1	96.7	13.1	6.9	3.5	19.9	7.1	5.4	**179.1**
December	8.9	6.3	22.8	38.0	93.1	17.6	6.1	3.0	24.1	7.9	9.7	**205.5**
March	8.2	6.2	15.5	29.9	91.2	13.8	3.6	1.3	13.7	5.0	8.8	**167.3**
June	13.8	11.5	31.5	56.8	116.1	19.2	7.2	2.8	23.8	5.9	8.6	**241.4**
2004–05												
September	15.5	7.8	30.8	54.1	109.9	29.8	8.0	6.1	27.4	6.9	8.8	**251.1**

— 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 (8412.0) this category includes tin, tungsten, scheelite, wolfram and construction materials.

6 PETROLEUM EXPLORATION EXPENDITURE(a)

	ONSHORE			OFFSHORE			TOTAL EXPENDITURE		
	Drilling	*Other*	*Total*	*Drilling*	*Other*	*Total*	*On production leases*	*On all other areas*(b)	*Total*
Period	$m	$m	$m	$m	$m	$m	$m	$m	$m
2001–02	98.2	66.3	164.5	456.8	261.2	718.1	111.0	771.5	882.6
2002–03	99.1	92.2	191.3	565.3	238.5	803.7	105.1	889.9	995.0
2003–04	124.5	106.0	230.5	np	np	713.5	143.7	800.2	944.0
2002–03									
December	41.6	28.7	70.3	129.2	70.9	200.1	35.6	234.8	270.4
March	9.1	20.8	29.9	185.1	51.5	236.6	10.1	256.5	266.5
June	16.8	23.9	40.7	129.0	70.5	199.5	23.9	216.2	240.1
2003–04									
September	12.9	26.4	39.3	122.3	69.1	191.4	46.5	184.2	230.7
December	47.9	32.6	80.6	90.6	116.9	207.5	35.8	252.3	288.1
March	29.9	23.2	53.2	67.3	48.3	115.7	21.4	147.4	168.8
June	33.8	23.6	57.4	np	np	199.0	40.1	216.3	256.4
2004–05									
September	40.4	33.3	73.7	67.7	121.8	189.5	111.8	151.4	263.2

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

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

(b) Refer to Glossary for definition.

7 PETROLEUM EXPLORATION, By state and territory(a)

	New South Wales	*Victoria*	*Queensland*	*South Australia*	*Western Australia*	*Tasmania*	*Northern Territory*(b)	*Total*
Period	$m	$m	$m	$m	$m	$m	$m	$m
2001–02	np	85.1	73.4	35.8	479.8	np	169.9	882.6
2002–03	np	137.5	98.2	86.4	598.3	3.5	np	995.0
2003–04	17.7	66.9	95.5	53.3	670.5	6.3	33.8	944.0
2002–03								
December	4.5	29.0	38.6	23.4	170.2	0.6	4.0	270.4
March	1.8	38.7	11.3	9.3	191.5	0.4	13.6	266.5
June	3.5	15.8	21.0	41.9	151.3	1.3	5.4	240.1
2003–04								
September	np	7.0	21.1	11.0	177.9	np	9.1	230.7
December	np	30.1	36.5	15.4	188.2	np	13.7	288.1
March	5.7	15.6	19.7	14.1	106.9	0.8	6.1	168.8
June	4.5	14.2	18.2	12.8	197.5	4.2	5.0	256.4
2004–05								
September	9.1	12.9	22.0	23.7	182.1	4.6	8.8	263.2

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

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

(b) 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 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. 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.

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 <timeseries@abs.gov.au>.

EXPECTED EXPLORATION EXPENDITURE

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

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

15 In the period since June 2000, such adjustments have been made to reported expected exploration data resulting in estimates which better predict actual expenditure for the same period. For more information regarding the adjustments made to the Expected Mineral Exploration Expenditure series, see the feature article in 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.

TAX REFORM

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

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 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

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

20 Current publications produced by the ABS are listed in the *Catalogue of Publications and Products* (cat. no. 1101.0), 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>.

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

EFFECTS OF ROUNDING

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

APPENDIX NEW DISAGGREGATION OF MINERAL EXPLORATION

INTRODUCTION

This appendix introduces a revised disaggregation by type of area for mineral exploration expenditure and metres drilled.

BACKGROUND

The ABS has collected mineral exploration data by type of area for some time. This had been split by exploration on production leases and on all other areas. User feedback identified that a more valuable split would be between exploration in new and existing deposits. The ABS commenced collecting the new split in September quarter 2003 and collected the old and revised splits in parallel until June quarter 2004. From this issue onwards, the former split has been discontinued and Tables 2 and 3 of this release contain the new split.

