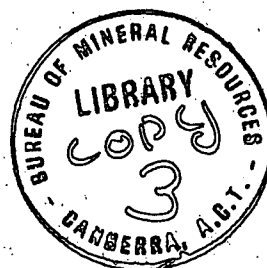


DEPARTMENT OF  
MINERALS AND ENERGY



BUREAU OF MINERAL RESOURCES,  
GEOLOGY AND GEOPHYSICS

RECORD 1974/179



OPERATIONS BRANCH - SUMMARY OF ACTIVITIES

FOR 1974

The information contained in this report has been obtained by the Department of Minerals and Energy as part of the policy of the Australian Government to assist in the exploration and development of mineral resources. It may not be published in any form or used in a company prospectus or statement without the permission in writing of the Director, Bureau of Mineral Resources, Geology and Geophysics.

RECORD 1974/179

OPERATIONS BRANCH - SUMMARY OF ACTIVITIES  
FOR 1974

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1. SENIOR STAFF

Assistant Director

K.R. Vale

Editing and Information Section

Geologist Class 5:

K.A. Townley

Geologist/Geophysicist Class 4:

H.L. Higginson  
W.H. Oldham  
E.P. Shelley (A/g)

Geologist/Geophysicist Class 3:

Mrs M.E. Bartlett  
R.R.E. Jacobson  
C.B. Selmsier  
Mrs E.E. Young

Geologist Class 2:

G.M. Bladon  
I.M. Hodgson  
P.A. Smith

Technical Officer Grade 2:

L.C. Mundy

ADP Applications Section

Geophysicist Class 5:

A.J. Barlow

Geophysicist Class 3:

D.W. Kerr

Geologist Class 2:

E.L. Smith

Programmer Class 9:

J.T. Brown

Programmer Class 8:

D. Downie (A/g)  
Mrs P.L. Thompson

Programmer Class 6:

Mrs F.D. Newman  
M.G. Riddell

Planning and Co-ordination Section

Geophysicist Class 4:

K.M. Kennedy

Geologist Class 3:

R.B. Aronsen  
R. Thieme

Geologist Class 2:

vacant

Library

Librarian Class 2:

Mrs H. Hughes

Librarian Class 1:

Miss S. Attwood  
Mrs M.A. Thompson

Administrative Section

Administrative Officer:	B.M. Williams
Assistant Administrative Officer:	G. Scott
Finance Officer:	B.F. Hoare
Officer-in-Charge, Publications, Distribution, & Sales Section:	L. Thwaites

2. EDITING & INFORMATION SECTION

As well as pursuing its normal functions during 1974, the Editing and Information Section has initiated several moves towards improvement of the scientific image of the Bureau. It has been considerably more involved in public displays than in most previous years; the scope and number of pamphlets and brochures has increased; and K.A. Townley has conducted seminars on scientific writing at the invitation of the Geological Survey of Western Australia, the University of New South Wales, and the Canberra College of Advanced Education.

A new series of publications (in the Report Series) containing summaries of all BMR publications, including Records, has been initiated, as has a restricted market survey on user reaction of some BMR publications. The problem of micropublishing first Records and then other publications has been studied in some depth, and the process will probably start early in 1975. An effort is being made to involve the whole scientific staff of BMR in discussions, and we hope decisions, on improvements to BMR publications.

Regular monthly meetings that have been established with AGPS have smoothed the path of publications.

Editing Sub-Section

All nominal positions remained filled during 1974, I.M. Hodgson being promoted to the Class 2 position vacated by Mrs P. Simpson.

There was considerable interruption to normal editing work during the year. L. Higginson spent about three months on the organization of Open Days, and other editors assisted in the preparation of brochures and the manning of exhibits. G. Bladon spent nearly two months on loan to the Geological Survey of Papua New Guinea at Port Moresby, assisting in the editing of PNG publications. In addition to normal leave, L. Higginson was on furlough for two months, and H. Oldham for one month. Attendance at a PSB course on interviewing techniques and at Promotions Appeal Committee and Central Promotions Appeal Committee hearings occupied L. Higginson for about a month.

Despite these interruptions, the group managed to keep up with the flow of editing work, and at the time of writing this summary editing had not begun on only one Bulletin, 2 Reports, and three Explanatory Notes. K.A. Townley made a substantial contribution in preventing a rise in the backlog. Publications released or expected to be released for distribution in 1974 are listed in this Record. All Records and an unusually large number of papers for submission to scientific journals were edited.

