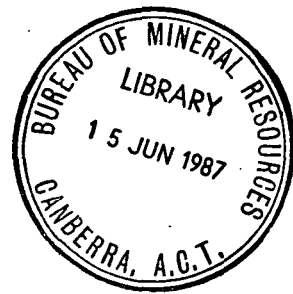


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DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS



BMR PUBLICATIONS COMPACTUS
(NON-LENDING-SECTION)

RECORDS 1967/59

1966 PROGRAMME

AND

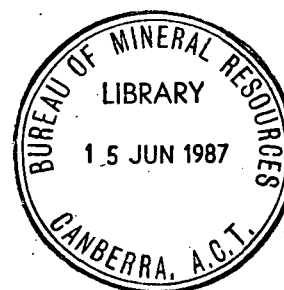
1967 TENTATIVE PROGRAMME

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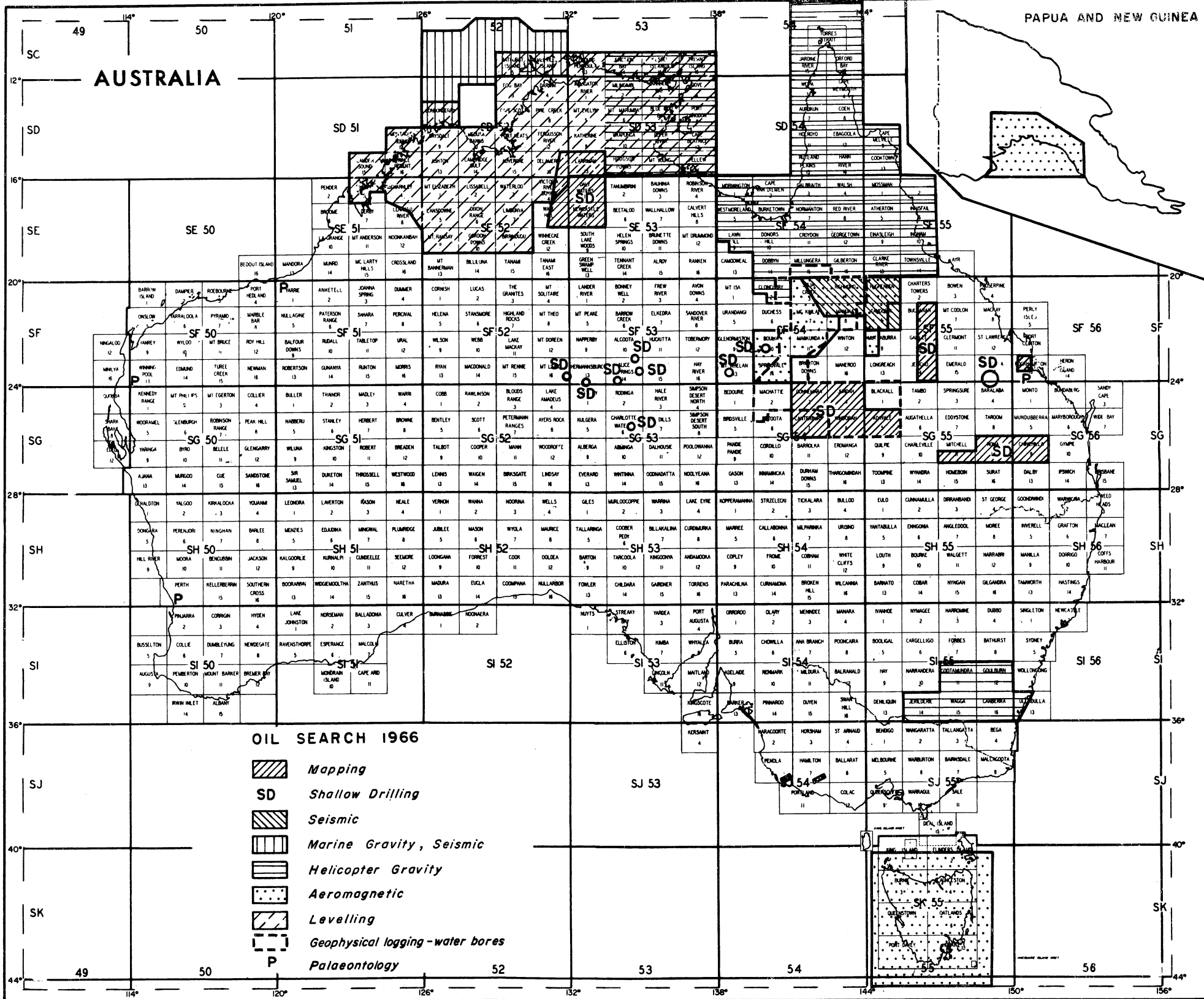
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**BMR PUBLICATIONS COMPACTUS
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OIL SEARCH

GEOLOGICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-Professional Staff	Vehicles, Equipment	Remarks
Bonaparte Basin N.F./N.A.	Reporting field and laboratory work	Continuous	J.J.Veevers J. Roberts	1 F/Asst.	-	Fitzroy Basin visit depends on satisfactory arrangement with W.A. Geological Survey. Field assistant required for continuous help in handling, sorting and preparation of fossils and sediments for laboratory study.
6022 63/48	Possible visit with W.A.G.S. to examine Carboniferous and Devonian in Fitzroy Basin.					
<u>Results:</u>	Preparation of maps and various publications on the results of the research in the Bonaparte - see under publications.					
Georgina Basin N.F.	Complete report on Georgina Basin, accompanied by 1:500,000 scale maps (4 sheets) covering the Basin, and complete Explanatory Notes and maps.	Mar.- July	K.G. Smith	-	-	Field supervision, Wiso Basin/Daly River Area, 3-4 weeks in August.
62/580	Compilation of parts of 4 1:250,000 sheets in the Wiso Basin and compilation of part of 1:1,000,000 scale map of the area.	Jan.-Feb.				
<u>Results:</u>	Field supervision of Wiso/Daly River Basin. Various reports, maps and notes - see under publications.	August				
Wiso-Daly River N.F.	Complete mapping Palaeozoic sediments of Wiso-Daly River basin by covering 1:250,000 areas of Newcastle Waters, Daly Waters, Larrimah, and eastern part of Wave Hill, Victoria River Downs and Delamere.	May-Oct.	M.A.Randal E.N.Hilligan R.A.H. Nichols M. Brown C. Gatehouse } part S. Skwarko } time	Mechanic Cook 4 F/Assts., Camp manager G.J. Squire	2 4 x 4 trucks 5 S.W.B. 1/R 2 office caravans 2 water trailers 2 2-wheel 1/R trailers	Helicopter contract 30 hours. Core hole drilling by B.K.R. Mayhew rig from July to August, about 8,000 ft. including coring.
602023 65/1306	Reporting 1965 field work. Field Party preparation. Reporting 1966 field work.	Jan.-Feb. Mar.-Apr. Oct.1966-Feb.1967				
<u>Results:</u>	Record on Wiso Geology a) Surface b) Subsurface Including preliminary editions of South Lake Woods, Green Swamp Well, Winnecke Creek, Tanami East, Mount Solitaire, Lander River and 1:1000,000 preliminary of the areas Record on Helen Springs/Beetaloo Preliminary editions of Helen Springs and Beetaloo 1:250,000 areas	complete draft 1/3/66 complete draft 1/3/66 15/4/66 15/4/66	E. Hilligan R.A.H. Nichols M.A. Randal F. Douch M. Brown			

OIL SEARCH
GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Tinetable	Staff	Non-Professional Staff	Vehicles, Equipment	Remarks
Amadeus Basin N.T. 64/702 64/703 64/704	Editing records for report series. Writing explanatory notes for the 1:250,000 geological maps and editing sheets. Writing Bulletin on the Amadeus Basin and compiling maps and figures etc. Investigation and report on study of the Stairway Sandstone	Continuous	A.T. Wells P.J. Cook	-	-	Visit basin for 2-3 weeks in May to geologically log holes drilled for stratigraphic information by shot hole rig in Finke-Gosses Bluff area. If possible holes to be geophysically logged by Darwin Uranium Group during gamma-ray logging of B.L.R. phosphate holes.
Northern Eromanga Qld. 63/47	Complete report for publication on Northern Eromanga Basin. Overseas visit Field Supervision of Great Artesian Basin field parties Report and Explanatory Notes writing	Jan.-Apr. July-Aug. May-June Oct.-Dec.	R.R. Vine	-	-	Vine to visit Hughenden - Galilee area Sept. to supervise shallow core drilling.
S.W. Eromanga Basin Qld. 6026 65/1657 Results:	Mapping part of Eromanga Basin covering the 1:250,000 areas of Connemara, Jundah, Canterbury, Windorah, Adavale. Record on 1966 mapping and preliminary editions of maps	May-Aug.	C. Gregory L. Plane one other R.R. Vine } part H.C. Galloway } time	1 Cook 1 Mechanic 2 F/Assts. Draftsman	truck 4 x 4 3 S.W.B. L/R. 1 L.W.B. /L.R. 1 living caravan 1 kitchen caravan 1 office caravan 1 water trailer	Extensive use of light aircraft - probably local charter. Shallow drilling by B.L.R. Carey rig, about 4,000 ft. drilling and coring, holes to be geophysically logged. Note: Geomorphologist from Land Research Division of C.S.I.R.O. will visit the party for 4 weeks.
Surat Basin Qld. 6027 64/707	Continue mapping eastern margin of Great Artesian Basin, in Surat area by completing the 1:250,000 areas of Mitchell, Roma and Chinchilla. Complete reports 1965 season Preparing for field season Report on 1966 season	June-Oct. Jan.-Apr. May Nov.-Dec.	H.F. Exon H.C. Galloway (part time) B. Thomas G.S.Q. geologist(?) H. Burger (part time)	Cook Mechanic 2 F/Assts. Draftsman	1 Truck 4 x 4 2 S.W.B. L/R 1 kitchen caravan 1 water trailer 2-wheel L/R trailer 1 office caravan 2 station waggons	Field visits by Vine and Thompson. Shallow drilling by B.L.R. Carey rig about 5,000 ft. drilling and coring, holes to be geophysically logged. Visit by palaeontologist specialist (R. Day) for 3 weeks in August.
Results:	Record on 1965 mapping (incl. Preliminary editions of Tembo, Augathella, Blackall). Record on 1966 mapping and Preliminary editions of Mitchell, Roma, Chinchilla.		H.F. Exon H.C. Galloway D. Casey (G.S.Q.) H.F. Exon H.C. Galloway			

OIL SEARCH
GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-Professional Staff	Vehicles, Equipment	Remarks
Drummond Basin Qld. 6028 65/1658	Complete mapping of Buchanan Galilee and Jericho 1:250,000 areas, study Devonian- Carboniferous sequence in outcrop of subsurface.	May-Oct.	<u>F. Olgers</u> <u>F. Douch</u> Iranian geologist	Cook Mechanic 2 F/Assts. Draftsman	1 4 x 4 truck 3 S.W.B. L/R 1 office caravan 1 4 wheel trailer 1 2 wheel L/R trailer 1 water trailer	Shallow core hole drilling by B.L.R. Carey rig, about 5,000 ft. of drilling and coring, holes to be geophysically logged. Project will extend in subsurface to Adavale Basin in 1967.
	Prepare for season	Jan.-Apr.				
<u>Results:</u>	Records, reports and Explanatory Notes on 1966 season, including preliminary editions of Buchanan, Galilee, Jericho.	Nov. 1966 -				
Bandanna Qld. 6029 65/1310	Continue study of Upper Permian and Lower Triassic of Bowen Basin, especially in Blackwater area.	June-July	<u>R. Jensen</u> 1 other	1 F/Asst. 1 Mechanic 1 Cook	1 4 x 4 truck 2 S.W.B. L/R 1 2 wheel trailer	Shallow core drilling using B.L.R. Carey rig for 3,000 ft. drilling and coring
<u>Results:</u>	Record on main developments of 1965 field work.	Jan.-May				
	Preparation of report on 1965/66 work.	Aug.-Dec.				
North Yarrol Qld. 6030 65/1311	Complete geology on Rockhampton and Port Clinton 1:250,000 areas.	May-Aug.	<u>A.G. Kirkegaard</u> (G.S.Q.) R. Shaw C. Murray (G.S.Q.)	Cook Mechanic 2 F/Assts.	1 4 x 4 truck 4 S.W.B. L/R 1 water trailer 1 4 wheel trailer 1 2 wheel trailer	Field visits by Thompson and Malone. Responsibility for technical work, reports, maps by Geological Survey of Queensland.
<u>Results:</u>	Preparation of record by G.S.Q.	no timetable available				
Yarrol Palaeontology 6030 65/1311	Collect samples for conodont analysis	July-Aug.	E. Druce (part time)	Wilson	1 S.W.B. L/R 1 L.F.B. L/R 1 Caravan	In association with the Nth. Yarrol party.
Bowen Basin Qld. 64/705 64/706	Writing Bulletin on Geology of the Bowen Basin. Includes compiling maps of structural and geophysical data; charts to correlate selected measured sections, well logs, etc., various text figures. Geological notes to accompany Fitzroy Series 1:1,000,000 geological map. Editing, proof-reading and organising writing of Reports and Explanatory Notes arising from Bowen Basin Regional Survey.	Continuing	E.J. Malone J.H. Dickins			Will require considerable drafting support. (Approx. 1 man full time). Visit (4 weeks) to Bandanna and North Yarrol Party as required.
<u>Results:</u>	See under Publications.					

OIL SEARCH

GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Geology and Palaeontology A.C.T. 6031 65/1655 <u>Results:</u>	Detail mapping and collecting of palaeontological and museum material from sedimentary areas of A.C.T. and environs. Various notes and records as required.	Continuing	C. Gatehouse G. Strusz S. Skwarko } part T. Nicholas } time	3 F/Assts.	1 L.W.B. L/R	Will provide student training during vacation
Palaeontology W.A. 6032 64/775	Collect marine Jurassic and Cretaceous macrofossils from the Perth, Carnarvon and Canning Basins to enable descriptions to be done to complete a palaeontological bulletin on some marine faunas in Australia.	May-July	S. Skwarko	1 F/Asst.	1 L/R 1 Trailer	

OIL SEARCH

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GEOLOGICAL BRANCH

PUBLICATIONS

BULLETINS

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Upper Devonian and Lower Carboniferous brachiopods from the Bonaparte Basin	J. Roberts	Dec., 1966		Timetable dependant upon G.A. Thomas' manuscript reaching Editor - overdue now for 2 years.
Geology of the Bonaparte Gulf Basin W.A. & N.T.	J.J. Veevers J. Roberts	July, 1967		
Geology of the Amadeus Basin	A.T. Wells D.J. Forman L.C. Ranford P.J. Cook	June, 1966	Jan., 1967	
Geology of the Bowen Basin	E.J. Malone J.M. Dickins	Dec., 1966		
Upper Devonian & Lower Carboniferous Sedimentology of the Bonaparte Gulf Basin W.A. & N.T.	J.J. Veevers	Mar., 1967		
<u>REPORTS</u>				
Wagon Creek marine breccia	J.J. Veevers J. Roberts	Mar., 1966		May be article in outside journal
Algae and Trace Fossils from Upper Devonian and Lower Carboniferous of Bonaparte Basin	J.J. Veevers	Mar. 1967		May form part of a palaeontology bulletin or bulletins incorporating chapters on Ostracods (Jones) Conodonts (Druce) Forams (Belford) Spores (Playford), or be published separately in outside journals.
Stratigraphic Drilling - Georgina Basin	K.G. Smith R. Nichols	Feb., 1966	Aug., 1966	
Geology of the Georgina Basin	K.G. Smith	June, 1966	Apr., 1967	
Petrology of some Carbonates in the Georgina Basin	R. Nichols	May, 1966	Feb., 1967	Final m/s by Nov. 1966
Geology of the Northern Eromanga Basin	R. Vine	May, 1966	July, 1967	Final m/s by Dec. 1966
The Occurrence of Groundwater on the Barkly Tableland.	H.A. Randal	Mar., 1966	Aug., 1966	
North East Amadeus Basin	A.T. Wells	Jan., 1966	May, 1966	
Duaranga-St. Lawrence	E.J. Malone F. Olgers A. Kirkegaard (G.S.Q.)	Feb., 1966	Sept., 1966	
Alice Springs Water Supply	T. Quinlan	Mar., 1966	Nov., 1966	

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GEOLOGICAL BRANCH

PUBLICATIONS

REPORTS (Cont'd.)

