



MINERAL EXPLORATION, AUSTRALIA DECEMBER QUARTER 1981

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MAIN FEATURES

Expenditure on exploration for:	Change between			
	December quarter 1981 and September quarter 1981		December quarter 1981 and December quarter 1980	
	\$m	%	\$m	%
Minerals (excl. petroleum and oil shale)	+7.9	+6.1	+22.0	+19.1
Oil shale	+1.7	+29.5	-2.8	-28.2
Petroleum—onshore	+24.4	+35.2	+51.5	+121.7
—offshore	+58.7	+120.8	+49.9	+86.9

EXPLANATORY NOTES

Introduction

This publication contains annual and quarterly statistics of exploration for minerals in Australia (excluding A.C.T.). Part 1 sets out statistics of exploration for minerals *other than petroleum and oil shale* Part 2 shows details of exploration for oil shale and Part 3 gives details of petroleum exploration.

Scope and Coverage

2. A description of scope and coverage is contained in the introduction to each of the three parts of this publication.

Expected expenditure

3. This refers to expected expenditure on mineral, petroleum or oil shale exploration as reported by private and government enterprises during the first two months of the half year for which data are shown. Subsequent events (e.g. discoveries of new orebodies, unexpected weather conditions, government policy changes, unforeseen changes in economic conditions) may cause actual expenditures to differ from those previously expected.

Seasonal adjustment

4. This publication includes some seasonally adjusted expenditure statistics. Details of the methods used in seasonally adjusting these and other series are given in *Seasonally Adjusted Indicators, Australia* (1308.0).

Related publications

5. Detailed information on mineral exploration, oil shale exploration and petroleum exploration on an annual basis is shown in *Mineral Exploration, Australia* (8407.0).

6. Current publications produced by the ABS are listed in the *Catalogue of Publications, Australia* (1101.0). The ABS also issues, on Tuesdays and Fridays, a *Publications Advice* (1105.0) which lists publications to be released in the next few days. The *Catalogue* and *Publications Advice* are available from any ABS office.

Symbols and other usages

- p preliminary—figure or series subject to revision
- .. not applicable
- n.y.a. not yet available
- nil or rounded to zero

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

8. The figures shown in this publication have been revised where necessary and as a consequence may not agree with similar data shown in previous publications.

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Australian Statistician

**PART 1. MINERAL EXPLORATION (other than for petroleum and oil shale)
AUSTRALIA**

Introduction

The statistics in this part are collected and compiled by the ABS.

Scope and coverage

2. Details of expenditure and metres drilled (Tables 1 and 3) are collected only from the *principal enterprises* undertaking exploration activity. For any quarter these comprise all governmental authorities engaged in mineral exploration, and those private enterprises whose *annual* expenditure on mineral exploration activity is expected to exceed a certain amount (currently \$200,000). Tables 2 and 4 show figures derived from the Annual Census of Mineral Exploration in Australia, in which data are obtained from all private and government enterprises engaged in exploration.

Definitions

3. *Exploration* consists of the search for, and/or appraisal of, new ore occurrences and known deposits of minerals by geological, geophysical, geochemical and other exploration methods (including drilling). This includes construction of shafts and adits primarily for exploration purposes but excludes mine development activities. Exploration for water is excluded.

4. *Exploration expenditure* includes expenditure on aerial surveys (including landsat photographs), general surveys, report writing, map preparation and other activities indirectly attributable to exploration.

Classification

5. The data obtained in the survey are classified into the following categories:

- (i) *Private exploration on production leases* relates to exploration carried out on the production lease by privately operated mines currently producing or under development for production of minerals.
- (ii) *Other private exploration* relates to exploration carried out by private enterprises on areas covered by exploration licences, authorities to enter, authorities to prospect, and similar licences and authorities issued by State governments for exploration for minerals. Also included is exploration by private enterprises which is not directly connected with areas under lease, licence, etc.
- (iii) *Exploration by government* consists of exploration by Commonwealth, State and Local government departments, commissions and authorities.

**TABLE 1. MINERAL EXPLORATION: EXPENDITURE BY PRINCIPAL ENTERPRISES—ACTUAL AND EXPECTED
(\$ million)**

Period	Private expenditure		Total private	Government expenditure	Total expenditure	Seasonally adjusted
	On production leases	On other areas				
Actual expenditure						
<i>1980-81—</i>						
September qtr	8.5	87.2	95.7	6.0	101.7	98.7
December qtr	9.6	98.7	108.3	6.6	114.9	102.1
March qtr	9.1	70.2	79.3	7.5	86.8	104.9
June qtr	9.2	101.9	111.1	9.7	120.8	118.5
<i>1981-82—</i>						
September qtr	10.0	113.4	123.4	5.6	129.0	125.3
December qtr	10.8	118.1	128.9	7.9	136.9	121.8
Expected expenditure						
<i>Six months ended—</i>						
December 1980	..	..	176.3	13.5	189.8	..
June 1981	..	..	191.5	13.7	205.3	..
December 1981	..	..	250.1	12.4	262.5	..
June 1982	..	..	211.3	15.8	227.2	..