Other group activities included attendance at meetings of the Publications Review Committee, monthly meetings with the Australian Government Publishing Service, and discussions with the Government Printer and contract printers.

#### Information Sub-section

The Information Sub-section provides information on BMR's activities, the Australian mineral industry, and the geosciences generally to other Government organizations, industry, and the public. It answers enquiries from these sources, prepares articles, brochures, and pamphlets on appropriate topics (commonly with the assistance of other parts of BMR), issues catalogues and indexes of various kinds, and arranges lectures and displays.

Information. The major part of the sub-section's effort goes into attending to the continuous flow of enquiries, by letter, telephone, and personal request, from industry and the public. These range from simple requests which can be met by sending a pamphlet or other publication to enquiries needing considerable effort to gather the information required. The number of enquiries from schools throughout Australia increased markedly at the beginning of the year after the inclusion of BMR in booklets listing sources of teaching aids.

Publications. The Annual Report on BMR activities in 1973, and the Pictorial Index of Activities showing where work of various kinds has been done by BMR in Australia and its Territories were prepared and issued during the year.

Pamphlets describing various aspects of BMR's work and giving accounts of the major mineral commodities were revised or written for the 1974 Open Days. A booklet entitled 'Interpretation of mineral exploration reports: A guide for the layman' was issued to satisfy the many requests for such information. Material was prepared for inclusion in Australian Government and commercial publications.

Distribution of BMR Records to Open File Centres continued through the year; 53 Records were placed on open file in the past 12 months.

BMR Symposium. The third annual BMR Symposium was held on 30 April and 1 May and was attended by 165 visitors from all capital cities and Darwin. Most visitors were from mining companies, a few from petroleum exploration companies, and some from universities and Australian Government authorities.

Fourteen papers were presented by BMR officers and the first Harold Raggatt Award was presented to K.A. Plumb for his paper 'Patterns of mineralization in northern Australia, with emphasis on lead and zinc'. The Harold Raggatt Award, a medal commemorating the late Sir Harold Raggatt's contributions to geology in Australia and his association with the founding and development of BMR, was presented to the Bureau by the late Lady Raggatt.

Preliminary arrangements have been made for the next symposium, which will be held on 22-23 April 1975.

Visits. Visits by school classes, interstate as well as local, continue to be popular despite our limited resources to cater for them. The main attraction is the display set up in the Museum, where the children can see and handle a variety of specimens, although the display is modest because of lack of space. A film or a slide show with automatic commentary describing an aspect of BMR's work usually is shown during the visit.

Open Days. BMR held Open Days on 2,3, and 4 May. Displays, flashing-lights models, slide shows, and films illustrating the wide range of its activities drew favourable comment from many visitors. The Museum and Palaeontology Sections, which offered a specimen identification service, were particularly popular with both adults and children. The Publications and Information Section played a co-ordinating role, each display being prepared by the group involved in conjunction with the Drawing Office and Workshops. About 11 000 people, including 2500 children on pre-arranged school visits, visited BMR during the three days.

#### Other displays

A special display was organized for the AIMM Energy Symposium on 8 November. Supporting display material was prepared for the BMR symposium, and a Canberra Engineering Geology and Geophysics display was organized for interested Departments and Authorities.

Information Storage and Retrieval. A start was made during the year on developing selected information storage and retrieval systems, using in-house resources. Priority was given to a system to handle both indexing of material submitted under the terms of the Petroleum (Submerged Lands) Act and the well-data master file specified by the Well Data Committee; development was hampered by computer problems. Interim specifications were established for conversion of the BMR catalogues of publications and Records to machine-readable form, and for conversion of the Stratigraphic Index to machine-readable form.

Developments relevant to national scientific and technical information systems and in scientific and technical information systems generally were kept under review during the year. I.R. McLeod attended the COGEO DATA-UNESCO Seminar on the use of computer-based techniques in Geological Field Work and Geological Data-Base Management in Paris in November 1973, where useful personal contact was made with workers in this field.

After discussions between AMF, CSIRO, National Library, and BMR, AMF completed a first draft of a thesaurus of Earth Science and related terms; BMR received copies for detailed examination late in the year. Liaison continued with Australian Archives on storage of magnetic tape and other materials resulting from offshore petroleum exploration.