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Eddystone-Taroom-Mundubbera	R.G. Mollan A.R. Jensen V. Forbes (G.S.Q.) N. Exon	Feb. 1966	Oct. 1966	
Springsure geology	R.G. Mollan	March 1966	Sept. 1966	
Tertiary Volcanics - Bowen Basin	R.G. Mollan	Apr. 1966	Jan. 1967	

EXPLANATORY NOTES *

Artesian Basin

Richmond	R.R. Vine	Feb. 1967	* Editing will be completed three months after completion of writing.
Tangorin	D. Casey (G.S.Q.)	May 1966	
Hughenden	R.R. Vine A.G.L. Paine	Mar. 1967	
Mttaburra	R.R. Vine	April 1967	
Longreach	R.R. Vine	May 1967	
Manuka	D. Casey (G.S.Q.)	April 1966	
Blackall	D. Casey	July 1966	
Tambo	N. Exon	Feb. 1967	
Augathella	M. Galloway	Feb. 1967	

Amadeus Basin

Lake Amadeus	P.J. Cook	Mar. 1966	
Henbury	P.J. Cook	Apr. 1966	
Rodinga	P.J. Cook	May 1966	
Mt. Rennie	L.C. Ranford	Completed	
Mt. Leibig	L.C. Ranford	Completed	
Finke	A.T. Wells	Apr. 1966	
Macdonald	A.T. Wells	May 1966	
Alice Springs	A.T. Wells	June 1966	
Hale River	R.D. Shaw	Mar. 1966	
Illogwa Creek	E. Milligan	Apr. 1966	
Hermannsburg	T. Quinlan, D. Forman	Mar. 1966	
McDills	A. Stewart	Completed	

OIL SEARCH
GEOLOGICAL BRANCH
PUBLICATIONS
EXPLANATORY NOTES (Cont'd.)

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
<u>Bowen Basin</u>				
Eddystone	N. Exon	Feb. 1966		
Springsure	R.G. Mollan	Feb. 1966		
Emerald	F. Olgers	Jan. 1967		
Clermont	F. Olgers	Jan. 1967		
Duaringa	A. Kirkegaard (G.S.Q.)	May 1967		
St. Lawrence	E.J. Malone	Dec. 1966		
Mt. Coolon	E.J. Malone	Feb. 1966		
Taroom	V. Forbes (G.S.Q.)	Apr. 1967		

MAPS

Subject	Author	Timetable to Complete		Remarks
		Compilation	Fair Drawing	
<u>Artesian Basin 1:250,000</u>				
Richmond	R.R. Vine	Nov. 1966		
Tangorin	D. Casey (G.S.Q.)	Jan. 1966		Preliminary editions of all these 1:250,000 sheets have been made and distributed.
Highenden	R.R. Vine A.G.L. Paine	Dec. 1966		Estimated time to complete fair drawing is 5 months after compilation.
Mittaburra	R.R. Vine	Jan. 1967		
Longreach	R.R. Vine	Feb. 1967		
Mamuka	D. Casey (G.S.Q.)	Apr. 1966		
Blackall	D. Casey (G.S.Q.)	July 1966		
Tambo	N. Exon	Feb. 1967		
Angathella	M. Galloway	Feb. 1967		

OIL SEARCH
GEOLOGICAL BRANCH

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PUBLICATIONS

MAPS (Cont'd.)

Subject	Author	Timetable to Complete		Remarks
		Compilation	Fair Drawing	
<u>Amadeus Basin 1:250,000</u>				
Lake Amadeus	P.J. Cook	Mar. 1966		Preliminary editions of all these maps have been made and distributed. Estimated time to complete fair drawing is 5 months after date of publication
Henbury	P.J. Cook	Apr. 1966		
Rodonga	P.J. Cook	May 1966		
Mt. Rennie	L.C. Ranford	Completed		
Mt. Leibig	L.C. Ranford	Completed		
Finke	A.T. Wells	Apr. 1966		
Macdonald	A.T. Wells	May 1966		
Alice Springs	A.T. Wells	June 1966		
Hale River	R.D. Shaw	Mar. 1966		
Illogwa Creek	E. Milligan	Apr. 1966		
Hermannsburg	T. Quinlan, D. Forman	Mar. 1966		
McDills	A. Stewart	Completed		
<u>Bowen Basin 1:250,000</u>				
Eddystone	H. Exon	Feb. 1966		
Springsure	R.G. Mollan	Jan. 1966		
Emerald	F. Olgers	Jan. 1967		
Clermont	F. Olgers	Jan. 1967		
Duarlinga	A. Kirkegaard (G.S.Q.)	May, 1966		
St. Lawrence	E.J. Malone	Dec. 1966		
Taroom	V. Forbes (G.S.Q.)	Apr. 1967		
Southern Bonaparte Basin 1:125,000	J.J. Veevers J. Roberts	June, 1966		
North and South Bonaparte Gulf Basin 1:500,000	J.J. Veevers J. Roberts	July 1967		
Georgia Basin (4 Sheets) 1:500,000	K.G. Smith	Completed		Preliminary edition being printed
Northern Eromanga Basin 1:1,000,000	R.R. Vine	Feb. 1966		This is date for completing preliminary edition
Drummond Basin 1:500,000	F. Olgers	Apr. 1967		Preliminary Edition
Bowen Basin (2 Sheets) 1:500,000	E.J. Malone	Completed		Preliminary Edition available.

OIL SEARCH

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GEOPHYSICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
No.1 Seismic Party Flinders River. Qld. 70S14 65/1659 <u>Results:</u>	Great Artesian Basin Reconnaissance investigation of the Flinders Regional Gravity Low, with particular reference to the extent of Palaeozoic sedimentation throughout the area. Preparation of Record.	Apr.-Nov. 7 months Dec.-June 1967	P. Jones W. McAvey P. Jones	Observer Jun. Observer Clerk 2 Shooters 5 Drillers 2 Mechanics Cook Cook's Offsider 14 Field Assts.	900 Geophones, EVS-2B Seismic Amplifiers, Type 8000. TI. Magnetic Recorder, DS-7 Oscillograph, SIE-TROC. 6 Transceivers 3 Mayhew Drills 2 Inter. 1 ton, 4 x 4 7 Bedford, 5 ton, 4 x 4 3 Inter. 5 ton. 4 x 4 5 Land Rovers 1 Office Caravan 1 Workshop & Accessories 1 Kitchen Trailer 5 Trailers, 4 wheel 1 Generator, Trailer Mounted.	The investigation of the eastern part of this area, i.e. on the Tangorin and Muttaborra 1:250,000 sheet areas, will probably be adequately covered by a survey being conducted by Amerada.
No. 2 Seismic Party. Vic. S.A. 70SE011 63/515 <u>Results:</u>	Otway Basin. Vibroseis comparison (a) A short return to the Hamilton area to complete some repeat comparison shooting which was prevented in 1965 by rain and wet road conditions. (b) A few extra spreads to be shot in the Mt. Gambier area to complete transverse noise investigation. Preparation of Record	Feb.-Mar. 4 weeks Apr.-Nov.1966	B.Jones Schwing J. Moss	Observer Clerk Shooter 5 Drillers Mechanic 14 Field Assts.	900 Geophones, (HS-J) Seismic Amplifiers, Type 7000B, TI. Magnetic Recorder, PMB-20 (FM) Magnetic Recorder, OS-7 (Direct) Oscillograph, SIE-VT-6. Programmed Cam Unit & Pre-Filters. 3 Transceivers 3 Mayhew Drills 2 Inter. 1 ton, 4 x 4 6 Bedford, 5 ton, 4 x 4 3 Inter, 5 ton, 4 x 4 4 Land Rovers. 2 Trailers, 4 wheel.	Several comparison shots recorded this year in the Hamilton area were badly distorted. This was shown subsequently to be due to dampness in instruments at the time, but the opportunity to re-shoot these was prevented by wet road conditions.
Marine Gravity and Seismic N.T. W.A. 70GEO23 64/1125 64/1126 <u>Results:</u>	Reconnaissance marine surface gravity and seismic "sparkarray" survey to be conducted in the Timor Sea are adjacent to the area covered in 1965 by a similar survey. The survey is planned to investigate the extent of possible off- shore sedimentary basins, particularly the Bonaparte Gulf Basin, the regional basement tectonics, and the sub-surface sedimentary structure. Preparation of Report	June-Sept. 4 months Oct. '66-Apr.1967	B. Jones		14000 watt-second seismic "sparkarray" equipment. 1 utility may be required.	
Detailed and Semi- detailed Gravity 70G26	Gravity readings along seismic lines.					This project depends on the availability of staff. No contract funds provided in 1966/67 estimates.

OIL SEARCH

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GEOPHYSICAL BRANCH (Cont'd)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
VH-MIN Crustal Investigation Tasmania 70AF11 65/1314 <u>Results:</u>	High (10000') altitude east-west aeromagnetic profiles over Tasmania, extending over continental slope, up to 150 miles offshore Preparation of Record	Mid.Jan.-Mar. Apr.-May	W. Finney P. Shelley (from mid.Feb.)	P. Turner K. Mort D. Park	1 Mobile Darkroom 1 Station Waggon 4 x 2 1 1-ton Pick-up truck 4 x 4	Programmed for 1965, but not carried out. Aircraft mostly based at Hobart, to a lesser extent at Launceston.
Contract Aeromagnetic Papuan Basin T.P.N.G. 70AE02 65/1666	Aeromagnetic survey of Papuan Basin. Offshore area 23,200 square miles Onshore area 21,600 square miles Total area 44,800 square miles					Could be considered for inclusion with other T.P.N.G. Surveys (see under Metals) in one major contract. At part 2 mile and part 4 mile spacing, total number of line miles would be 18,500. (10,000 offshore; 8,500 onshore) Radio navigation aid required for off-shore work. Project depends on approval of this item on 1966/67 estimates (\$218000?)
Seismic Playback Centre 70S12 65/1309	Production of seismic record sections and processing of experimental work for the current seismic programme and past surveys carried out, and for review work of Seismic Group and Basins Study Group	Continuous	F.J. Moss	G.L. Abbs R. Krege G. Jennings		Playback Centre Equipment
Carpentaria Basin, Torres Strait and Arnhemland N.T. Qld. 70G25 65/1585 65/1579 <u>Results:</u>	Helicopter Gravity: Boigu, Daru, Torres Strait, Jardine River, Oxford Bay, Weipa, Cape Weymouth, Aurukun, Coen, Holroyd, Ebogoola, Cape Melville, Rutland Palms, Hann River, Cooktown, Galbraith, Walsh, Mossman, Cairns, Normanton, Red River, Atherton, Innisfail, Croydon, Georgetown, Einasleigh, Ingham, Millungera, Gilberton, Clarke River, Townsville, Cape Van Dieman*, Burketown*, Donors Hill*, Dobbyn*, Cloncurry*, Lawn Hill*, West Moreland*, Morningson*, Pellew, Mt. Young, Hodgson Downs, Urapunga, Roper River, Cape Beatrice, Port Langdon, Blue Lund Bay, Mt. Marumba, Millingimbi, Arnhem Bay, Gove, Truant Island, Wessel Islands, and Junction Bay, 1:250,000 areas. Preparation of Record	Mar.-Nov. Dec.1966-Mar.1967	J.E. Shirley		1 Inter. 4 x 4	Contract Survey * Denotes sheets which are on the 1965 programme, some of which will not be covered. Total commitment \$246,000 in 1965/66 estimates but no cash provided in 1965/66 estimates

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GEOPHYSICAL BRANCH (Cont'd)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Contract Aeromagnetic Gt. Artesian Basin Q'ld. 70AEO1 63/1300 65/1435	Aeromagnetic, 4 mile spacing of Julia Creek, Richmond, Hughenden, McKinlay Boulia Springvale and parts of MacKunda, Manuka, Tangorin, Mittaburra	Deferred until 1st March 1966 after initial start in Dec. 1965	<u>J. Quilty</u>			To extend coverage of Gt. Artesian Basin and to investigate gravity depression in Richmond Julia Creek Tangorin areas. Contract for \$72050 let to A.M.E.G. This has been amended to provide additional 5,080 line miles at \$27950 over Hughenden and Mittaburra. Total contract is \$100000.
Helicopter Gravity Training Survey N.S.W. and the A.C.T. 70G24 65/1331 65/1600	Helicopter Gravity: Ulladulla, Canberra, Goulburn, Cootamundra, Wagga and Jerilderie, 1:250,000 areas. Training in techniques of helicopter gravity survey for members of the Gravity Group and others, Research into techniques of barometric levelling. Hire of helicopter.	Feb.-Apr.	<u>A.J. Flavelle</u> <u>J.E. Shirley</u> <u>W.J. McAvoey</u> <u>G. Lodwick</u> <u>C. Bannerman</u> <u>D. Foulstone</u>	K. Kirby D. Townsend 1 cook 1 F/Assts.	1 Worden Gravity Meter 1 La Coste-Bombardier Gravity Meter 5 Mechanisms Microbarometers 1 Collins Transceiver 4 TM-2 Transceivers 1 Bedford 4 x 4 5 Inter 4 x 4 2 L.W.B. Landrovers 1 4 wheel trailer 1 2 wheel trailer 1 Caravan 1 Station wagon 1 Water trailer	
<u>Results:</u>	Preparation of Record	Mar.-Apr.	A. Flavelle G. Lodwick			
Water bores Q'ld. 70G27 64/879	Water bore logging by contract.	July-Nov.		Radeski (intermittent supervision)	Utility (Sedan)	Contract \$100000
Logging Q'ld. 70G27 64/879	Artesian Basin	Apr.-Sept.	Geophysicist(s)*	Radeski 4-field hands	Logger 2 Landrovers gamma, resistivity C.V.L; temperature collar locator etc.	Logging of about 30 holes too widely spaced for contract logging. Tests with other logging methods. * Opportunity will be taken to train staff in logging techniques. Period of training approx. 2 weeks.
Dept. of Interior Levelling N.T. and W.A. 64/974	Levelling required for 1967 Helicopter Gravity on the following 1:250,000 sheets. Pellew, Mt. Young, Hodgson Downs, Urapunga, Roper River, Cape Beatrice, Port Langton, Blue Mud Bay, Mt. Marumba, Millingimbi, Arnhem Bay, Gove, Truant Island, Wessel Islands, Junction Bay, Coburg Peninsula, Alligator River, Mt. Evelyn, Katherine, Larrimah, Victoria River Downs (part), Delamere, Fergusson River, Pine Creek, Darwin, Melville Island, Bathurst Island, Fog Bay, Cape Scott, Port Keats, Amvergna, Waterloo, Limbunya, Birrindudu (part), Gordon Downs, Dixon Range, Lissadell, Cambridge Gulf, Medusa Banks, Londonderry, Drysedale, Ashton, Mt. Elizabeth, Lansdowns, Mt. Ramsay, Lennard River (part), Charnley, Prince Regent, Montague Sound, Camden Sound and Yampi (part).	Mar.-Nov.				

