

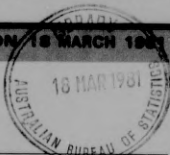


AUSTRALIAN BUREAU OF STATISTICS Canberra

CATALOGUE NO. 8412.0

NOON 18 MARCH 1981

MINERAL EXPLORATION, AUSTRALIA DECEMBER QUARTER 1980



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INQUIRIES

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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 information relating to petroleum exploration and Part 3 details of exploration for oil shale.

Scope and Coverage

2. For a description of scope and coverage see 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. This publication replaces *Mineral Exploration (other than for petroleum)* (8408.0) and *Petroleum Exploration* (8409.0). Detailed information on mineral exploration, including petroleum exploration on an annual basis is shown in *Mineral Exploration, Australia* (8407.0), the next edition of which will also contain details of oil shale exploration.

6. Current publications produced by the ABS are listed in the *Catalogue of Publications, Australia* (1101.0) which is available free of charge from any ABS office.

Symbols and other usages

- p preliminary-figure or series subject to revision
- r figure or series revised since previous issue
- .. 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.

R. J. CAMERON
Australian Statistician

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

Introduction

The statistics in this part are collected and compiled by the ABS from the quarterly survey of mineral exploration (other than petroleum and oil shale).

Scope and coverage

2. Details of expenditure and metres drilled 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).

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)**

	Private expenditure					
Period	On production leases	On other areas	Total private	Government expenditure	Total expenditure	Seasonally adjusted
Actual expenditure						
Quarter ended-						
1978-79						
September	5.3	34.9	40.2	4.6	44.8	43.4
December	5.0	41.4	46.4	5.0	51.4	44.7
March	4.8	30.7	35.4	4.6	40.1	49.2
June	6.8	42.3	49.0	5.2	54.2	54.0
1979-80						
September	6.3	45.0	51.3	5.0	56.3	54.5
December	6.5	59.4	65.9	5.4	71.3	62.1
March	7.3	48.8	56.1	5.7	61.8	75.9
June	7.5	72.4	79.9	7.4	87.3	87.0
1980-81						
September	8.6	83.4	91.9	6.4	98.3	95.1
December	9.2	97.0	106.2	7.4	113.6	98.9
Expected expenditure						
Six months ended-						
December 1979	..	..	100.4	10.3	110.7	..
June 1980	..	..	127.3	10.4	137.7	..
December 1980	..	..	176.3	12.5	188.8	..
June 1981	..	..	190.2	13.7	203.9	..

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

Period	Private expenditure		Total private	Government expenditure	Total expenditure
	On production leases	On other areas			
1973-74	14.4	87.3	101.7	10.9	112.5
1974-75	16.8	94.1	110.8	13.4	124.2
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	157.7	181.6	19.5	201.1

(a) See footnote (a) Table 4.

TABLE 3. MINERAL EXPLORATION : METRES DRILLED BY PRINCIPAL ENTERPRISES
($\times 1000$ metres)

Period	Private exploration		Total private	Government exploration	Total drilling
	On production leases	On other areas			
Quarter ended—					
1978-79					
September	142.2	421.5	563.6	65.4	629.1
December	119.0	433.4	552.4	62.2	614.5
March	101.1	273.4	374.5	26.1	400.6
June	152.7	473.6	626.2	28.9	655.2
1979-80					
September	123.9	581.5	705.4	41.1	746.5
December	149.0	623.4	772.4	35.7	808.1
March	115.3	402.8	518.1	23.2	541.4
June	141.3	661.2	802.5	58.3	860.8
1980-81					
September	153.9	860.8	1,014.7	82.5	1,097.2
December	176.0	775.1	951.1	57.1	1,008.2

TABLE 4. MINERAL EXPLORATION : METRES DRILLED BY ALL ENTERPRISES (a)
($\times 1000$ metres)

Period	Private exploration		Total private	Government exploration	Total drilling
	On production leases	On other areas			
1973-74	705	1,698	2,403	108	2,511
1974-75	611	1,790	2,401	108	2,509
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

(a) The statistics in this table are derived from the Annual Census of Mineral Exploration in Australia, in which data are obtained from all private and government enterprises engaged in exploration.