A study was begun during the year of the feasibility and implications of issuing BMR publications, Open File Records in particular, as microfiche. Trials in conjunction with service companies suggested that most Records can be satisfactorily copied to microform, and copying of new Records on a semi-production basis is expected to begin early in 1975. A microfilm reader-printer and microfilm reader were purchased during the year.

### 3. ADP APPLICATIONS SECTION

The Automatic Data Processing group formed in 1973 is providing a service to most BMR users. The service is provided in three main areas - systems operation and programming advice, information and retrieval project studies, and on-line data acquisition and data conversion facilities for laboratory instruments and field data tapes.

During the year the quality of service offered by the CSIRO Cyber 76 has involved the group in considerable effort assisting CSIRO to delineate the problems and to assist in correcting them. Also, where problems could not be solved immediately, alternative methods to skirt the problem have had to be evolved.

The information storage and retrieval requirements of the Bureau have been under consideration for some time. A project study was to have been let to a contractor to advise on the feasibility of various methods of storing information. The contract has been delayed and the ADP group has commenced the computer storage of several indexes. These are in the form of pilot studies to give ADP personnel experience in information file handling and to allow the users to assess their needs and the applicability of computer based systems.

The Hewlett Packard Model 2100 system was installed in 1973 and has now been interfaced to the X-Y digitizer and sedimentation tube, and interfacing to the Direct Reading Optical Spectrograph X-ray probe and photospectrometer is proceeding. These should be in operation early in 1975. In addition the computer has been used extensively for the copy and editing of field magnetic tape and for paper tape to magnetic tape conversion.

Other projects include a program for a complete breakdown of BMR costs by project and section, and a pilot study of the problems in recording computer-compatible information by field geologists.

The group has been involved in the feasibility studies of new replacement data acquisition systems. A design study was undertaken and submissions prepared for the replacement of the Geophysical Branch Observatory group magnetogram digitizer by a computer-based acquisition system. This was combined with a proposal to upgrade the survey aircraft acquisition system by replacing its computer with a lighter-weight but more powerful unit and using the replaced computer in the Observatory group system.

The X-Y digitizer has now been successfully interfaced to the 2100 computer. The interface supplied by the digitizer manufacturer required considerable modification. Data is transmitted to the computer and temporarily stored on disc. On completion of the job data is transferred to magnetic tape.



A drum plotter was also installed during the year. Its main use is the production of monitor contour plots and profiles. It is being used almost continuously for a single shift. It has relieved the load on the flat-bed plotter which is now mainly used for scribing of final maps. Work load is expected to increase considerably on both machines in the new year.

The group as a whole has been unable to cope with all requests in the ADP applications field. Many requests have been investigated only superficially and others deferred. These requests include further information indexing systems, additional laboratory instruments to be integrated to the data acquisition computer, assistance with design of new data acquisition systems for the Geophysical Branch, and further development of automated drafting techniques.

#### 4. PLANNING & CO-ORDINATION SECTION

The Section, of four professional officers, was fully staffed until July 1974 when A.J. Driessen was transferred to the Mineral Economics Section. A graduate clerk, D.R. Boorman, was assigned to the Section in April 1974 for experience.

The Bureau program for 1974-76 was made ready and distributed in March 1974. Notification of activities was passed to relevant State Mines Departments and mining companies for concurrence. The Supervisors' program meetings for 1975-77 were conducted during the week ending 25 October; details for this meeting and the Director's program meeting were co-ordinated by the Section.

The resources accounting project, which was introduced by the Section in 1973, now covers a complete financial year. A computer read-out, showing a break-down in costs and manpower, is available.

Considerable administrative effort was directed towards the training and employment of Colombo Plan fellows, Overseas Undergraduate Scheme personnel, Trainee Technical Officers, graduate clerks, and vacation students. The first intake of Technical Training Officers (Science) to undergo the new Applied Science (Geology and Chemistry) Certificate course at Canberra Technical College completed Phase I of the course this year.

BMR activities in Papua New Guinea called for the preparation of a draft agreement to cover future operations including land tenure arrangements and the conditions of service. The Section also has a continued (committee) involvement in the PNG crustal movement project.

The policy instruction on entry to Aboriginal and other reserves and exploration/mining tenements was updated.

Arrangements were made to establish a helicopter period contract to cover the Department's helicopter airlift requirements. Continuous inflation of operating costs, and some aspects of the draft contract specification, led to the postponement of the period contract until 1975.

The Section prepared a 'country position paper', for the Commonwealth Scientific Committee meeting held in July, on the role of Geological Surveys.