OIL SEARCH

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GEOPHYSICAL BRANCH (Cont'd.)

PUBLICATIONS

BULLETINS

Subject	Author	Writing	Timetable to Complete	Editing	Remarks
Canning Basin	A.J. Flavelle	Nov. 1965			
Recc. Gravity Survey 1959-63 Nth. Eromanga and Drummond Basin	R.A. Gibb	Completed		Text with Editor	
Amadeus Basin	W.J. Langron	May 1967			
Georgina Basin	A.J. Flavelle	Jan. 1967			

REPORTS

Recc. Gravity Surveys 1957-61, Western Q'ld.	R.A. Gibb	Completed		Text with Editor	
Helicopter Gravity Manual	W.J. Langron A.J. Flavelle B.C. Barlow	Dec. 1966			
Thargomindah/Woccundra Reconnaissance Seismic Survey	J.S. Davies C.S. Robertson	Completed			Report has been written and is at present with Supervisor.
South-Eastern Georgina Basin Seismic Survey	C.S. Robertson P. Jones	Aug. 1966			
Marine Surface Gravity and Seismic Sparkarray Survey in the Timor Sea- Joseph Bonaparte Gulf	E.R. Smith	June 1966			
Experimental Vibroseis Survey	S.S.L., J. Moss	June 1966			Amplification and revision of S.S.L. report by Moss
Complete Report on Vibroseis Survey and Follow-up Comparison Work	E.H. Schwing J. Moss	Dec. 1966			
Surat Basin Compilation and Review	E.R. Smith	June 1967			
Bowen Basin	F. Darby			Text with Editor	

OIL SEARCH

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GEOPHYSICAL BRANCH

PUBLICATIONS

REPORTS (Cont'd.)

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Carnarvon Basin	J.H. Quilty	June 1966		Writing 80% complete
Amadeus Basin	G.A. Young	Mar. 1966		Writing 50% complete
Strangways Range (Aeromagnetic)	D.B. Tipper	Mar. 1966		Writing 50% complete
Kalgoorlie - Southern Cross (Aeromagnetic)	J.H. Quilty	Feb. 1966		Writing 90% complete

MAPS

Subject	Author	Timetable to Complete		Remarks
		Compilation	Fair Drawing	
<u>Aeromagnetic Maps</u>				
1. Carnarvon Basin				
Geraldton 1:250,000				
Yalgoo 2m - 1"				4 sheets
2. Georgina Basin				
Mt. Isa				
Urandangi				
Elkedra				
Huckitta				
Illogwa Creek				
Hay River				
Mount Whelan				

OIL SEARCH

PETROLEUM EXPLORATION BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
<u>Subsidiy Section</u>						
Drilling Group	Process applications, inspect operations, edit reports of drilling operations.	Continuous	<u>P.T. Class 4</u> F.H. Lepine J.A. White E.E. Young.	Hodgins Boring Sup. Morgans	Short term vehicle hire as required.	Visits to State Mines Departments and Company offices
Geology Group	Assess geological aspects of applications; Edit geological parts of all final reports.	Continuous	<u>S. Marchant</u> J. Hays	Carton	Short term vehicle hire as required.	Visits to State Mines Departments and Company offices.
Geophysics Group	Assess applications, inspect operations. Edit final reports of geophysical operations.	Continuous	<u>K.B. Lodwick</u> W.A.L. Forsyth F.W. Brown		Short term vehicle hire as required	Visits to State Mines Departments and Company offices
<u>Subsurface Section</u>						
Sedimentary Basins Study Group	Collect, collate, compile and review available data on following basins;					
90E01 62/2092	1. Northern New Guinea Basin (Sepik Region)	To Dec. 1966	<u>E.A. Reynolds</u> J.E. Thompson S. Marchant	} part time		
63/292	2. Otway Basin	To June 1966	<u>M.A. Reynolds</u> J.D.T. Scorer R. Bryan A.L. Bigg-Wither P.J. Hawkins		Short term vehicle hire as required	An attempt will be made to complete some of the work started by the late G.A.V. Stanley.
65/1280	3. Sydney and Ipswich-Clarence Basins or Papuan Basin	July 1966-1967	<u>M.A. Reynolds</u> J.D.T. Scorer R. Bryan A.L. Bigg-Wither P.J. Hawkins R.P.B. Pitt			P.R. Evans (Geol. Branch) will contribute a palynological report to the Otway Basin project.
62/2091	4. Papua-New Guinea Tectonics Project*	Mar. 1966	R.P.B. Pitt			* University Thesis
65/1559	5. Bowen-Surat Basins Hydro-dynamic Study	Mar. 1966	J.D.T. Scorer			
<u>Results:</u>	Preparation of Records Sydney and Ipswich-Clarence Basins, or Papuan Basin. Data to be presented in Record for (4.) and (5.)					
Core and Cuttings Laboratory	Receive, catalogue and store cores and cuttings.			Kraitsowits Brown Ozmic (I.F.P.) Cent. (I.F.P.)		
90E02	Examine material from selected wells as requested by Subsidiy Group and S.B.S.G.	Continuous	<u>R. Bryan</u>		Panel Van Lab. equipment	Visit Mines Department Core Stores to select material when offered.

OIL SEARCH

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PETROLEUM EXPLORATION BRANCH (Cont'd.)

PUBLICATIONS

REPORTS

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Otway Basin	Reynolds, Scorer, Bigg-Wither, Hawkins, Bryan	Mar. 1966	Nov. 1966	Drafting to be completed by June, 1966
Papua-New Guinea Tectonics Project	R.P.B. Pitt	Mar. 1966	Dec. 1966	Time allowed for decision on thesis and clearing of data by Company
Bowen-Surat Basin Hydrodynamic Study	J.D.T. Scorer	June, 1966	Aug. 1966	
Summary of Oil Search Activities in Australia and New Guinea	S. Marchant		Early 1967	Completion of this report is dependent on contributions from other branches and availability of author after completion of Northern New Guinea Basin study (see P.14).

P.S.S.A. PUBLICATIONS

Subject	Company	Technical Editing	Timetable to Complete		Remarks
			Technical Editing	Final Editing	
Gippsland Shelf No.1	Esso	S. Marchant S. Hays F.H. Lepine	Dec. 1965	Feb. 1966	
Summary Drilling Operations, Amadeus Basin	Magellan Exoil	J. Hays S. Marchant	Jan. 1966	Mar. 1966	
Barrow No. 1	WAPET	S. Marchant J. Hays J.A.W. White	Feb. 1966	Apr. 1966	
Summary Marine Seismic Surveys, Gippsland Basin	Haematite Esso	K.B. Lodwick F.W. Brown	Mar. 1966	May 1966	
Summary Drilling Operations, Canning Basin	WAPET	J. Hays S. Marchant	Apr. 1966	June 1966	
Gingin No.1	WAPET	S. Marchant J. Hays	May, 1966	July, 1966	
Breaden-Lennis Gravity Survey	Hunt	W.A.L. Forsyth K.B. Lodwick	July, 1966	Sept. 1966	
Summary Drilling Operations Bonaparte Gulf Basin	Aquitaine	J. Hays S. Marchant	Aug. 1966	Oct. 1966	
Summary Marine Seismic Surveys, H.W. Australia	B.O.C. of Australia	K.B. Lodwick F.W. Brown	Oct. 1966	Dec. 1966	

OIL SEARCH

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MINERAL RESOURCES BRANCH

Party/Project Symbol File.	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
<u>PETROLEUM TECHNOLOGY SECTION</u>						
Seismic Party No.1 Tangorin-Nanda. Gravity Depressions (Flinders Survey) Qld. 8037 65/1659	Seismic shot-hole drilling	Apr.-Nov.	A. Churchill (intermittently)	1 Driller Grade 2 1 Driller Grade 1 1 Driller Grade 1 2 Drill Assistants 3 F/A	1 L.V.R. 2 Mayhew 1000 1 Carey 3 Water Tankers 4 x 4	It may be possible to replace Carey with a Mayhew 1000
Seismic Party No. 2 (a) Otway Basin S.A./Vic. 80307 63/515	Seismic shot-hole drilling	Start February 4-5 weeks	as above	as above	as above	Depends on availability of staff.
<u>Shallow Drilling N.T.</u>						
(1) Alice Springs (Burt Plain and nearby areas) 80SD1 65/1667	Shallow scout drilling and coring to max. depth of 1000' for geological information.	May-mid July	A. Churchill (intermittently)	1 Driller Grade 2 (intermittently) 1 Driller Grade I 1 Drill Assistant 1 F/A (Driver/cook)	1 1-ton 4 x 4 1 Mayhew 1000 1 Water Tanker 4 x 4 Camping equipment for 3 men Radio (Alice Springs Base) independent of Geological party	Programme will be run in conjunction with Resident Geologist Alice Springs. Drilling crew will be detached from Geological field party for much of the time. Following holes will be drilled:- (a) 16 mile bore, depth approx 700' through Tertiary to basement for stratigraphic and underground water information. (b) Alcoota, depth approx 400' to investigate Tertiary Mesozoic sequence. (c) Ambalindum Homestead, depth approx. 400' to investigate possible lignite in Tertiary sediments. (d) Haasts Bluff Papunya area depth approx. 800' to investigate possible presence of Upper Permian sediments. (e) Rumbalara, 2 holes each about 800' for stratigraphic information. (f) Gosses Bluff, probably 2 holes each about 500' to investigate presence of volcanics.
(2) Daly Waters. Wave Hill. Larrimah. Newcastle Waters Victoria River Downs. N.T. 60E023 65/1306	Shallow scout drilling and coring depth of 300' to 600' for geological information Total about 8000 feet.	mid July - mid Sept.	as above	as above	as above Radio (Darwin Base) independent of Geological party.	Shallow scout drilling and coring to assist with the geological mapping below recent surface cover, as in Wiso Basin in 1965. Drilling crew will be detached from Geological field party for much of the time.

OIL SEARCH

MINERAL RESOURCES BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Shallow Drilling Qld.						
(1) Bowen Basin (R. Jensen) 6029 65/1310	Approx. 3000' of shallow scout drilling and coring	mid Apr. mid May	A. Churchill (intermittently)	1 Driller Grade 2 (intermittently) 1 Driller Grade I 1 Drill Assistant 1 F/A (Driver/cook)	1 1-ton 4 x 4 1 Carey 1 Water Tanker 4 x 4 Camping equipment for 3 men	The Drilling rig, tanker, truck, equipment and personnel will remain as one unit and transfer from one geological field party to the next. They should be self-contained as they may be detached from the main Geological field party.
(2) Surat Basin (N. Exon) 6027 64/707	as above, approx. 5000' of hole	June	as above	as above	as above	
(3) Drummond Basin (P. Olgers) 6028 65/1658	as above, approx. 5000' of hole	July	as above	as above	as above	
(4) S.W. Eromanga Basin (C. Gregory) 6026 65/1657	as above, 4000' of hole	Aug.-Sept.	as above	as above	as above	
Water Drilling Boulia Qld. 8038 65/1668	2 holes each about 450' for Boulia Shire Council Town Water Supply.	April	L.T. Hodgins (on loan from P.E.B.)	as above		Project will be undertaken providing Bureau rig can be positioned early in April and drilling completed by end of April to enable N.T. programme to begin in May. To some extent dependent on arrangements for Marion Downs project.
Drilling Marion Downs Qld. 8039 64/711	Drilling necessary to stem the water flow intersected in Bureau seismic snothole	Mar.-Apr.	A. Churchill			Project may be done by contract - if so, funds to be provided in 1966/67 estimates
Oil Advisory Committee	All matters of Oil Advisory Committee Mr. H.S. Taylor-Rogers Convenor/Secretary/Member of O.A.C.	Continuous	H.S. Taylor-Rogers M. Konecki } part J. Henry } time	L.K. Jeffrey (as required)		

PUBLICATIONS

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Petroleum Newsletter	J.M. Henry M.D. Bell	Jan.	Feb.	Ready for distribution (750 copies) in February
		Apr.	May	Ready for distribution (750 copies) in May
		July	Aug.	Ready for distribution (750 copies) in August
		Oct.	Nov.	Ready for distribution (750 copies) in November
Petroleum Exploration Contractors, Service Companies and Consultants	J.M. Henry M.D. Bell	Mar.	Mar.	Ready for distribution (400 copies) in March
		June	June	Ready for distribution (400 copies) in June
		Sept.	Sept.	Ready for distribution (400 copies) in September
		Dec.	Dec.	Ready for distribution (400 copies) in December

OIL SEARCH

MINERAL RESOURCES BRANCH

PUBLICATIONS (Cont'd.)