TABLE 2. MINERAL EXPLORATION : ANNUAL EXPENDITURE BY ALL ENTERPRISES
(*\$ million*)

<i>Period</i>	<i>Private expenditure</i>			<i>Government expenditure</i>	<i>Total expenditure</i>
	<i>On production leases</i>	<i>On other areas</i>	<i>Total private</i>		
1975-76	15.1	84.9	100.0	17.2	117.1
1976-77	23.9	110.0	134.0	15.5	149.5
1977-78	22.8	135.6	158.4	17.9	176.3
1978-79	24.0	158.6	182.5	19.5	202.0
1979-80	30.5	255.6	286.1	24.3	310.4
1980-81	45.3	389.2	434.5	28.5	463.0

TABLE 3. MINERAL EXPLORATION : METRES DRILLED BY PRINCIPAL ENTERPRISES
(*'000 metres*)

<i>Period</i>	<i>Private exploration</i>			<i>Government exploration</i>	<i>Total drilling</i>
	<i>On production leases</i>	<i>On other areas</i>	<i>Total private</i>		
<i>1980-81—</i>					
September qtr	151.3	853.4	1,004.7	82.5	1,087.2
December qtr	242.9	772.6	1,015.5	56.8	1,072.3
March qtr	140.8	579.7	720.5	57.0	777.6
June qtr	186.3	747.0	933.3	43.2	976.6
<i>1981-82—</i>					
September qtr	158.5	938.2	1,096.7	52.3	1,149.0
December qtr	163.6	859.5	1,023.2	39.9	1,063.1

TABLE 4. MINERAL EXPLORATION : METRES DRILLED BY ALL ENTERPRISES
(*'000 metres*)

<i>Period</i>	<i>Private exploration</i>				<i>Total drilling</i>
	<i>On production leases</i>	<i>On other areas</i>	<i>Total private</i>	<i>Government exploration</i>	
1975-76	572	1,438	2,010	109	2,119
1976-77	461	1,372	1,834	129	1,963
1977-78	410	1,919	2,329	202	2,531
1978-79	639	1,689	2,328	185	2,513
1979-80	617	2,299	2,917	159	3,076
1980-81	743	3,040	3,783	239	4,022

PART 2. OIL SHALE EXPLORATION, AUSTRALIA

Introduction

Quarterly details in this part relate to expenditure and metres drilled on oil shale exploration in Australia. They were collected by the ABS for the first time for the September quarter 1980.

2. In addition to quarterly statistics relating to oil shale exploration, figures compiled from the annual censuses of oil shale exploration are shown.

Scope and Coverage

3. The survey includes all exploration for oil shale on areas covered by exploration licences, authorities to enter, authorities to prospect, and similar licences and authorities issued by State governments. Also included is exploration not directly connected with areas under lease, licence etc.

4. Details of expenditure and metres drilled are collected from all enterprises known to be exploring for oil shale.

Definitions

5. *Exploration* consists of the search for, and/or appraisal of, new ore occurrences and known deposits of oil shale by geological, geophysical, geochemical and other exploration methods (including drilling). This includes construction of shafts and adits primarily for exploration purposes but excludes mine development activities.

6. *Exploration expenditure* includes expenditure on aerial surveys (including landsat photographs), general surveys, report writing, map preparation and other activities indirectly attributable to exploration.

Classification

7. The data obtained in the survey are classified into the following categories:

- (i) *Private exploration* includes all exploration carried out by private enterprises.
- (ii) *Government exploration* consists of exploration by Commonwealth, State and Local Government departments, commissions and authorities.

TABLE 5. EXPENDITURE (ACTUAL AND EXPECTED) AND METRES DRILLED ON OIL SHALE EXPLORATION

Period	Expenditure \$ '000			Metres drilled '000 metres
	Private	Government	Total	
Actual expenditure and metres drilled				
1979-80	7,125	—	7,125	32
1980-81	(a)38,660	32	38,692	142
<i>1980-81—</i>				
September qtr	(a)9,446	11	9,457	32
December qtr	(a)10,090	11	10,101	44
March qtr	(a)9,267	5	9,272	26
June qtr	(a)9,859	5	9,864	40
<i>1981-82—</i>				
September qtr	5,596	5	5,601	40
December qtr	7,250	5	7,255	32
Expected expenditure				
<i>Six months ended—</i>				
June 1981	(a)23,900	9	23,909	..
December 1981	(a)15,238	10	15,248	..
June 1982	13,482	10	13,492	..