DEFINITIONS

Below is a broad definition of both production and all other areas, and new and existing deposits.

Production leases — are areas where production or mine development is actually taking place.

All other areas — are areas outside of the production lease. These include areas under exploration licence or retention licence; as well as non-licensed areas being assessed for exploration e.g. airborne surveys.

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.

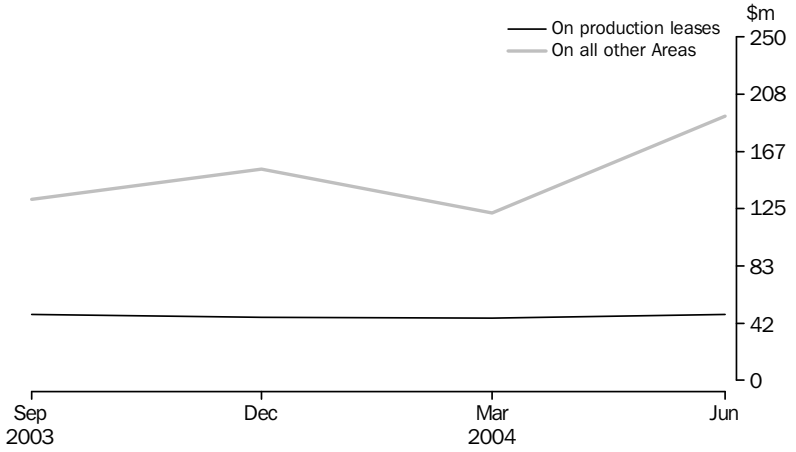
New Deposits — are previously unknown mineralisations or known mineralisations yet to be classified as an Inferred Mineral Resource or higher. They include:

- 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.

COMPARISON BETWEEN THE FORMER AND REVISED SPLITS — EXPLORATION EXPENDITURE

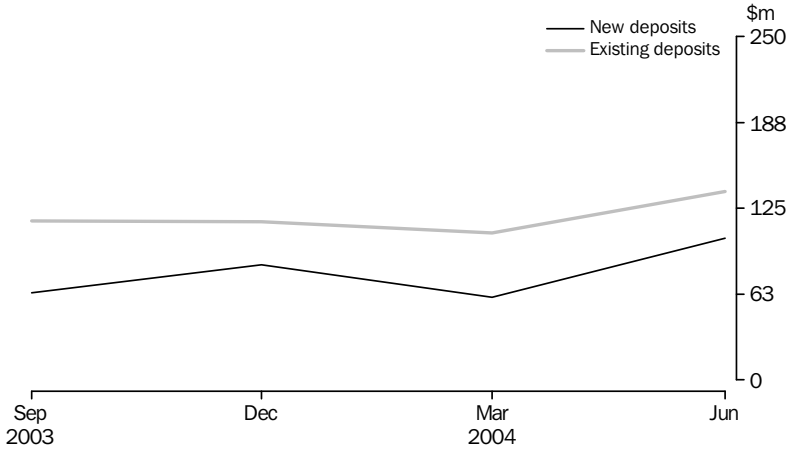
The graphs below show estimates of exploration expenditure for the former and revised splits. In the former split, expenditure on areas other than production leases dominated the series. The revised split shows that exploration expenditure on new and existing deposits are closer in level, although expenditure on new deposits has been higher than on existing deposits for the length of the time series.

MINERAL EXPLORATION EXPENDITURE, By type of lease



COMPARISON BETWEEN THE FORMER AND REVISED SPLITS — EXPLORATION EXPENDITURE *continued*

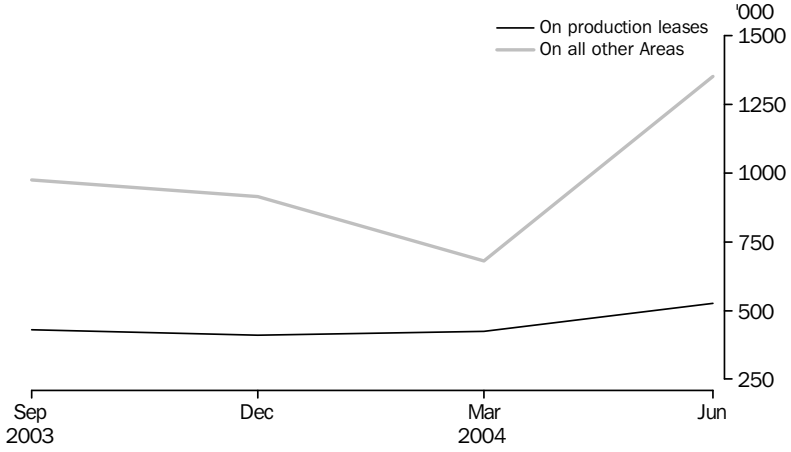
MINERAL EXPLORATION EXPENDITURE, By type of deposit