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Petroleum Exploration Companies	J.M. Henry M.D. Bell	Jan. July	Jan. July	Ready for distribution (900 copies) in March Ready for distribution (900 copies) in September

MAPS

Subject	Author	Timetable to Complete		Remarks
		Compilation	Fair Drawing	
Petroleum Tenement Map and Key	J.M. Henry M.D. Bell	Jan. July	Feb. Aug.	Ready for distribution (900 copies) in March Ready for distribution (900 copies) in September

METALS (INC. URANIUM) SEARCH

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GEOLOGICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
West Kimberley, W.A. 6L54 65/1316 65/1231	Regional geological mapping Yampi and parts of Lennard River and Charnley 1:250,000 areas. Collection age determination samples.	mid Apr.-Oct.	<u>D.C. Gellatly</u> G.H. Derrick M.J. Nielsen Dr. Eade (Canadian Geol. Surv. part time) 1 Iranian Geol. J. Sofoulis } R. Farbridge } M. Bofinger, K.Plumb } (part time)	5 F/A's A. Tatarow (June-Oct.) Cook Mechanic	6 S/VB/L/R 2 L/R Trailer 2 Water trailer 2 4 x 4 3 ton truck 1 4 wheel truck trailer 3 Transceivers 1 Atlas Cobra rock drill	Complete Kimberley Region mapping commenced in 1962; in co-op. with W.A.G.S. and B.H.P. Helicopter hire 90-120 hrs. - Commence 15th Aug. 30 min. 40 max. days. Plumb to visit party. 20 hrs. light aircraft hire (\$600 max.)
<u>Results:</u>	Record	Nov.-May 1967	Gellatly, Derrick & Sofoulis (W.A.G.S.)			
Kalgoorlie W.A. Geochemical 6LC 65/1330	Continue trace element studies, Kalgoorlie Goldfield		J.R. Beevers I.R. Pontifex (part time)	1 F/A	Short term vehicle hire	Visits to Kalgoorlie to collect further samples as required; co-operation with Western Mining Corporation, Great Boulder Mines and Lake View and Star
<u>Results:</u>	Progress Record	Jan. 1967	R. Beevers			
Darwin Uranium Group 6UD 62/541 (monthly reports) 63/557 64/733 64/843	Compilation and assessment of existing geological geochemical and geophysical data in the Hundred of Coyder. Diamond drilling selected targets Rum Jungle East and Gould Airstrip Area - 4000 feet. Follow-up auger drilling, 30,000 feet.	Continuous	<u>C.E. Prichard</u> 1 Geol. D.O. Shatwell Y. Kiezitis * D. Semple *	As per establishment 1 Typist + L. Kerec *	As per establish- ment B.M.R. Gemco drill 1 Falcon Utility	\$40,000 allowed for diamond drilling. Contract surveying - Dept. of Interior about 60 miles. * Ex Canberra for field season. + to be employed in Darwin.
<u>Results:</u>	Progress Records	Jan.-Mar.1967	D.U.G.			
Sepik T.P.N.G. 6L55 65/1660	Regional geological mapping Karawara, Avieme and parts of Yimas, Cone and April 1:50,000 areas. Collection samples for age determination	May-July	<u>D.B. Dow</u> J.A.J. Smit J. Bain J. Hamilton (Marine Consultant) R. Harding (part time)	1 Mechanic 1 F/A 12 Native carriers (1 Boss Boy)	3 Jet Boats (1 hired) Rucksaks Special fuel carrying drums (12½ galls. etc.) 1 Transceiver 4 Transistor radios	10 hours DC3 flying @ \$150 per hr. for air drops.
<u>Results:</u>	Record	Sept. 1966 - ?	D.Dow & J. Smit			
Papuan Basic Belt T.P.N.G. 6M46 65/1308	Continue regional geological mapping of Papuan Basic Belt. Reconnaissance geochemical sampling, collect age determination samples. Experimental gravity surveys in co-operation with Geophysical Branch.	Jan.-Feb. May-Oct.	<u>H. Davies</u> D. Dow (part time) R. Harding (part time)	Contractors 15 Native carriers (1 Boss Boy) 1 F/A } Aug.- 1 Mechanic } Sept.	Boat hire Helicopter hire 2 Jet boats (Aug.- Sept.)	240 x 25 miles body of ultramafic, gabbroic and basaltic rock. Contracts: Line cutting.. 35 mls. @ \$106 per mile Helicopter hire .. 14 days Work boat .. 30 days @ \$70 1 Geophysicist to work with party for 1 month on gravity.
<u>Results:</u>	Progress Record (1:250,000 map)	Nov. 1966- Feb. 1967	H. Davies			

METALS (INCL. URANIUM) SEARCH

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GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Cape York Qld. 6M56 65/1661	Regional geological mapping parts Walsh, Hann River, Ebagoola and Cohen, 1:250,000 areas.	May-Oct.	D. Trail I.R. Pontifex 1 (G.S.Q.) D. Palfreyman M. Morgan W. Willmot	J. Hill 5 F/A 1 Cook 1 Mechanic W. Webb (part time)	6 SWB/L/R 4 L/R Trailers 1 Water trailer 2 4 x 4 3-ton truck 1 Bedford trailer Horses 3 Transceivers	Commence mapping hard rock area Cape York Peninsula; in co-op. with G.S.Q.; horses to be hired if required. 20 hours light aircraft hire \$800 Allow \$800 for horses 1 F/A to be retained during the interfield season.
<u>Results:</u>	Preparation of Record	Nov. 1966- Apr. 1967	D. Trail et al.			
Herberton/ Mt. Garnet Qld. 6M57 63/522	Complete mapping Herberton and Mt. Garnet 1 mile area.	June-Aug.	D. Blake L. Cuttler (G.S.Q.)	1 F/A 1 Mechanic	2 SWB/LR 3 L/R Trailers 1 LWB/LR.	Co-ordinating geology of areas mapped previously. 10 hrs. Light aircraft hire Pontifex to visit parts.
<u>Results:</u>	Preparation of Record	Sept. 1966- Jan. 1967	D. Blake L. Cuttler			
Bowen Geochemical Qld. 6M58 64/726	1. Stream sediment, rock and mineral geochemical sampling Bowen 1:250,000 area.	Mid Apr.-Nov. Rest of year Canberra	A.D. Haldane	J. Kelly L/H P. Boland L/H A. MacDonnell L/H + 1 Leading Hand 3 F/A 1 Mechanic 1 Cook	5 SWB L/Rs L/R Trailers 1 Truck 4 x 4 3-ton 1 Trailer for 4 x 4 1 Water trailer 2 Tote Cotes 4 Transceivers	Continue programme commenced on Apr Sheet 1965; 1 L/R to be provided for G.A. Taylor. Brief visit by A.G.L. Paine, 10 days launch charter. Analyses by Amdel; Leading Hands retained on staff.
64/724	2. Re-examination of geology of southern part of Proserpine 1:250,000 area	June	A.G.L. Paine			Co-ordination of geology with Sedimentary Basins Mapping Section
Age Determination, W.A. and T.P.N.G. 6M5 64/993	1. Continue dating of samples Bowen Basin. 2. Continue dating of samples Kimberley Region. 3. Dating granites etc. New Guinea, Basic Belt and complete Malayan granites. 4. Bore Cores and other samples as time permits.	Continuous	1. A. Webb 2. V.H. Bofinger 3. R. Harding (Sept.-Oct.)	4 F/A's 6 Native Labour (1 Boss Boy) for New Guinea	1 LWB/LR for New Guinea. Aug.-Oct. Short term vehicle hire	Visit by V.M. Bofinger to Kimberley Party. Visit by R. Harding to New Guinea in co-operation with A.N.U. Sepik Party to supply camping gear for R. Harding.
<u>Results:</u>	Preparation of Record	Jan. 1967	R. Harding et al			
Herberton Qld. 6M36 63/522	Diamond Drilling of tin lodes in Mount Garnet area; joint programme with G.S.Q. About 1,700 feet of drilling at Smith's Creek/ Adelaide Blocks	Jan.-Sept.	K.R. Levingston (G.S.Q.)- Logging, preparation of plans & sections. W.B. Dallwitz, A.D.Haldane, I.R. Pontifex - Spectrographic studies mineragraphic and petrographic examination.		Short term vehicle hire	Drilling being carried out under contract by Queensland Dept. of Mines and supervised by District Geologist, Charters Towers; Drilling commenced 1964.
<u>Results:</u>	Preparation of Record	Dec. 1966	K.R. Levingston, A.D.Haldane, I.R. Pontifex, W.B. Dallwitz			
Canberra A.C.T. 6M59 64/735	Continue regional geological mapping and geochemical sampling of selected areas	Continuous	C.D. Branch Students	J. Kelly 3 Leading Hands 3 F/A's	2 SWB L/R 2 L/R Trailers 1 4 x 4 3-ton truck	

GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Dobbyn Qld. 6M49 64/739	Diamond drilling to test geophysical anomalies. Minimum of 1400' maximum 2300' Geological logging of cores	Jan.-June	W.B. Dallwitz		L/R Short term vehicle hire	Maximum cost \$28600 Contractor Atlantic Drillers (now taken over by Price Anderson) in co-operation with Australian Selection and Ausminda.

PUBLICATIONS

BULLETINS

Subject	Author(s)	Timetable to Complete		Remarks
		Writing	Editing	
The Geology of the Katherine- Darwin Region	B.P. Walpole, P.R. Dunn, (Economic Geology by P.W. Crohn)	1st Edit. Mar. 1966	July 1966	First draft completed.
Carpentaria No.1	P.R. Dunn, H.G. Roberts, J.W. Smith	Nov. 1966	Sept. 1967	Dyeproof Roper River. Preliminary MacArthur R. 1:500,000 Sheets completed
Carpentaria No.2	P.R. Dunn, H.G. Roberts, K.A. Plumb	May 1966	July 1967	Arnhem Land 1:500,000 Preliminary Sheet printed
East Kimberley Region	D.B. Dow, I. Gemts (W.A.G.S.)	Apr. 1966	Jan. 1967	East Kimberley 1:500,000 Sheet to editor
West Kimberley Region	D.G. Gellatly, J. Sofoulis (W.A.G.S.)	Sept. 1968		Area mapped 1966; possible revisit 1967.
The Geology of the Kimberley Basin	K.A. Plumb	Mar. 1968		Kimberley Basin 1:500,000 Sheet to editor October 1967.
The Geology of the Mt. Garnet/ Herberton 1 mile Sheet areas	D. Blake, J.W. Smith, K.R. Yates, L.G. Cuttler	Sept. 1967		Mapping end June-Aug 1966; Smith & Yates no longer with B.M.R.
Hodgkinson Basin	F. de Keyser, G. Lucas	mid 1966?	July 1966?	de Keyser and Lucas no longer with B.M.R.
Charters Towers	A.G. Paine, D. Wyatt (G.S.Q.)	Nov. 1967		
The Structure and Evolution of the Volcanic Cauldrons, Ring Complexes and associated Granites of the Georgetown Inlier, Qld.	C.D. Branch	Completed		No. 76 to press October 1965. 1:500,000 map should be available end Dec.

REPORTS

Geology of the Mt. Woodcock 1 mile Sheet area	D. Dunnet	Completed	June 1966	
The Geology of the Gold Prospects at Union Reefs, Northern Territory	D.A. White, J. Shields, J.F. Ivanac	Feb. 1966	Sept. 1966	
Townsville 1:250,000 area	D. Wyatt (G.S.Q.), A.G. Paine, R. Harding, Clarke (G.S.Q.)	Dec. 1966		
Hughenden 1:250,000 area (part)	A.G. Paine, R. Harding, Clarke (G.S.Q.)	Dec. 1966		

GEOLOGICAL BRANCH

PUBLICATIONS

REPORT (Cont'd.)

Subject	Author(s)	Timetable to Complete		Remarks
		Writing	Editing	
Charters Towers 1:250,000	Wyatt (G.S.Q.), A.G. Paine, Clarke (G.S.Q.), C.M. Gregory, Harding	Dec. 1966		
Ayr 1:250,000 Sheet area	A.G. Paine, C.M. Gregory, Clarke	Dec. 1966		
The Geology of Bougainville and Buka Islands, New Guinea	D.H. Blake, Y. Mizietis	May, 1966	Mar. 1967	Depends on drafting 1:250,000 Sheet
Petrology of Basic Intrusives and Granite Rocks of the Katherine/Darwin Region	R. Bryan	As time permits		
Laura Basin	G. Lucas	Date uncertain		Lucas is no longer with the Bureau, but it is understood that he will complete report as soon as possible.
Catalogue of Age Determination	R. Harding	Mar. 1966	May 1966	

EXPLANATORY NOTES

Cambridge Gulf	K.A. Plumb, J. Veevers	Feb. 1967		
Lissadell	K.A. Plumb	Mar. 1966		
Dixon Range	D.B. Dow, I. Gemuts	Completed		Note: Gemuts, Halligan, Playford, Sofoulis, Allen, Williams from W.A.G.S. Wyatt, Clarke from G.S.Q.
Gordon Downs	I. Gemuts, J. Smith	Completed		
Mt. Ramsay	H.G. Roberts, Halligan, Playford	Mar. 1965		
Lansdowne	D.G. Cellatly, G.M. Derrick	Completed		
Mt. Elizabeth	H.G. Roberts	Oct. 1966		
Ashton	G.M. Derrick	Apr. 1966		
Drysdale/Londonderry	D.G. Cellatly, J. Sofoulis	Apr. 1966		
Montague Sound	Allen	Jul. 1966		
Prince Regent/Camden Sound	Williams	Jul. 1966		
Charnley	Halligan, D.G. Cellatly	Sept. 1967		
Yampi	D.G. Cellatly	Nov. 1967		
Lennard River	G.M. Derrick			
Medusa Banks	K.A. Plumb, J. Perry	Oct. 1966		
Bougainville Is.	D. Blake, Y. Mizietis	Mar. 1966		
Hughenden	R. Vine, A.G. Paine	Mar. 1967		Paine to hand his section to Vine.
Charters Towers	Clarke	May 1966		
Ayr	C.M. Gregory	Feb. 1966		
Townsville	D. Wyatt	May, 1966		
Bowen	A.G. Paine, Clarke, C.M. Gregory	Dec. 1967		
Proserpine	A.G. Paine and Clarke	Dec. 1967		

GEOLOGICAL BRANCH

PUBLICATIONS

MAPS

Subject	Author(s)	Timetable to Complete		Remarks
		Compilation	Fair Drawing	
<u>1:50000 and 1 mile to inch sheet</u>				
Mt. Garnet	K. Yates, D. Blake	Sept. 1967		<u>Note:</u> Gemts, Halligan, Playford, Sofoulis, Allen, Williams from W.A.G.S. Wyatt, Clarke from G.S.Q.
Herberton	J. Smith, D. Blake	Sept. 1967		
<u>1:250000 Sheets</u>				
Cambridge Gulf	K.A. Plumb, J. VeEVERS	Feb. 1967		P.E. with printer
Lissadell	K.A. Plumb	Mar. 1966		P.E. Issued
Dixon Range	D.G. Dow, I. Gemts	Completed		P.E. Issued 7/65
Gordon Downs	I. Gemts, J. Smith	Completed		P.E. Issued 1964
Mt. Ramsay	H.G. Roberts, Halligan, Playford	Mar. 1965		P.E. with printer
Lansdowne	D.G. Gellatly, G.M. Derrick	Completed		P.E. Issued Nov./65
Mt. Elizabeth	H.G. Roberts	Oct. 1966		P.E. Oct. 1966
Ashton	G.M. Derrick	Apr. 1966		P.E. End April 1966
Drysdale/Londonderry	D.G. Gellatly, J. Sofoulis	Apr. 1966		P.E. End April 1966
Montague Sound	Allen	July 1966		P.E. July 1966
Prince Regent/Camden Sound	Williams	July 1966		P.E. July 1966
Charnley	Halligan, D.G. Gellatly	Sept. 1967		P.E. Sept. 1967
Yampi	D.G. Gellatly	Nov. 1967		P.E. Nov. 1967
Lennard River	G.M. Derrick			
Medusa Banks	K.A. Plumb, J. Perry	Oct. 1966		P.E. Oct. 1966
Bougainville Is.	D. Blake, Y. Miezitis	Mar. 1966		P.E. Mar. 1966
Hughenden	R. Vine, A.G. Paine	Mar. 1967		P.E. Issued
Charters Towers	Clarke	May 1966		P.E. May 1966
Ayr	Gregory	Feb. 1966		P.E. Dec. 1965
Townsville	D. Wyatt	May 1966		P.E. Issued
Bowen	A.G. Paine, Clarke, C.M. Gregory	Dec. 1967		P.E. Aug. 1966
Proserpine	A.G. Paine, Clarke	Dec. 1967		P.E. Sept. 1966

GEOLOGICAL BRANCH

PUBLICATIONS

MAPS (Cont'd.)

Subject	Author(s)	Timetable to Complete		Remarks
		Compilation	Pair Drawing	
<u>1:500,000 Sheets</u>				
Arnhem Land	H.G. Roberts, P.R. Dunn	Completed		P.E. Issued
Roper River	P.R. Dunn	Completed		P.E. Issued
McArthur River	H.G. Roberts, P.R. Dunn	Completed		P.E. Issued
East Kimberley	D.B. Dow, I. Gemuts	Mar. 1966		
Kimberley Basin	K.A. Plumb	Feb. 1968		
West Kimberley	Gellatly et al	Aug. 1968		
Hodgkinson/Laura Basin	de Keyser and Lucas	Completed		
Charters Towers	Paine et al	Apr. 1968		
Papuan Basic Belt	Davies	Dec. 1968		
<u>1:1,000,000 Sheet</u>				
Geological map of New Guinea	D.B. Dow	Commence 1966 As time permits		Should complete preliminary compilations by 1970 as co-ordinated with field mapping. Co-operate with field parties.