A paper on the level of research and development carried out by Government departments was prepared in answer to a parliamentary question.

Continued effort has been applied to arrange adjustment of accommodation to cope with staff increases.

A review of staff manning was effected as a planning basis for the newly imposed staff ceiling for the Bureau.

Other activities undertaken by the Section included staff submissions for personnel establishment and organizational variations, involvement in the proposal for flexible working hours, revision of the Party Formation forms, representation on various committees, and production of a glove-box size interim survival manual.

## 5. LIBRARY

### Performance Statistics, November 1973 to October 1974

<u>Loans</u>	11993
<u>Serials Circulation</u>	17728
<u>Inter-Library Loans</u>	
Requested from BMR	1811
Requested by BMR	1360
<u>Reference Searches</u>	498
<u>Cataloguing (new &amp; revisions)</u>	
Books	864
Serials	323
Other material	85

During the year demand for reference services has risen by 55 percent. Part of the increase is probably due to the release of two pamphlets for the guidance of users: 'How to use the Library', and 'How to use the Catalogues'.

The Library's procedures for control of loans and circulation of serials appear to be operating satisfactorily, despite staff shortages. For the first time since the establishment of the Library the Auditor's report was favourable; the stocktake carried out at the end of September showed a nett loss over the past 18 months of less than 0.4 percent.

Inter-library loan requests by BMR for material from other libraries rose by 100%. The increase is probably due to restrictions on the ordering of serials on work in new subject areas.

A submission for reorganization and increase in staff was prepared early this year because the library cannot maintain basic services fully with its present staff structure. The submission was queried intra-departmentally in August and a resubmission, based on additional data, has been made since.

The Library continues to participate in the preparation of the Australian Thesaurus of Earth Science and Related Terms and examination of the first list of candidate terms has begun.

## 6. ADMINISTRATIVE SECTION

The second extension of the Core & Cuttings Laboratory was completed during the year. This is to be fully compactorized in three stages. Stage 1 is complete and in use; stage 2 is expected to be completed before the end of 1974; stage 3 is expected to be finalized during 1975/76 depending upon funds.

Twenty portable calculators were purchased during the year for use by field staff.

Several compactus units were installed in the Rock Store area at Fyshwick using a combination of compactus units from the Patents Office, existing hard-standing shelving fitted to new mobile frames, and entirely new compactus units. One large unit to be converted from adjustable shelves to fixed drawers is expected to be finalized in 1974.

A furniture stocktake of BMR Building was conducted during September 1974 and although some discrepancies were found the result is better than previous stocktakes.

The 1974/75 Works Program is set out in an attachment.

The Australian Government Printer has begun negotiations to set up a Sub-Printery within BMR before the end of 1974.

As in 1973, a large percentage of staff were on higher duties during the year owing to staff problems.

A new system of files was introduced to maintain and update regularly information on organization and establishment proposals.

During the year the following new positions or reclassifications were approved: Clerk Class 4 (Branch Services, Mineral Resources), Clerk Class 4, Clerk Class 3, CA3, and CA2 Relief, Vehicles Officer reclassified to Clerk Class 4, Typist Gr. 2 for additional Justewriter position, and one Steno-Sec. Gr. 1 reclassified to Gr. 2 (Director's Steno-Sec.).

Changes were introduced in connexion with AIL0/T to avoid possible underpayment or overpayment.

The Bureau was required to appear before the Joint Parliamentary Committee on Public Accounts owing to under-expenditure against Division 355-2 Item 09 Contract Investigations.

Finalizing the program for both Plant and Equipment and Contract Investigations for 1974/75 proved to be a major task owing to the difficulties in containing the maximum expenditure within the approved appropriation. This was due almost entirely to the large carry-forward on 1 July 1974, which will require a large portion of the available appropriation.

A fraud at the Australian Government Sub-Treasury, Port Moresby, involved a total of \$19,741 of which \$12,649 was taken from BMR funds.

Serious accidents to vehicles have been few.

Preliminary discussions took place on the introduction of flexible hours but these have not yet been introduced.

BMR was represented at Departmental Committee meetings to discuss field survey conditions and allowances.

A BMR vehicle was involved in a fatal accident at Mareeba, Qld, in November 1973. The BMR driver was exonerated from any blame.

Administrative staff gave assistance to May 1974 'Open Days'.

Payment of fees or salary to Aboriginal guides has been referred to PSB for directions.