PART 2. PETROLEUM EXPLORATION, AUSTRALIA

Introduction

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

2. Details of quarterly expenditure are obtained directly by the ABS. Data in Tables 6 and 7 are provided by the Bureau of Mineral Resources, Geology and Geophysics (BMR). As a consequence, because of differences in definition and methodology, details of expenditure shown in Tables 5 and 6 do not necessarily agree.

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: State Mines Departments, public enterprises operated by State and local government authorities, the BMR, and the Department of Administrative Services.

TABLE 5. EXPENDITURE ON PETROLEUM EXPLORATION, ACTUAL AND EXPECTED
(\$ million)

Period	Private				Government				Total expenditure
	Onshore		Offshore		Total	Onshore (a)	Offshore		
	Drilling	Other	Drilling	Other					
Actual expenditure									
Quarter ended—									
1978									
September	2.5	4.7	17.0	5.4	29.5	0.9	0.4	1.3	30.8
December	3.8	6.3	13.8	12.6	36.4	0.8	0.4	1.1	37.6
1979									
March	1.2	3.8	28.5	8.0	41.6	0.8	0.3	1.1	42.7
June	2.0	6.1	37.9	9.8	55.8	0.8	0.4	1.2	57.1
September	5.3	8.1	37.5	8.7	59.7	1.0	0.3	1.4	61.0
December	9.5	11.9	36.6	13.2	71.2	1.0	0.4	1.3	72.5
1980									
March	7.7	8.9	40.8	5.6	63.0	0.8	0.3	1.1	64.1
June	10.4	21.3	53.9	12.3	98.0	0.9	0.3	1.2	99.2
September	14.2	19.0	48.9	16.0	98.1	1.1	0.4	1.5	99.7
December	16.8	23.0	43.0	13.6	96.4	1.1	0.3	1.4	97.8
Expected expenditure									
Six months ended—									
December 1979	26.5		112.5		139.0	..	..	2.4	141.3
June 1980	52.8		117.6		170.4	..	..	2.4	172.8
December 1980	66.5		124.8		191.3	..	..	2.8	194.1
June 1981	86.0		102.8		188.8	..	..	2.6	191.4

(a) Includes "Drilling" and "Other".

TABLE 6. ANNUAL EXPENDITURE (a) ON PETROLEUM EXPLORATION
(Source: Bureau of Mineral Resources, Geology and Geophysics)
(£ million)

Year	Private onshore			Private offshore			Total private	Government (b)	Total expenditure
	Drilling	Other	Total	Drilling	Other	Total			
1974	5.3	6.2	11.5	65.0	6.9	71.9	83.4	4.5	87.9
1975	8.8	4.5	13.3	38.1	3.5	41.6	54.9	4.9	59.8
1976	12.2	7.8	20.0	20.6	8.4	29.0	49.0	5.1	54.1
1977	9.6	5.6	15.2	56.6	13.1	69.7	84.9	4.7	89.6
1978	11.3	12.4	23.7	64.5	23.4	87.9	111.6	4.9	116.5
1979 p	15.7	22.5	38.2	154.1	30.3	184.4	222.6	4.9	227.5

(a) Expenditures made under the Petroleum Search Subsidy Act 1959 are excluded.

(b) Separate details for onshore/offshore and drilling/other are not available for government expenditure.

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

Year	Onshore	Offshore	Total metres drilled
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 p	136.5	61.7	198.2
<i>Quarter ended—</i>			
1978			
September	16.6	16.8	33.4
December	29.5	12.9	42.4
1979			
March	(a) 0.4	24.1	24.5
June	8.7	20.4	29.1
September	20.8	14.8	35.6
December	28.9	18.1	47.0
1980 p			
March	19.7	12.8	32.7
June	34.0	23.8	57.9
September	38.3	10.7	49.0
December	44.5	14.4	58.9

(a) Particularly low due to a combination of climatic factors and drilling rigs being engaged on developmental rather than exploratory drilling.

PART 3. OIL SHALE EXPLORATION, AUSTRALIA

Introduction

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

2. In addition to quarterly statistics relating to oil shale exploration, preliminary figures compiled from the first annual census of oil shale exploration for 1979-80 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 8. 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
Quarter ended— 1980-81				
September	4,227	11	4,238	26
December	4,892	11	4,903	38
Expected expenditure Six months ended— June 1981	13,926	9	13,935	..