METALS (INCL. URANIUM) SEARCH

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GEOPHYSICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Mt. Lyell Tasmania 7MG28 63/584 <u>Results:</u>	Investigation of area between Comstock and Corridor	Jan.-Apr.	<u>J. Williams</u> E. Sedmik (part time) B. Farrow	J. Dymond N. Ashmore 2 F/Assts.	2 Landrovers 1 Inter. Truck Turam, I.P., S.P., Magnetometer	Requested by Mt. Lyell M. & R. Co. Company to carry out surveying and provide 2 field assistants
	Preparation of Record	May-Sept.	J. Williams			
Turam Model Tests A.C.T. 7MG30 65/1669	Completion of electromagnetic scale model experiments and compilation of results	Oct.-Dec.	<u>J. Williams</u> <u>J. Haigh</u> Other staff as available.	N. Ashmore	1 Landrover Turam model test equipment	E.M. model tests have been carried out intermittently for several years. Aim is to complete this work and compile data in a form suitable for publication.
Darwin Uranium Group Northern Territory 7UGD 62/118 (monthly Reports) 64/733 64/843	Laboratory services, logging, field surveys. Compilation and analysis of geophysical data from Hum Jungle area. Logging of 4 B.M.R. phosphate holes in Amadeus, and if possible, shallow core holes in Alice Springs area see P.16	Continuous	<u>J. Gardener</u> K. Duckworth	J. Zeroni C. Braybrook	Vehicles listed under Darwin establishment	
VH-MIN South Australia 7MAF18 65/1652 <u>Results:</u>	Aeromagnetic and radiometric survey of Copley at 1-mile spacing, Curdimurka and parts of Billakalina, Kingoonya, Tarcoola, Coober Pedy and Lake Eyre at 2-mile spacing.	Apr.-June	<u>G. Young</u>	P. Turner K. Mort D. Park 1 Draftsman	1 Mobile Darkroom 1 station wagon 4 x 2 2 1-ton Pick-up trucks 4 x 4 A/borne magnetr., scintos., navigation equipment	Requested by South Australian Mines Department to assist regional mapping and mineral investigation. The radiometric survey will not extend over northern half of Curdimurka, or Lake Eyre.
	Preparation of Record	July-mid August	G. Young			
Gould Airstrip Area Hum Jungle N.T. 7UGD See files D.U.G.	Electromagnetic, radiometric, magnetic survey	June-Aug.	<u>B. Farrow</u>	J. Dymond 2 F/Assts.	Vehicles and Geophysical equipment ex Darwin establishment.	Extension of 1965 surveys in Gould Airstrip area. Supervision by J. Gardener of D.U.G.
Dobbyn Qld. Diamond Drilling 7MG22 64/739	Logging of diamond drill holes	Feb.-July as required	<u>J. Gardener</u>	1 F/A.	1 Landrover Widco, 1000 ft. Partalogger	Logging to include B.M.R. and company holes drilled on B.M.R. geophysical targets. See also P.21

METALS (INCL. URANIUM) SEARCH

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GEOPHYSICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
VH-EIH Western Australia 7MAF18 65/1662	Aeromagnetic and radiometric survey of Edjudina and Laverton at 1-mile spacing	mid July-Sept.	<u>D. Tipper</u>	P. Turner K. Mort D. Park 1 Draftsman	1 Mobile Darkroom 1 station wagon 4 x 2 2 1-ton pick-up trucks 4 x 4 4/borne magnetr., scintos., naviga- tion equipment.	Requested by West Australian Mines Department to assist regional mapping
<u>Results:</u>	Preparation of Record	Oct.-mid Nov.	D. Tipper			
VH-GEO Victoria 7MAF19 65/1670	Detailed aeromagnetic survey of areas near Hamilton and Creswick to test if method applicable to investigation of basalt cover over brown coal deposits	mid Apr.-mid June	<u>B. Dockery</u>	1 S.R.T. (new recruit) 2 Geophys.Assts. 1 Draftsman	1 Station wagon 4 x 2 1 1-ton truck 4 x 4 Proton Magnet.	Requested by Victorian Mines Department
<u>Results:</u>	Preparation of Record	mid June-July	B. Dockery			
VH-GEO Tennant Creek N.T. 7MAF19 64/747	Detailed aeromagnetic survey of selected parts of Tennant Creek Field	mid June-Aug.	<u>W. Finney</u> <u>P. Shelley</u> (from mid June)	1 S.R.T. (new recruit) 2 Geophys.Assts. 1 Draftsman	1 Station wagon 4 x 2 1 1-ton truck 4 x 4 Proton magnet.	Recommended by Resident Geologist, Tennant Creek
<u>Results:</u>	Preparation of Record	mid July-Aug.	W. Finney			
VH-GEO Daly River 7MAF19 65/1671	Detailed aeromagnetic survey of Daly River copper field	mid Aug-mid Sept.	<u>P. Shelley</u>	1 S.R.T. (new recruit) 2 Geophys.Assts. 1 Draftsman	1 Station wagon 4 x 2 1 1-ton truck 4 x 4 Proton magnet.	
<u>Results:</u>	Preparation of Record	mid Sept.-Oct.	P. Shelley			
Contract. Victoria River Basin N.T. 7MAC1 65/1654	Aeromagnetic survey of Auvergne, Waterloo, Limbunya, Birrindudu	July-Sept.				To assist B.M.R. regional mapping. Funds provided \$100,000. Desirable survey at 1-mile spacing if funds allow; otherwise part of area will be surveyed at 2-mile spacing.
Contract Papuan Basic Belt T.P.N.G. 7MAC2 65/1672	Aeromagnetic survey of Basic Belt at 2-mile spacing (approx. 3250 line miles)					Requested by Geological Branch
Contract Astrolabe Area T.P.N.G. 7MAC3 64/748	Aeromagnetic survey of Astrolabe Field at 2-mile spacing (approx. 2,000 line miles)					Programmed for 1965 but cancelled because no suitable contractor available. Proposed for inclusion with Papuan Basic Belt and possibly also Papuan Basin (see under Oil) in one major aeromagnetic project in T.P.N.G.

METAL (INCL. URANIUM) SEARCH

GEOPHYSICAL BRANCH (Cont'd.)

PUBLICATIONS

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
NIL				

MINERAL RESOURCES BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Vehicles, Equipment	Remarks
<u>MINING ENGINEERING SECTION</u>					
Tailings survey, Victoria and South Australia SLB 62/224 Results:	Sample and measure mine tailings dumps To be incorporated in a Record	Aug.	R.W.L. King	Short-term hire, Department of Supply, Perth.	Continuation of survey made in previous years
Tailings survey, Queensland, New South Wales, Western Australia. 62/224	Completion of records as results become available from AMDEL	Dec. 1965 to Mar. 1966	R.W.L. King		Field work completed in 1965

NON-METAL SEARCH

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GEOLOGICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-Professional Staff	Vehicles, Equipment	Remarks
<u>Phosphate Search (A) Continental</u>						
West Coast Phosphate W.A. N.T. 6X2 66/1777	Investigation of phosphate occurrences, origin and potential, including liaison with prospecting companies	Apr.-Nov.	Geologist Class 2 Possible Class 1*	T.A. 2* (or F/A)	1 L/R 1 Trailer	Will cover mainly the Mesozoic province from Perth-Darwin and will be assisted by Resident Staff in Darwin area.
<u>Results:</u>	Record or Progress Report in early 1966 on phosphate occurrence and potential of province.					
Eastern Phosphate Qld., N.S.W., Victoria 6X2 66/1778	Assessment of phosphate potential of selected Systems in basins in Eastern Australia.		H. Jones Possible Class 1* (Kaulback part time)	T.O. 1* I. Boyd (F/A)	1 L/R ad hoc hiring from capital cities	Survey tentative - depends on availability of staff. Short field investigations in selected areas in East Australia. Will assemble data from State Surveys, Companies, B.M.R. and Universities.
<u>Results:</u>	Records - Assessment of phosphate potential of selected System or areas					
Christmas Island 6X2 64/694	Compilation of maps and report on 1965 field investigation	Jan.-May/ June	Geologist Class 2 J. Barrie Kaulback (part time Jan.)			May involve short visit to Christmas Island to inspect drilling results. (Transport by B.P.C.)
<u>Results:</u>	Record on Beology and Phosphate Deposits of Christmas Island.					
<u>(B) Marine Geology</u>						
Christmas Island Marine 6X2 64/694	Bathymetry around Christmas Island with recce dredging of any suitable platform areas.	1-2 weeks track time Oct.-Nov. dependent on Navy	H. Jones J. Kaulback	T.A.	Wire, large	Track time on Navy frigate, Hydrographic Section, R.A.N. requested
<u>Results:</u>	Record on the project					
Gulf of Carpentaria Survey 6X2 64/994	Laboratory work and report to complete project sampled in 1964	Feb.-July	Geologist Class 1* J. Kaulback	T.A.*		
<u>Results:</u>	Record on the project					
Setting up of enlarged Marine Geology Group	Investigation of ships available. Ordering of equipment. Procuring of staff.	Continuous	L.C. Noakes and others			Project leader (Dr. Veervers)? to finalise equipment with Dr. van Andel in U.S.A. in short visit (3 weeks) in July 1965.
Amadeus Basin 6X2 64/750	Aerial radiometric survey as a prospecting tool for phosphate	As required	J. Barrie			Joint investigations with Geophysical Branch

* New positions to be sought for phosphate search.

ENGINEERING INVESTIGATIONS AND HYDROLOGY

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GEOLOGICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-Professional Staff	Vehicles, Equipment	Remarks
Corin Dam Cotter River, A.C.T. 6S1 64/991	Geological services during construction	Apr.-Dec. 1966 Discontinuous, about 6 geologist months	E.J. Best	1 T/A or F/A for 6 months	1 L/R (see below)	Contract for construction expected to be let end March 1966. Earth-cored rock-fill dam. Geological services mainly tunnel and foundation mapping, advice on grouting and rock-fill.
<u>Results:</u>	Complete record as Completion Report at end of construction in 1968 or 1969.					
Burbong Damsite, A.C.T. 6S1 64/991	Detailed Feasibility investigation	Jan.-Feb.	G.A.M. Henderson	1 Vacation Student 1 F/A	1 L/R (part of A.C.T. Engineering car fleet).	Field assistant to be one of the assistants provided for below under A.C.T. Engineering general.
<u>Results:</u>	Preparation of record	April	G.A.M. Henderson			
Gudgenby and/or Cotter damsite 6S1 64/991	Preliminary investigation	3 weeks with report writing.	1 Geologist	1 T/A or F/A (as for Burbong)	1 L/R (as for Burbong)	
<u>Results:</u>	Preparation of record when survey completed.					
Bendora pipeline, A.C.T. 6S1 64/754	Mapping of exposures in excavations; possible advice on bedding materials and slope stability.	Discontinuous through year.	D.E. Gardner	1 T/A or F/A (as for Burbong damsite)		
<u>Results:</u>	Possible Record at completion of job.					
Minor investigations (Engineering) A.C.T. 6S1 64/754	Mapping of urban areas, foundation investigations for buildings, 4 water supply reticulation reservoirs, water- mains and roadways; investigation of supplies of construction materials and soil. Work includes geological mapping design, supervision and logging of augering and drilling; seismic timer work; estimation of resources and general geological advice.	Continuous	E.K. Carter D.E. Gardner 1 Geologist Class I E.J. Best G.A.M. Henderson	2 T/A's (temporarily F/A's) 1 F/A part of period	1 Holden Utility 3 L/R's. (L/R's to be available for Corin damsite and other A.C.T. work listed above as required).	Includes co-operation with E.J. Polak on experimental geophysical work on Secretariat Building and Corin Damsite grouting.
<u>Results:</u>	Records, as appropriate, on completion of investigations.					
Miscellaneous Investigations. (Hydrology and drainage) A.C.T. 6X1 64/755	Siting of bores, test-pumping of bores; investigation of drainage problems; routine measurements of water levels and water quality in bores, Lake George and Lake Burley Griffin. Miscellaneous queries A.C.T. and elsewhere.	As required. Continuing; total - 6 geologist months?	G.H. Burton Possibly some assistance	1 T/A (temporarily F/A)	1 L/R 1 Jeep trailer Pump equipment etc.	Carried out concurrently with map editing and map compilation duties.
<u>Results:</u>	Preparation of Records as investigations completed - 3 Records expected to be written by August 1966.					

ENGINEERING INVESTIGATIONS AND HYDROLOGY

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GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional staff	Vehicles, Equipment	Remarks
Water Supply Investigation, Jervis Bay A.C.T. 6X1 64/755	Study of Lake Windermere and groundwater supplies in general.	1 week Jan. or Feb.	G.M. Burton	-	-	At request of C.D.W., Sydney
General	Co-operation with E.J. Polak in study of relationship of seismic velocity and rippability in Hunter River, N.S.W. and other places.	As required				
Building Stones, A.C.T. and General 6S1 64/754 <u>Results:</u>	Laboratory testing of, and search for, rock suitable for building stone. Establishment and maintenance of catalogue of stone used in Canberra buildings. Laboratory reports on laboratory investigations. Record on testing of sandstones.	Discontinuous through year; total 4 geologist months. March 1966	1 Geologist Class I	-	-	
Petrography, Engineering geology, and miscellaneous. <u>Results:</u>	Petrography of rocks and other construction materials is required by engineering geologists. Laboratory reports as required.	Discontinuous Total 2 months?	1 Geologist Class I	-	-	
Miscellaneous engineering geology investigations, other than A.C.T.-P.N.G. 65/1675	Investigations and advice of consultative nature, as requested by C.D.W. and others. Could include paper studies of possible nuclear excavation projects.	As required	E.K. Carter	-	-	
Pondo-Towanokoko E.E. Scheme, New Britain. Toriu River reconnaissance, New Britain. Scrivener Dam, A.C.T. completion report. Secretariat Building, A.C.T.	Writing of Records (completion of unfinished Records in some cases) on completed investigations.	Jan.-Mar. full time Apr.-Dec. (if required) part time.	E.J. Best	-	-	Possible Record, also, on water-pressure testing techniques.
Port Moresby No.2 Underground Power Station. 6S3 65/1676 <u>Results:</u>	Geological Services during construction. Completion report as a Record in 1967	Throughout year	I.S. Cumming J. Read and I.S. Cumming	Provided by Commonwealth Department of Works		Mr. Cumming, who occupies a temporary B.L.R. position at Rouna, may be available for some work at Upper Ramu, Warangoi, or other hydro- electric investigations.

GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
	The following projects will be essentially conducted by engineering geology staff seconded to P.N.G. Administration's Department of Lands, Surveys and Mines, but will probably require some assistance from Canberra-based staff and/or Mr. Cumming. Technical supervision provided from Canberra.					
Upper Ramm Hydro-electric Scheme						
(a) Underground power station.	Completion of feasibility and design investigation.	Jan.-Mar.				
(b) Damsite 6S3 65/1677 Results:	Completion of feasibility report. (Record on high level tunnel and surface station layout, by E.K. Carter (Record on low level tunnel and underground head station, by D.E. Gardner & J.P. MacGregor - April, 1966. (Record on damsite investigations, by J.P. MacGregor.					
Lower Warangoi Hydro-electric Scheme 6S3 64/752 Results:	Logging of drill core, water-pressure testing, mapping of costean and pit/s.	Jan.-Mar.				
Feasibility report by J.R.L. Read? by September, 1966						
Musgrave River Hydro-electric development 6S3 65/1678 Results:	Preliminary investigation of possible hydro-electric capacity of Musgrave River for Port Moresby power supply.	? 2 weeks with report?	? ?			
Record						
Minor hydro-electric projects	Preliminary feasibility evaluations	?				C.D.W. expect to examine and probably initiate about twelve minor H - E projects, mainly in N.G., in the next 3-4 years. C.D.W. Head Office staff (Melbourne) will be involved in two or three. Probably geological advice will not be sought for all schemes, but should reckon on say, two minor investigations per year - some with detailed follow-up work. Probably Wabag scheme in 1966.
Adelaide River Dam Site 6S2 65/1332	Geological Mapping, core logging and supervision of water pressure testing.	As required	Resident staff with assistance from Canberra			Reconnaissance completed and preliminary drilling programme compiled.
Stapleton Creek Dam Site N.T. 6S2 65/1679	Geological mapping and preliminary drilling programme	?	?			Can be handled if additional engineering geologist available Canberra staff.

N.B. See P.34 for publications of Geological Branch.

ENGINEERING INVESTIGATION AND HYDROLOGY

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GEOPHYSICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Buffalo River Dam Site Investigation Vic. 7S22 65/1673	Determination of depth to bedrock Character of bedrock, including dynamic properties, shear zones and faults.	Feb.-Apr.	P.E. Mann J.S. Milson	1 F/A. B.M.R. 4 F/A S.R.W.S.C.	Inter. Recorder Landrover Tractor Proline 24 Channel SIE Gravity Meter Resistivity meter Magnetometer	S.R. & W.S.C.
BULP Crust Thickness Investigation Vic. Tas. 7R011 64/1450	Seismic recording of explosions detonated by R.A.N. in Bass Strait	Feb.	P.E. Mann 1. J.S. Milson M. Wainwright 2.	A. Radeski	Inter. Recorder Landrover Inter. Recorder Landrover 24 Channel SIE 12 Channel SIE	1. from Buffalo River Party 2. from Launceston Party Research project with Australian Institute of Physics. See P.40
Launceston Bridge Davenport Bridge 7S21 65/1653	Determination of depth to bedrock, location of faults and shear zones	Jan.	M. Wainwright	A. Radeski 1 P.W.D.	Inter. Recorder Landrover (Hobart) 12 Channel SIE Sonar-Boomer	Boat from P.W.D. Mines Dept. Tas.
Brisbane Industrial Sites and Bridges 7S21 65/1327	1. Determination of the depth and character of overburden and nature of bedrock for foundations 2. ditto Garden Point Bridge	Jan.	E.J. Polak L. Kevi E.J. Polak M. Wainwright	A. Radeski A. Radeski	Landrover Recorder DUKW Sonar Boomer 24 Channel Gravity Gamma Logging	Continuation of 1965 survey may be included in the coastal erosion. Co-ordinator General's Dept.
Pinnacles of Limestone investigation (experimental) 7S21 66/1779	Research work on possibilities of newer equipment in areas where traditional geophysics failed	As reqd. Feb.	M. Wainwright	A. Radeski	Landrover (Canberra) Fork-lift 12 Channel SIE Sonar Boomer PHR 500	1. Secretariat ACT-Geological Bch. 2. Railton Limestone-Mines Dep.Tas. May apply to Christmas Island
Burdekin Delta Salt Water Encroachment 7S14 64/759	Check on effectiveness of recharging to counteract salt water encroachment	As reqd.	M. Wainwright		Landrover (Brisbane) Resistivity meter	From 1965 programmes. I. & W.S.C.
Bellfield Dam Vibration 64/761 7S21	Research work with S.R. & W.S.C. on relationship of size to charge to amplitude of vibration		P.E. Mann			Interpretation of blasting records. S.R. & W.S.C.
Coastal Erosion Qld. 7S23 66/1780	Determination of depth and character of bedrock	Oct.-Jan. 1967	E.J. Polak L. Kevi	A. Radeski 3-COG	Landrover or Utility (Brisbane) Sonar Boomer 24 Channel SIE "Fish"	Involves one or two sonar boomer traverses
Lower Warangai T.P.N.G. 7S24 64/752	Seismic, magnetic, resistivity. Determination of limestone/Basalt Contracts.	Aug.-Sept.	L. Kevi or P.E. Mann			Requested by Geological Branch

ENGINEERING INVESTIGATIONS AND HYDROLOGY

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GEOPHYSICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-Professional Staff	Vehicles, Equipment	Remarks
Vibration 7S21						As required (Rabaul, Fishermans Bend etc.)
Rock Testing 7S21						As required
Bore Logging 7S21						As required
* Flow of water through porous media 62/211			J.S. Milsom		Instruments provided by AAEC.	Stages 2 and 3 of investigation
* Rippability of rock 7S21					Seismic Equipment. Proline drill	Co-operation of constructing equipment makers is assured by Electricity Co. of N.S.W.
* Infra red photography 7S21				A. Radeski	2 air-cameras	Adaptation of cameras for work. Tests with C.O.G. and I.W.S.C.
* Resistivity models 7S21			P.E. Mann		Tank and resistivity equipment	Tank experiments in laboratory to support theoretical computations
* Static Rock Testing 7S21			E.J. Polak			Construction of testing equipment. Geological Branch
* Grouting - seismic determination of bulk rock constants 7S21			E.J. Polak			Construction of equipment. Tests on Cotter E. Geological Branch. Could involve Schlumberger contract logging.
Re-interpretation Don River Qld.	Re-interpretation of contract geophysical survey for Queensland Mines Dept.	May	E.J. Polak			Requested by Queensland Mines Dept.

* Research projects - selections to be made according to availability of staff and laboratory facilities.

ENGINEERING INVESTIGATIONS AND HYDROLOGY

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GEOPHYSICAL BRANCH (Cont'd.)

PUBLICATIONS

BULLETINS

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Great Lakes North	W.A. Wiebenga E.J. Polak	Completed	Completed by P.B. Hye and now being checked	

REPORTS

Burdakin Delta	W.A. Wiebenga E.J. Polak L. Kevi M. Wainwright T.J. Andrew	Completed, awaiting approval	Nov. 1966	
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GEOLOGICAL BRANCH

REPORTS

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Miscellaneous Investigations, Canberra District	L.C. Noakes et al	Mar. 1966?	Mar. 1967	Partly written, held up by pressure of other work
Bendora Dam completion report	J. Hill	Mar. 1966?	Feb. 1967	Due June 1965. Author is no longer with the Bureau

ENGINEERING INVESTIGATIONS AND HYDROLOGY

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MINERAL RESOURCES BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
<u>PETROLEUM TECHNOLOGY SECTION</u>						
Test Well Fyshwick A.C.T. 8S1 66/1781	Drill a 500' hole in Fyshwick compound for the testing of Geophysical and Geological down hole survey tools	2 weeks	A. Churchill (intermittently)	E.G. Beaver (intermittently) 1 Driller Grade 2 (intermittently) 1 Driller Grade 1 1 Drill Assistant	1 Mayhew 1000 1 Water Tanker	Coring will be necessary for correlation. 6" casing to about 50'
Black Mountain Area A.C.T. 8S1 66/1781	Clean existing Black Mountain hole or drill replacement approx. 120' deep	1 week	as above	as above *	as above	* Beaver resigned 25th Feb.
Catchment Study A.C.T. 8S1 66/1781	Drill a 100' hole in wooded catchment area, to assist hydrology studies	3 days	as above	as above	as above	
B.M.R. Building Area 8S1 66/1781	Drill 100' observation bore just off car park areas to south of B.M.R. Building	3 days	as above	as above	as above	
Tiddinbilla Honeysuckle Creek and Ororral Tracking Stations A.C.T. 8S1 66/1781	Drill a 120' hole at each tracking station for observation of ground-water, and for emergency water supplies	6 weeks	as above	as above	as above 1 Land Rover or utility to transport crews and materials daily	
Lake George N.S.T. 8S1 66/1781	Drill and mainly core two 350' holes near the southern end of Lake George	1 month	A. Churchill (intermittently)	1 Driller Grade 2 (intermittently) 1 Driller Grade 1 1 Drill Assistant	1 Carey 1 Water Tanker 1 Land Rover or utility for crew and materials transport	These will be observations and test holes and will be cored over most of their depth to obtain samples suitable for grain size determination. Sampling will be experimental using auger coring techniques.

REGIONAL GEOPHYSICAL SURVEYS

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GEOPHYSICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Isogal Regional Gravity Survey 7RGL1 64/763 <u>Results:</u>	Continuing station marking and local gravity ties, Eastern Australia Preparation of Record	Apr.-June -Dec.	<u>B.C. Barlow</u> B.C. Barlow	K. Kirby 1 F/A	1 ton Inter. 1 Worden gravity meter	Kirby with Helicopter training party January-March
Isogal Control 7RGL1 64/763	Establish Isogal Control station at Thursday Island and Daru	May-June (10 days)	<u>B.C. Barlow</u>		3 gravity meters	Charter aircraft ex Cairns. Approx. 2000-2500 miles of flying. In connection with Helicopter Gravity Survey.
W.P.C.L. Pendulum Survey 7RGL2 63/39 <u>Results:</u>	Pendulum Measurements (using Cambridge equipment) from Tokyo-Manila-Darwin-Brisbane-Melbourne and return Preparation of Record	Approx. mid Jul.- mid Oct. Oct.-Nov.	<u>W.J. Langron</u> W.J. Langron	? K. Kirby	1 ton Inter.	Vehicle to be made available in Darwin approx. end August
Gravity Meter Performance Tests 7RGL1 <u>Results:</u>	Preparation of Progress Report	Sept.-Dec. 1967	B.C. Barlow W.J. Langron J. Shirley			Completion of laboratory tests deferred until December 1966-February 1967 period.
N.C. Jet Boat Survey (Basic Belt) 7RGL3 65/1308 <u>Results:</u>	Gravity meter readings along rivers area at selected helicopter landing sites. Preparation of Record	Aug. mid Sept.-Oct.	<u>J.S. Milson</u> J.S. Milson		To be supplied by Geological Branch	
Regional Gravity Connections Qld. 7RGL1 66/1782 <u>Results:</u>	Gravity ties (of semi-regional nature) between B.L.R. work and some other surveys in S.W. and W. Qld. and NE S.Aust. To be incorporated in 1:250,000 contour maps	July-Aug. June	<u>J. van Son</u> J. van Son	1 F/A	1 ton Inter. 4 x 4 1 Gravity meter	
Computing 7RGL1	Automatic Computing Procedures, Conversion to CDC 3600	Mar.-Dec.	<u>G.D. Lodwick</u>	Y. Zatorski		Lodwick with Helicopter training party January-February
Gravity Map 7RGL1	Gravity Map of Australia					Continuing as available
Earth Tide 7RGL1	Earth tide recording Canberra	? Sept.-Dec.	<u>G.D. Lodwick</u>		Occasional use of 1 1-ton vehicle when shifting equipment	Dates tentative

N.B. Monthly Reports Gravity Group 64/976

REGIONAL GEOPHYSICAL SURVEYS

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GEOPHYSICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
First - order re-occupations 7RM9 63/85	Reoccupy (R) or establish (N) about 40 stations throughout Australia as follows:- <u>Victoria</u> ; Mildura (R) <u>N.S.W.</u> ; Tibooburra (N) <u>Queensland</u> ; Birdsville (N) Alpha (N), Weipa (N), Croydon (R), Gregory Downs (N). <u>Northern Territory</u> ; Wonarah (R), Alroy (N), Yirrkala Mission (N), Darwin (R), Daly Waters (R), Mt. Doreen (N), Alice Springs (R), <u>South Australia</u> ; Oodnadatta (N), Emu (R), Woomera (R), Maitland (N), Ceduna (N). <u>Western Australia</u> ; Eucla (R), Zanthus (R), Esperance (R), Albany (R), Alexandra Bridge (R), Geraldton (R), Cue (R), Carnegie (R), Giles (R), Southern Cross (N or R), Carnarvon (R), Mt. Augustus (N), Balfour Downs or nearby mission (N or R), Onslow (R), Portland Hedland (R), Derby (R), Halls Creek (R), Wyndham (R), Balgo Hill mission (N). <u>Tasmania</u> ; Cambridge (R).	July-Nov.	D.M. Finlayson J. van der Linden	1 F/A	Panel Van QHM, BMZ, declinometer Portable fluxgate variograph	? Use of chartered aircraft
Induction effects of magnetic variations Tas. Vic. 7RMS 63/85	Recording for 2-3 months at selected stations	Whenever possible.	D.M. Finlayson J. van der Linden	Changing records arranged locally	Fluxgate and Askania variographs	Initial stations north and south of Bass Strait. Further stations inland if suitable arrangements can be made.
Antarctica 7RM9 63/247	New stations or re-occupations along coast of Antarctica during relief	Jan.-Feb.	Antarctic observatory personnel		Hella Dam	

REGIONAL GEOPHYSICAL SURVEYS

GEOPHYSICAL BRANCH (Cont'd.)

PUBLICATIONS

BULLETINS

Subject	Author	Writing	Timetable to Complete	Editing	Remarks
Regional Gravity Survey Victoria	W.J. Langron	June 1966			

REPORTS

Gravity meter- Calibration Ranges Australia	B. Barlow	Feb. 1966			Record issued
Isogal Survey	B. Barlow	Dec. 1966			"Progress" type report
Regional Gravity, N.S.W.	W.J. Langron J. van Son	Apr. 1966			
Gravity meter Performance Tests	B. Barlow W.J. Langron J. Shirley				"Progress" type report, September-December, 1967

MAPS

Subject	Author	Compilation	Timetable to Complete	Fair Drawing	Remarks
Gravity Map of Australia	W.J. Langron	June 1967			Date of completion mainly dependent on computer programming

OBSERVATORIES

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GEOLOGICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Rabaul T.P.N.G. 6GR 64/390*	Maintenance and extension of vulcanological observatories in New Guinea and continued investigation of volcanic centres. Continued installation of telemetering system at Rabaul. Summary of volcanic features and history at each volcanic centre in New Guinea. Gas and condensate collection at volcanic centres. Testing of Esa'Ala seismological instrumentation in Rabaul observatory vault. Completion of Tabale Observatory and installation of seismographic equipment at Manam Island. Installation of seismographic equipment at Esa'Ala Observation Post.	Continuous	J. D'Addario D. Middleton	2 T/A Native Labourers Clerk	Provided by Adminis- tration	
<u>GEOPHYSICAL BRANCH</u>						
Toolangi Observatory 7R01 63/147*	Geomagnetic and seismic recording	Continuous	<u>Van der Waal</u> van Erkelens	Toy Miss Woolley	Station Wagon	
Lundaring Observatory 7R04 64/916*	Geomagnetic, seismic and ionospheric Seismic recording at Kalgoorlie Field station at Wittenoom Gorge	Continuous 1966-67	P.M. McGregor I.R. Everingham P.J. Gregson	Parkes Wood	Station Wagon Sedan	Extra station to be installed to facilitate location of Kalgoorlie rock bursts
Port Moresby 7R05 64/874*	Geomagnetic, seismic and ionospheric recording Field seismic recording and analysis	Continuous Continuous	<u>Denham</u> J.P. Wilkie I.D. Ripper	Jones Cizek	Station Wagon Sedan Long period seismometers and UED recorders	Station locations Kerema, Esa, Goroka, Daru and Tapini.
Macquarie Island 7R06 63/147*	Geomagnetic and seismic recording	Continuous	Touson			
Mawson 7R07 63/147*			Muir			
Wilkes 7R08 63/147*			Taylor			
Darwin 7R09 62/118*	Seismic recording		Darwin office staff (if other duties decrease)			Construction of new vault to start in 1966 World standard seismic equipment
Melbourne Office 7R010 63/147*						

* Monthly Reports.