Staff changes for the period 1.10.73 - 30.9.74 for the whole of BMR are as follows:

	<u>Joined</u>	<u>Left</u>	<u>Difference</u>
Professional	26	18	+ 8
Technical/Drafting	43	44	- 1
Clerical	69	48	+ 21
	<hr/>	<hr/>	<hr/>
Total	138	110	+ 28
	<hr/>	<hr/>	<hr/>

In accordance with Government policy the BMR staff ceiling for 1974-75 is 593, plus 66 wages hands.

The following publications were released during the year or are expected to be released for distribution:

#### Bulletins

- 83A - Timor Sea continental shelf sediments map - Jones & Jongsma
- 143 - Earth science abstracts, PNG to 1971 - Manser
- 146 - Chemical analyses of Australian rocks, igneous and metamorphic, Supplement 1961-69 - Joplin
- 147 - Lower Carboniferous geology of the Rouchel district, N.S.W. Roberts & Oversby
- 148 - Mineral map - Papua New Guinea - Grainger
- 149 - Geology of the Sydney Basin - Mayne et al.
- 150 - Palaeontological papers 1972/73
- 156A - Correlation chart for the Carboniferous System of Australia - Jones, Campbell, & Roberts
- 157 - Marine geology of the Arafura Sea - Jongsma

Reports

- 140 - The post Palaeozoic Rocks of the Warwick 1:250 000 Sheet Area, Qld. - Exon & Reiser
- 145 - Geology of the northern half of the Bowen 1:250 000 Sheet area, Qld. - Paine, Gregory & Clarke
- 153 - The older Precambrian geology of the Lennard River 1:250 000 Sheet area - Gellatly, Morgan, Soufoulis, & Derrick
- 154 - Geology of the Charnley 1:250 000 Sheet area, W.A. - Gellatly, Derrick, Halligan, & Soufoulis
- 160 - Catalogue of additional type and figured specimens other than Protista in the Commonwealth Palaeontological Collection, Canberra - Crespín
- 161 - Geology of the Auvergne 1:250 000 Sheet area, N.T. - Sweet, Morgan, & Pontifex
- 164 - Palaeozoic geology of the Warwick and Goondiwindi 1:250 000 Sheet areas, Qld and N.S.W. - Olgers, Flood, & Robertson
- 166 - Geology of the northern Victoria River region, N.T. - Sweet, Mendum, Morgan, & Pontifex.
- 168 - AFMAG field recording 1968-71 - Almond
- 169 - Seismicity of the NG/Solomon Islands region, 1968 - Denham
- 170 - Bibliography of reports on laterite, silcrete and related materials resulting from studies in Australia - Watts

Geological Maps and Explanatory Notes

Abau	Millungera
Balladonia	Normanton
Burketown	Peak Hill
Cue	Pomio
Dobbyn (2nd Ed.)	Rutland Plains
Donors Hill	Samarai
Fergusson Island	Simpson Desert North
Forrest	Simpson Desert South
Galbraith	Talasea-Gasmata
Galilee	Tufi - Cape Nelson
Gilberton	Wave Hill
Jubilee	Zanthus
Karamui	
Madura-Burnabbie	1:1 000 000 Geological Map
Menzies	Papua New Guinea

Preliminary Geological Maps

Alligator River	Minigwal
Billiluna	Mount Theo
Cundeelee	North Eromanga Basin
Highland Rocks	Victoria River region
Madang	

Aeromagnetic Maps

Belele	Kirkalocka
Byro	Mossman
Cairns	Murgoo
Cue	Walsh
Glengarry	Wiluna
Goulburn	Yalgoo
Kingston	

Preliminary Aeromagnetic Maps

Cloncurry (profiles) - also radiometric profiles  
 Corrigin  
 Georgetown (profiles) - also radiometric profiles  
 Kellerberrin  
 Perth (part)  
 Pinjarra (part)  
 Westmoreland (profiles) - also radiometric profiles

Bouguer Anomaly Maps

Ajana	Murgoo
Barlee	Nabberu
Belele	Naretha
Burnabbie	Neale
Byro	Ningham
Cooper	Noonaera
Cue	Peak Hill
Culver	Perenjori
Dongarra	Plumridge
Duketon	Quobba
Edjudina	Rason
Eucla	Robert
Forrest	Robinson Range
Geraldton	Sandstone
Glenburgh	Seemore
Glengarry	Sir Samuel
Jubilee	Stanley
Kennedy Range	Talbot
Kingston	Throssel
Kirkalocka	Vernon
Laverton	Waigen
Lennis	Wanna
Leonora	Westwood
Loongara	Wiluna
Madura	Wooramel
Mason	Yalgoo
Menzies	Yaringa
Minigwal	Youanmi
Mount Phillips	Yowalga