(a) Figures amended significantly following reconciliation with annual exploration census information.

PART 3. PETROLEUM EXPLORATION, AUSTRALIA

Introduction

This part contains statistics of expenditure and metres drilled on petroleum exploration.

2. The exploration expenditure data in Table 6 are collected by the ABS and shown for years ended 30 June while the metres drilled data in Table 7 are provided by the Bureau of Mineral Resources, Geology and Geophysics (BMR) and relate to years ended 31 December.

Scope and coverage

3. Details of expenditure and metres drilled relate to all private and public undertakings known to be engaged in petroleum exploration activity.

Definition

4. *Exploration* consists of the search for undiscovered oil or gas, and/or appraisal intended to greatly extend the limits of a known oil or gas reservoir by geological, geophysical, geochemical and other exploration methods including drilling. Activity of a developmental or production nature is excluded.

Classification

5. The data obtained are classified into the following categories:

- (i) *Drilling/Other*, where *drilling* expenditure includes cost of access (roads, vessel hire, etc.) to the drilling site and site preparation, etc., and *other* expenditure includes costs of surveys, report writing, map preparation and all other activities attributable to exploration.
- (ii) *Offshore/Onshore* where offshore includes all operations in a marine area under the Petroleum (Submerged Lands) Act 1967 or under any Acts administered by State governments.
- (iii) *Private/Government* where government relates to exploration for petroleum carried out by Commonwealth, State and Local government departments, commissions and authorities.

TABLE 6. EXPENDITURE ON PETROLEUM EXPLORATION, ACTUAL AND EXPECTED
(\$ million)

Period	Private				Total	Government		Total expenditure	
	Onshore		Offshore			Onshore (a)	Offshore (b)		
	Drilling	Other	Drilling	Other					
Actual expenditure									
1975-76	n.p.	6.6	n.p.	10.9	55.8	3.9	1.4	5.3	61.1
1976-77	n.p.	8.8	n.p.	17.9	67.6	3.4	1.2	4.7	72.3
1977-78	n.p.	n.p.	65.1	14.9	103.1	3.9	1.6	5.5	108.7
1978-79	9.6	20.9	97.1	35.8	163.4	3.3	1.5	4.7	168.1
1979-80	34.1	49.3	171.2	40.0	294.7	3.7	1.3	5.0	299.7
1980-81	75.3	94.4	139.1	59.5	368.3	4.0	1.4	5.4	373.7
1980-81—									
September qtr	15.5	18.8	48.9	15.7	98.8	1.1	0.4	1.5	100.4
December qtr	18.0	23.3	42.9	14.2	98.3	1.1	0.3	1.4	99.7
March qtr	14.6	20.1	21.0	14.2	70.0	1.0	0.3	1.3	71.3
June qtr	27.2	32.2	26.3	15.4	101.2	0.8	0.3	1.1	102.3
1981-82—									
September qtr	23.3	44.8	31.4	16.8	116.3	1.3	0.4	1.7	118.0
December qtr	49.1	47.3	78.3	28.8	203.5	1.2	0.4	1.6	205.1
Expected expenditure									
<i>Six months ended—</i>									
December 1980	66.5		124.8		191.3	..	..	2.8	194.1
June 1981	86.0		102.8		188.8	..	..	2.6	191.4
December 1981	132.4		136.1		268.5	..	..	2.4	270.9
June 1982	140.8		248.9		389.7	..	..	3.0	392.7

(a) Includes 'Drilling' and 'Other'. (b) No government drilling offshore.

TABLE 7. PRIVATE PETROLEUM EXPLORATION—METRES DRILLED, AUSTRALIA
 (Source: Bureau of Mineral Resources, Geology and Geophysics)
 ('000 metres)

<i>Period</i>	<i>Onshore</i>	<i>Offshore</i>	<i>Total drilling</i>
1975	12.7	35.6	48.2
1976	32.0	15.1	47.1
1977	23.7	36.8	60.5
1978	57.8	56.9	114.7
1979	58.7	77.4	136.1
1980	137.3	62.0	199.3
1980—			
September qtr	40.5	10.9	51.4
December qtr	47.3	14.7	62.0
1981— <i>p</i>			
March qtr	55.8	4.4	60.1
June qtr	59.7	2.3	62.1
September qtr	86.0	13.0	99.0
December qtr	89.4	27.2	116.7