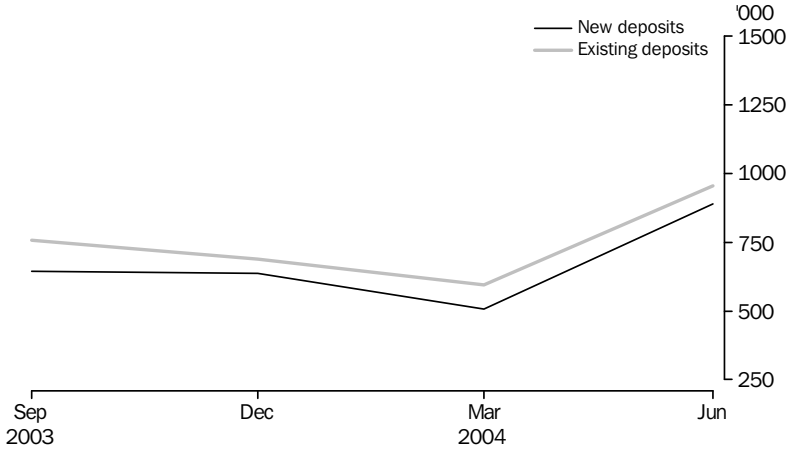
COMPARISON BETWEEN THE FORMER AND REVISED SPLITS — METRES DRILLED

The graphs below show estimates of metres drilled for the former and revised splits. The relative importance of the series by area between the former and revised splits are similar to those in the expenditure series.

MINERAL EXPLORATION METRES DRILLED, By type of lease



MINERAL EXPLORATION METRES DRILLED, By type of deposit



Development Phase usually following exploration where a prospective discovery (e.g. proven oil or gas field or concentrate of ore) is brought into production or for extending the life of a current mine or well. Activities may include preparing the ground by the removal of overburden, constructing shafts, drives and winzes; or by drilling and completing wells. All activities are for the purposes of commencing extraction/mining or extending production.

Exploration Activity involves searching for concentrations of naturally occurring solid, liquid or gaseous materials and includes new field wildcat and stratigraphical and extension/appraisal wells and mineral appraisals intended to delineate or greatly extend the limits of known deposits by geological, geophysical, geochemical, drilling or other methods. This includes drilling of boreholes, construction of shafts and adits primarily for exploration purposes but excludes activity of a developmental or production nature. Exploration for water is excluded.

Exploration expenditure Covers all expenditure (capitalised and non-capitalised) during the exploratory or evaluation stages in Australia, Australian waters, JPDA and Areas B and C of the original ZOC. Costs include cost of exploration, determination of recoverable reserves, engineering and economic feasibility studies, procurement of finance, gaining access to reserves, construction of pilot plants and all technical and administrative overheads directly associated with these functions. Examples are costs of satellite imagery, airborne and seismic surveys, use of geophysical and other instruments, geochemical surveys and map preparation; licence fees, land access and legal costs; geologist inspections, chemical analysis and payments to employees and contractors. Cash bids for offshore petroleum exploration permits are also included.

Exploration licence/permit Is designed to cover the exploration phase of a project and confers exclusive rights to the exploration for and recovery of samples from the area designated. These rights are granted by relevant Commonwealth, State or Territory Governments.

Minerals Are a naturally occurring inorganic element or compound having an orderly internal structure and characteristic chemical composition, crystal form, and physical properties. These, for example, comprise of metallic minerals, such as copper, silver, lead-zinc, nickel, cobalt, gold, iron ore, mineral sands, uranium and non-metallic minerals such as coal, diamonds and other precious and semi-precious stones and construction materials (e.g. gravel and sand).

Mining licence/lease Covers the commercial mining phase of a project for the licenced area. This licence authorises both full recovery and further exploration to occur.

Offshore Commences from the low water mark to three nautical miles out (referred to as coastal waters) under State and Northern Territory legislation and extends to those areas beyond coastal waters governed by the Commonwealth under the *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.

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