Preliminary Bouguer Anomaly Maps

Alligator River	Limbunya
Arnhem Bay	Lissadell
Ashton	Londonderry
Auvergne	Melville Island
Bathurst Island	Medusa Banks
Birrindudu	Milingimbi
Blue Mud Bay	Montague Sound
Cambridge Gulf	Mount Doreen
Camden Sound	Mount Elizabeth
Cape Beatrice	Mount Evelyn
Cape Scott	Mount Marumba
Charnley	Mount Ramsay
Cobourg Peninsula	Mount Theo
Darwin	Mount Young
Delamere	Nookanbah
Dixon Range	Pellew

Preliminary Bouguer Anomaly Maps contd.

Drysdale	Pine Creek
Fergusson River	Port Keats
Fog Bay	Port Langdon
Gordon Downs	Prince Regent
Gove	Roper River
Highland Rocks	The Granites
Hodgson Downs	Truant Island
Junction Bay	Urapunga
Katherine	Victoria River Downs
Lake Mackay	Waterloo
Landsdowne	Wessell Islands
Larrimah	Yampi
Lennard River	

Other Publications

Petroleum Exploration and Development Titles Map and Key - 31 December 1972 and 30 June 1973

AMI Quarterly Vol. 25 No. 4, Vol. 26 Nos. 1, 2, 3

AMI Preprint Chapters - Aluminium

Lead  
Nickel  
Tin  
Titanium  
Zinc  
Copper  
Iron Ore

Mineral Resources Report Nos. 1 (Bauxite), 2 (Nickel), and 3 (Phosphate)

Publication Sales

Cash counter sales of publications in the BMR building for the period 1.10.73 to 30.9.74 amounted to \$6796.

BMR Works Program 1974/75Treasury Allocations

(Reference Dept. of Minerals and Energy Minute 73/2351-2-3 of 18 July 1974).

		\$
Repairs & Maintenance	Proposal (*)	92 380
	Reduction	20 380
	Program (ø)	<u>72 000</u>
Minor New Works	Proposal (*)	82 120
	Reduction	24 320
	Program (ø)	<u>57 800</u>
Furniture & Fittings	Proposal (*)	102 537
	Reduction	50 537
	Program (ø)	<u>52 000</u>

\* 1974-75 Draft Estimate Bid  
 ø " Final Treasury Allocation



SUMMARY OF ESTIMATES

	<u>Estimate</u> <u>1974/75</u> \$	<u>Expenditure</u> <u>1973/74</u> \$
<u>DIVISION 355</u>		
1. <u>Salaries and Payments in the nature of Salary</u>		
01. Salaries and allowances	6 240 000	5 425 099
02. Overtime	185 000	167 956
	<u>6 425 000</u>	<u>5 593 055</u>
2. <u>Administrative Expenses</u>		
01. Travelling and subsistence	495 000	432 478
02. Office requisites and equipment, stationery and printing	77 000	102 022
03. Postage telegrams and telephone services	181 400	146 657
04. Office services	36 000	29 405
05. Printing and distribution of maps and publications	250 000	251 329
06. Motor vehicles - Hire and maintenance	580 000	548 705
07. Aircraft - Maintenance and running expenses	195 000	195 906
08. General stores	365 000	373 954
09. Contract investigations	1 000 000	1 253 618
10. Freight and cartage	95 000	88 674
11. Minor field operating costs	65 000	55 699
12. Repairs and maintenance of plant and equipment	50 000	39 470
13. Computer services	400 000	468 325
14. Incidental and other expenditure	54 600	74 163
	<u>3 844 000</u>	<u>4 060 405</u>
3. <u>Other Services</u>		
01. Search for oil - Subsidy	6 000 000	9 999 592
02. Riverview Observatory - Grant	6 000	4 000
	<u>6 006 000</u>	<u>10 003 592</u>
Total Division 355	<u>16 275 000</u>	<u>19 657 052</u>
<u>DIVISION 890-1</u>		
01. Plant and equipment	<u>600 000</u>	<u>655 960</u>
Grand Total BMR	<u>16 875 000</u>	<u>20 313 012</u>