OBSERVATORIES

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GEOPHYSICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Regional Seismic 7R011 64/1450 (B.U.M.P.) 65/1656 (C.R.U.M.P.)	At a symposium in Hobart in 1964, tentative plans were made for a Bass Upper Mantle Project (B.U.M.P.) based on a large explosion under Bass Strait. Some mining companies have promised financial assistance for this project. A similar project in the Carpentaria Basin (C.R.U.M.P.) is envisaged within a few years. The Geophysical Branch has been invited to participate in both of these.	1st-16th Feb.	C. van der Waal D.M. Finlayson R.J. Cooke G.R. Small A. Turpie J.K. Grace	R. Toy H. Pelz	2 or 3 Willmore seismographs (2 refraction seismic outfits - see engineering) (1 24-channel reflection- see sedimentary)	12 Explosive charges, each 2,400 lb., to be detonated along 2 lines in east and west of Bass Strait. Recordings in Vic. and Tas. at fixed stations and about 20 mobile outfits. See page 32
Magnetogram scaling	Canberra Office	Continuous				
Terella Project 7LX4	Model experiment on electromagnetic induction	As time permits	D. Parkinson D.M. Finlayson and laboratory and workshop staff			
Analysis of Solar Quiet Day Diurnal Variations			D. Parkinson			To be continued from 1965 work
Induction Loop	Analysis of traces, Mundaring Observatory	Continuous	Mundaring Observatory Staff			Work will continue during 1966
Analysis of Seismograms	Seismograms from Antarctic Observatories will be analysed at Melbourne Office for T-phases in earthquake waves propagated across the Pacific Ocean	Continuous	Antarctic Staff after return			
Palaeomagnetism 7LX5 64/789	Setting up and adjustment of B.M.R. astatic magnetometer. Subsequent programme to be discussed with Geological Branch and A.N.U.	Jan.-Apr. May-Dec.	Manwaring Manwaring			

OBSERVATORIES

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GEOPHYSICAL BRANCH

PUBLICATIONS

BULLETINS

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Analysis of Magnetic Quiet-day Diurnal Variations	D. Parkinson	July 1966		

REPORTS

Crustal Structure of W.A.	I.B. Everingham	Mar. 1966		Record has been written and is being revised for issue as a Report
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Seismicity of W.A.	I.B. Everingham	Completed		
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Mean Hourly Magnetic Values			Scaling	Computing	Writing	Drafting	Editing
Macquarie Island	1955-56	C. van der Waal	completed	completed	completed	Jan. 1966	
	1957-58	" " "	"	Jan. 1966	Feb. 1966	Feb. 1966	
	1959-60	" " "	"	May 1966	May 1966	June 1966	
	1963-64	" " "	July 1966	1967	Aug. 1966	1967	
Mawson	1957-58	C. van der Waal	completed	Feb. 1966	Mar. 1966	Mar. 1966	
	1959-60	" " "		Oct. 1966	Oct. 1966	Nov. 1966	
	1963-64	" " "	Aug. 1966				
Wilkes	1959-60	C. van der Waal	Sept. 1966	Nov. 1966	Feb. 1966	Dec. 1966	
	1963-64	" " "	"	"	1967	1967	
Toolangi	1959-60	C. van der Waal	Completed	June 1966	June 1966	July 1966	
Gnangara	1957-58	P.M. McGregor	Completed	May 1966	Completed	Apr. 1966	
	1959-60	"	Mar. 1966	July 1966	Completed	Aug. 1966	
Port Koresby	1958-60	J.A. Brooks	Completed	Apr. 1966	Completed	May 1966	

GEOLOGICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Darwin, H.T. 6CD 64/773 62/568 (Monthly Reports)	<p>Services to Northern Territory Administration including the following programmes:-</p> <p>(a) Supervision of diamond drilling at mineral prospects and stratigraphic drill hole sites.</p> <p>(b) Evaluation of mineral prospects.</p> <p>(c) Report on mineral prospects for which application for assistance has been made under the Mining Development Ordinance.</p> <p>(d) Reports on mineral and rock specimens submitted by members of the public.</p> <p>(e) Advice on prospecting to company and individual prospectors.</p> <p>(f) Geochemical surveys and economic appraisal preparatory to diamond drilling at Daly River, South Alligator and Brock's Creek area.</p> <p>(g) Follow up work in aeromagnetic survey of the Mount Masson area.</p> <p>(h) <u>Non Metals</u> Continued supervision of diamond drilling in the Gove area as part of the investigation of coal deposits.</p> <p>(i) Investigation of the Cretaceous sedimentary basin east of Darwin, including supervision of a diamond drilling programme with particular regard to clay deposits and phosphorite and manganese mineralization.</p> <p><u>Engineering Geology</u> (j) Adelaide River dam sites and barrage (with Canberra based staff)</p> <p>(k) Logging and recording data obtained from water bore cuttings supplied by Water Resources Branch.</p> <p><u>Water Supply</u> (l) Selection of bore sites on pastoral holdings and reserves.</p>	Continuous	<p>R.G. Dodson J.W. Shields K.J. Kemezys A. Taube</p> <p>J. Shields</p> <p>A. Taube</p> <p>R.G. Dodson</p> <p>K. Kemezys</p> <p>A. Taube</p>			
Tennant Creek H.T. 6CD 64/773 62/568	<p>(a) Detail mapping of Red Bluff area.</p> <p>(b) Examination of mines and mineral prospects. Reports on prospects for which application for assistance has been made under the Mining Development Ordinance.</p> <p>(c) Supervision of Mines Branch drilling at Hopeful Star, the Golden Kangaroo, Red Bluff and other mineral prospects.</p>		<p>B. Tapp 1 P/A</p>			

GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Tennant Creek H.T. (Cont'd.)	(d) Appraisal of the economic potential of copper tungsten prospects in the Hatches Creek area.					
Alice Springs, N.T. 6GA 64/773 62/568 (Monthly Reports)	(a) Geological Surveys in the Strangways area and in selected areas of outcropping rock of Proterozoic age. (b) Supervision of Mines Branch diamond drilling programme to investigate mineral prospects. (c) Reports on areas for which application for assistance has been made under the Mines Branch Ordinance. (d) Evaluation of mineral prospects. (e) Reports on mineral and rock specimens submitted by members of the public. <u>Water Supply</u> (f) Continued investigation of groundwater potential of Mereenie Sandstone. (g) Second stage of investigation of the Tennant Creek Town water supply. (h) Investigation of groundwater potential of the Ti-Tree Section. (i) Investigation of groundwater at Jarrabri Native Settlement. (j) Selection of bore sites on pastoral holdings and in reserves. (k) Compilation of water bore data and logging of water bore cuttings.	Continuous	D. Woolley I. Youles I. Faulks K. Edworthy			
Port Moresby T.P.N.G. 6G10 63/477 (Monthly Reports)	Services and advice to Administration including the following programme - (a) Field investigation of phosphate potential including Kapa Kapa area and literature research into New Guinea and Cape Vogel Basins. (b) Geological mapping of Goirlala Sub-district, including geochemical sampling. (c) Geological mapping of island of Sudest. (d) Literature analysis of beach sand projects and sampling in the D'Entrecasteaux Group.	June-Nov. as staff available Jan.	S. Renwick McNab D. French D. French			

RESIDENT GEOLOGICAL STAFF

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GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Port Moresby (Cont'd.) T.P.N.G.	<u>Engineering Geology including Geohydrology</u> Investigation of ad hoc problems and completion of reports.	Continuous	J.P. McGregor J. Read			
	Supervision and Design Report on Upper Ramu H/E Scheme.	"	J.P. McGregor			
	Supervision and Design Report Lower Worangui.	"	J. Read			
	Assistance in Completion Report Rouna No. 2 H/E Construction.	"	J. Read			
	Preliminary investigation Musgrave River H/E Scheme	"	J. Read E.K. Carter			
Wau T.P.N.G.	Services to the Administration as required.	Continuous				Smit will also take part in Sepik mapping project
6G7	Reconnaissance mapping Wau 1:250,000 area 4 traverses to fill in gaps.	Jan.-Nov.	J.A. Smit or R.G. Horne			
63/418 (Monthly Reports)	Geochemical orientation sampling Wau - Edie Creek.	Jan.-Mar.	R.G. Horne			
	Geochemical orientation sampling Kainantu.	Apr.-June	R.G. Horne			
	Additional geological mapping and geochemical sampling - Porgera.	April	J.A. Smit or R.G. Horne			
	Literature study of mineral potential - New Guinea.					

LABORATORY AND WORKSHOPS

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GEOLOGICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
<u>PALAEONTOLOGY</u>	Bowen Basin Regional Survey (for details see Oil Search).	Continuing	J.H. Dickins	H.M. Doyle		
Macrofossils 614A 64/775	Permian and Mesozoic Palaeontology and stratigraphy of the Port Keats area of the Bonaparte Gulf Basin. Examination, identification and description of macrofossils from surface and cores, especially palaeopods, gastropods and brachiopods from Upper Palaeozoic rocks. Administrative duties connected with Palaeontological Section.					
<u>Results:</u>	Records and notes will be prepared where necessary.					
	Lower Palaeozoic palaeontology, stratigraphy, and geological history of Northern Australia, especially Ordovician. Periodical reorganisation of fossil collections.	Continuing	Miss J. Gilbert- Tomlinson	R. Miniotas		
<u>Results:</u>	Rewrite Amadeus Basin record on Palaeozoic fossils to incorporate results of 1964 collection. No taxonomy. Tremadocian (lowest Ordovician) palaeogeography of Australia (first stage in a study of Ordovician geological history).					

GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Macrofossils (Cont'd.)	Continue descriptions of the Jurassic faunas of New Guinea and Western Australia, and Ordovician graptolites of the Canning Basin.	Continuing	S.K. Skwarko	H.M. Doyle		Field work in the N.T. for 4 weeks; possible visits to W.A. for more material
<u>Results:</u>	Prepare reports on these studies when completed.					
	Palaeontological research on Middle Cambrian trilobites, Cambrian inarticulate brachiopods and sponge specules. Identification of fossils from field samples and samples submitted by oil companies. Field work - collecting fossils in the Wiso and Daly River Basins.	Continuing	C.G. Gatehouse	R. Miniotas		Field work in N.T. for 5-8 weeks
<u>Results:</u>	Refer to publications.					
	Description and stratigraphical application of Upper Devonian and Lower Carboniferous brachiopods from the Bonaparte Gulf Basin.		J. Roberts	1 F/Asst.		Refer to Bonaparte Party
	Preparation of Bulletin on Awe fauna vertebrates, Otibanda Formation, New Guinea. Search for micro-vertebrates in Otibanda Formation for use in correlation of Tertiary non-marine continental sediments. Examination and description of Mesozoic and Cainozoic vertebrates collected by B.M.R. parties, companies, and individuals.	Part time	M. Plane			Visit to New Guinea for 6 weeks will be necessary but this may not occur before 1967
Microfossils 61AM 64/775	Detailed study of samples collected by B.M.R. Field Parties and private companies Lower Cretaceous faunas from Waterbores, Queensland. Lower Cretaceous and Permian faunas from samples from subsidized wells.	Continuing	G.R.J. Terpestra	F. Hadzel Mrs. L. Kraciuk		General supervision on laboratory activities and preparation of records of reports by Mrs. M.E. White
<u>Results:</u>	Preparation of records on results where necessary.					
	Study the Carboniferous Foraminifera from the Bonaparte Gulf Basin. Study the Tertiary forams from New Guinea and Papua.	Continuing	D.J. Belford	F. Hadzel Mrs. L. Kraciuk		The investigation of Miocene foraminifera from the Nassau Range, West Irian and the Western Highlands, New Guinea, is in progress.
<u>Results:</u>	Reports prepared as projects completed.					

GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Microfossils (Cont'd.)	<p>The study of the Miocene Foraminifera from Wreck Island and Heron Island Bores, Queensland.</p> <p>The study of the Permian foraminifera from the Bowen Basin, Queensland.</p> <p>Taxonomy and stratigraphy of the Lower Cretaceous Radiolaria of the Artesian Basin, Queensland.</p> <p>Miscellaneous samples examined as they are submitted.</p>	Continuing	A.R. Lloyd	F. Hadzel Mrs. L. Kraciuk		
<u>Results:</u>	Various reports and short notes on the projects as completed.					
	<p>A. Systematic Palaeontology and stratigraphic distribution of:</p> <p>1) Lower Carboniferous and Upper Devonian ostracods, Bonaparte Gulf Basin.</p> <p>2) Lower Ordovician (Tremadocian) conodonts from Bonaparte Gulf, Georgina and Daly River Basins.</p> <p>3) Cambrian conodonts from the Georgina Basin.</p> <p>4) Ordovician (post-Tremadocian) conodonts from the Amadeus Basin (jointly with E.C. Druce).</p> <p>B. 1) Species card catalogue of conodonts.</p> <p>2) Completing ostracod library.</p> <p>C. 1) Routine examinations as and when required.</p> <p>2) Relevant field work (time permitting).</p>	Continuing	P.J. Jones	A. Wilson		
<u>Results:</u>	Record on Devonian-Carboniferous Ostracods.	Dec. 1966	P.J. Jones			
	Record on Ordovician conodonts.	Dec. 1966	P.J. Jones E.C. Druce			
	<p>A. Systematic Palaeontology and stratigraphic distribution of:</p> <p>1) Upper Devonian and Lower Carboniferous conodonts of the Bonaparte Gulf Basin.</p> <p>2) Lower Ordovician (post-Tremadocian) conodonts from the Amadeus Basin (with P.J. Jones).</p> <p>B. 1) Species card catalogue of described conodonts.</p> <p>2) Completing conodont library.</p>	Continuous	E.C. Druce	A. Wilson		

GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Microfossils (Cont'd.)	C. 1) Routine examinations as and when required. 2) Relevant field work (time permitting).					
<u>Results:</u>	Record on Devonian-Carboniferous conodonts.	June 1966	E.C. Druce			
	Mesozoic and Upper Palaeozoic spores and Microplankton in eastern Australia and TPNG. Detailed studies of B.M.R. shallow drill holes and field samples from the Great Artesian Basin. Subsurface stratigraphical palynology of selected subsidized and unsubsidized wells. Devonian spores from Northern N.S.W. Tertiary pollens from the Bowen Basin region. Upper Mesozoic of Artesian and Papuan Basins.	Continuous	P.R. Evans H. Burger	Miss H. MacKenzie		Some visits to the field necessary
<u>Results:</u>	Various records as required. See publications.					
Specialist Contracts S248	Continuation of preparation of catalogues on fossil type specimens of Australia		I. Crespin			
S297	Index and reading of proofs of Bulletin 74 - Mindyallan Trilobites of Queensland. Middle Cambrian Neipidae. Organization and structure of the trilobite <u>Xystridura</u> . Description of the Dolichome- topidae of Q'ld. and N.T. Monograph of the Ptychagnostinae and Diplagnostidae of Q'ld., N.T. and N.S.W. <u>Redlichia</u> in Australia. Metadoxididae of Australia. Middle Cambrian polymerid trilobites (Ptychopariidae excluded). Archaeostraca of the early Middle Cambrian. Part 2 of Bulletin 81. Phanerozoic of North Western Queensland.	Continuing	A.A. Opik			
<u>Results:</u>	Reports will be prepared as each project completed.					

GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Specialist Contracts (Cont'd.) 3249	Determining and reporting on plant fossils collected by field parties.		Mrs. M.E. White			Up to \$900 per year as occasion arises
S295	Examine and apply stratigraphic results to Cretaceous molluscs of Artesian Basin; reports will be prepared to include in Bureau records.	Continuing	R.W. Day			Limited field work in Artesian Basin and visit to State Museums
	Petrological study of outcrop and cores and cuttings from wells in Amadeus Basin.	To June 1966	G. Schmerber (I.F.P.)	2 T/A's. (I.F.P.)		In conjunction with Amadeus field geologists.
Sedimentary Petrology 6LP 64/996	Continue sedimentary petrology of samples from Bowen, Artesian, Georgina, Daly River, Amadeus and Wiso basins.	Continuing	R. Jensen R. Nichols L. Brown L. Galloway			Associated with field visits to area of operation.

PUBLICATIONSBULLETINS

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Palaeocene and additional Miocene-Pliocene planktonic foram from New Guinea.	D.J. Belford	Apr. 1966		
Upper Carboniferous and Permian stratigraphic palynology in Eastern Australia	P.R. Evans	July 1966		
<u>Redlichia</u> in Australia	A.A. Opik	Sept. 1966	Jan. 1967	
Middle Cambrian <u>Neipidae</u> structure of trilobite <u>Xystridura</u>	A.A. Opik	Aug. 1966	May 1967	
Dikelokephalinidae in Northern Australia	J.G. Tomlinson	Oct. 1966	} Collection of Papers on Palaeontology	
Ptychopariid trilobites from the Daly River Basin	C. Gatehouse	Dec. 1966		
<u>Proampyx</u> trilobites from Tasmania	C. Gatehouse	Sept. 1966		
Paterina-like brachiopods from Litchfield Area	C. Gatehouse	Dec. 1966		
Carboniferous forams from Bonaparte Gulf	D.J. Belford	Apr. 1967		
Jurassic faunas of Eastern New Guinea	S. Skwarko	Oct. 1966	Feb. 1967	
Jurassic faunas of Western Australia	S. Skwarko	Dec. 1966	May 1967	

LABORATORY AND WORKSHOPS

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GEOLOGICAL BRANCH (Cont'd.)

REPORTS

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Subsurface extensions of Mesozoic in Surat Basin	P.R. Evans	Mar. 1966	Nov. 1966	
Sedimentary Structures and their significance	E. Conybeare & K. Crook	July 1966	July 1967	Assisted by field officers and B.M.R. photographs.

LABORATORY AND WORKSHOPS

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GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Petrology, Mineralogy and Mineragraphy 6LP 65/1330 <u>Results:</u>	1. Petrology as required 2. Study trace elements in granites. North Queensland and West Queensland. 3. Mineralogy and mineragraphy as required, assistance with geochemical programme. Progress Record	Continuous Jan. 1967	1 & 2. C.D. Branch 3 I.R. Pontifex C.D. Branch	T. Zapasnik (TA2) 1 F/A	Short term vehicle hire	Elements to be determined (Whole rock) Li, Sr, Ba, Mo, Pb, Bi, Sn, Cu, Ca, Y, La and Zr. see K. Walker's programme
Chemistry 6LC 65/1330 <u>Results:</u>	1. Routine analyses from geochemical, drilling phosphate and other programme as required. 2. Analyses of standards for instrumental analysis. 3. Assistance with interpretation of data from geochemical investigations. 4. Mechanism of transport and accumulation of metal ions in natural waters e.g. Molonglo River. 5. General supervision of geochemical programmes. 6. Development Hg Detector. Progress Record	Continuous Jan. 1967	A.D. Haldane 1,2,3. J.R. Beevers 2 Chemist K.R. Walker J.M. Rhodes S.E. Smith) see specific programmes, Geochemistry Section	W.O. Hibberson T/A 1 (Specto- graph). E. Woodhead F/A (Sample preparation). (X-ray Camera)	Short term vehicle hire Normal range of Laboratory equipment including:- Hilger Quartz Spectrograph. A.A.S. Polarographic equipment. Flame Photometer	8 hrs. O/T per week. Assistant with phosphate analysis to be provided by Phosphate Group
Geochemistry 6LC 65/1330 <u>Results:</u>	<u>X-Ray Spectrography</u> 1. Silicate analyses of samples from New Hebrides (20 samples) 2. Selected silicate analyses of age determination samples with particular reference to Bowen Basin. 3. Development of X-ray analytical technique for Ni. 4. Shoobridge Granite (16 samples). 5. Hart Dolerite (Samples collected by K.A.P. et al) (as time permits). Progress Record	Continuous Dec. 1966	J.M. Rhodes	1 F/A (if none F/A temporarily)	1210 Automatic X-ray Spectrographic 1010 Manual Spectro- graphic X-ray diffractometer 1008 X-ray Powder Camera.	

LABORATORY AND WORKSHOP

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GEOLOGICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Geochemistry Cont'd.	<u>Direct reading optical Spectrograph</u> 1. Trace element dispersion studies Mt. Isa area. 2. Trace element studies selected Australian granites. 3(a) Application to analysis of geological materials. (b) Reporting element values obtained for standards. 4. Assistance with ad hoc projects (a) Chemistry of Dolerites, Kimberley Region. (b) Trace element studies on Clinostatite bearing rocks, Cape Vogel. (c) Element distribution in areas of progressive metamorphism.	Continuous	K.R. Walker S.E. Smith	1 F/A	Short term vehicle hire. Hilger D.R.O.S.	Visits to field areas where geological background necessary for project - Mt. Isa Mines for discussions. 2. With C.D. Branch 4(a) With K.A. Plumb and J.M. Rhodes 4(b) With W.B. Dallwitz 4(c) With S. Joyce as a Geobiology Project.
<u>Results:</u>	Progress Record		K.R. Walker & S.E. Smith			
65/1330	<u>Atomic Absorption Spectroscopy</u> 1. Continue development methods of analysis, Te and Se.	Continuous	J.R. Beevers	1 F/A part time	1 Techtron 1 A.A.S.	
Geobiology Low Temperature Mineral Research Group 6LGR 63/346	Joint Programmes B.H.R., C.S.I.R.O. and A.H.I.R.A. Study formation of sulphide minerals at low temperatures and behaviour under conditions of deposition and subsequent formation as ore. Areas of progressive metamorphism (see 4(c) above).	Continuous	W.H.B. Roberts N. Le Roux S. Joyce		1 Station Sedan	

LABORATORY AND WORKSHOP

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GEOPHYSICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
<u>DEVELOPMENT GROUP</u>						
Proton Magnetometers 7LXA 64/777 61/468 (Monthly Report)	The resolution of the MNS1 airborne proton magnetometer is to be improved and reliability increased.	Jan.-June	K. Seers	Scherl and other		
Fluxgate Magnetometers	Improvements in design and resolution to be investigated for possible use in magneto- telluric investigations.	As available	K. Seers D.M. Morton	" "		
Observatory Digitisation	Development of system for obtaining digital output from Toolangi magnetographs.	Jan.-	D.M. Morton	" "		
Rock Testing Facilities	Continuation of design and construction of susceptibility and resistivity equipment.	As available	D.M. Morton	" "		
Electronic Digital Clock	Integrated circuit replacement for mechanical unit in MCD2 crystal clock prototype.	As available	K. Seers	" "		
Handbook Writing	Continuation of handbook compilation for magnetometers, crystal clocks, etc.	Jan.-Dec.	K. Seers			

LABORATORY AND WORKSHOP

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GEOPHYSICAL BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
<u>MAINTENANCE GROUP</u>						
7LX5 64/777 61/468(Monthly Reports)	Overhaul, repairs and testing of geophysical and laboratory equipment as required.	Continuous	A.J. Barlow A. Spence	Ryan Gan		
	Modification of observatory magnetogram scaling system for 8 hole paper tape and 12-bit encoding disc.	Jan.-Feb.	A.J. Barlow	Ryan Gan		
	Installation of 10,000' Widco Logger and integration with Pailing logging tools and electronics.	Jan.-Apr.	A. Spence	Radeski		
	Completion of installation of 10,000' Birdwell Winch and integration with CVL logging equipment and Widco tools and electronics.	May-July	A. Spence	Radeski		
	Redesign and construction of Digital Recording system for VH-MIN	Jan.-July	A.J. Barlow	Ryan Turner?		
	Development of recording system for Common Depth Point Method for use with Marine Spark Array and Sonar Boomer equipment	Mar.-May	A.J. Barlow			
	Writing and updating of Handbooks required	Continuous	A.J. Barlow A. Spence	Gan		
	Installation of Seismic Equipment and construction of minor items for B.U.H.P. Project	Jan.	A.J. Barlow A. Spence	Radeski		
	Design and construction of racks for power supplies, capacitor banks and trigger units of Spark Array equipment. System to be in modular form each of 5000 watt seconds	May-July	A.J. Barlow	Workshop		
	Design and construction of new scintillometer detector head for VH-MIN.	If available				
	Measurement of Magnetic Susceptibility and elastic properties of rock samples as required.	Continuous	A. Spence			
<u>WORKSHOP</u>						
7H 64/977(Monthly Reports)	Design, construction, maintenance and repair of instruments and equipment as required.	Continuous		Mechanical design and workshop group		

LABORATORY AND WORKSHOPS

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MINERAL RESOURCES BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
<u>MINING ENGINEERING SECTION</u>						
Jervois Range Copper Sulphate Recovery 6LC 64/1181	Completion of leaching tests	Jan.-Feb.	A.M.D.L.			
<u>PETROLEUM TECHNOLOGY SECTION</u>						
Laboratory 8LX 62/318 62/399	Laboratory investigations: (a) Determination of physical characteristics of core and outcrop rock samples porosity, permeability, density, fluid content, capillary pressure, pore size distribution etc. (b) Analysis of reservoir fluids, water, gas, oil. (c) Testing of crude oil samples and other hydro-carbons, condensates. (d) Drilling fluid investigations, evaluation of mud materials, chemical and other additives and drilling muds produced there-from, drilling mud mechanics, resistivity of mud, mud filtrate and water. (e) Other reservoir engineering investigation, secondary recovery, fracturing, acidation, imbibition etc. (f) Gas analysis - gas chromatography. (g) Sand sieve analysis, water well screen. (h) Spectrophotometry of fluids and gas and the characterisation and determination of their constituents. (i) Electro-chemistry, analysis of fluids and characterisation of aqueous fluids under reservoir conditions.	Continuous	P.G. Duff B.A. McKey J. Puchel	Williams	Full compliment of suitable laboratory equipment including high temperature gas chromatograph, high temperature and pressure mud testing equipment and full range of core analysis equipment, variable speed viscometer, spectrophotometer etc.	

OPERATIONS BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Remarks
<u>PLANNING & CO-ORDINATION SECTION</u>					
	General study, preparation and co-ordination of programme. Advice to and liaison with States and companies on programme activities. Examination of contract specifications for field operations. Processing and preparation of correspondence to the Secretary and Minister as required. Supervision and preparation of Pictorial Index, supervision of preparation of Programme maps. Secretariat of Technical Committee on Underground Water.	Continuous	D.A. White G.F. Clarke Class II Class I		Visits to field parties.
<u>PUBLICATIONS AND INFORMATION SECTION</u>					
	1. Attend to matters concerning publications as follows:- (a) submit policy proposals (b) administer publications programme (c) recommend approval (d) supervise distribution	Continuous	K.H. Kennedy R.W. Haynes P.M. Stott Class II Class I	2 Clerks	
	2. Prepare press statements and technical articles	As required			
	3. Answer technical Enquiries	Continuous			
	4. Attend to matters concerning Records as follows: (a) Recommend approval (b) Recommend classification (c) Supervise distribution to Open File Centers.	Continuous			
	5. Review past technical information and suggest appropriate classification.	Continuous			
	6. Prepare Open File Circulars in January, March, June, September and December.	Continuous			If staff available.
	7. Review and prepare Catalogue of Publications.	Continuous			
	8. Operate Library Cataloguing, Indexing, Integration	Continuous		Miss E. Newman (Librarian) Librarian Library Officer 3 Clerks	Insufficient staff to provide desired services or overcome outstanding work.
Miscellaneous Transport 5X					

PUBLICATIONS

Subject	Author	Timetable to Complete		Remarks
		Writing	Editing	
Open File Circular	-	Quarterly	Quarterly	Circulars No. 6, 7, 8 and 9 to be produced
Catalogue of Publications	L. Law	Oct.	Oct.	Revision and updating of existing Catalogue

GEOLOGICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Stratigraphic Indexing and Lexicons	Maintenance of stratigraphic index cards and bringing up to date the Technical files on all 1:250,000 Sheet areas.	Continuous	Mrs. F. Townsend Miss C. Mitchell Miss L. Yendall	-	-	-
Map Editing	Editing of geological maps for publication	Continuous when maps ready	G.M. Burton M. Plane) Part F. Douth) time	-	-	-
General	Compilation of various maps including Oceania.	Continuous as material and time permits	Miss B. Graham	-	-	-
	Prepare statements, collect and record information on new stratigraphy of basins, completion reports, current drilling information on geology and water supply; keep an up to date map showing location of all Bureau records.	Continuous as material available	J.N. Casey D.J. Guppy J.E. Thompson Miss B. Graham	Clerk (when available)	-	-
	Editing	Continuous	K.A. Townley R. Jacobsen H.A. Jones) Part D. Trail) time	-	-	-
Photogeological Group 6X4	Preparation of base maps where not available from National Mapping photo-interpretation and geological interpretation for use by field parties; reporting on results. Areas involve Daly River-Wiso. Artesian Basin, Cape York Peninsula. Some detailed studies for Engineering Geology.	Continuous	W.J. Perry Field Party geologists part time J. Rivereau (I.F.P.)	3 draftsmen) 1 photographer) B.H.R. 5 draftsmen and assistants from I.F.P.	-	Staff also handles work from I.F.P. sedimentary petrologists. Some field visits necessary for interpretation checks.
Mineral Resources	Prepare and keep up to date the index of mineral deposits, and mineral maps, and prepare answers. Prepare map of metallogenic provinces.		I. McLeod S. Yeaman			
Museum	Receive catalogue, index, store collections; arrange displays; identify routine mineral samples; arrange exchange collections; make local collections as required.	Continuous	T. Nicholas	C. Mundy	1 S.W.B. I/R	Preferable to exchange S.W.B. for I.W.B. I/R
Data Storage	Sample registration, data storage and retrieval punching for computer work etc.	Continuous	T. Quinlan	F. Kousal		Carry out work for branches other than geological.

PUBLICATIONS

MAPS

Subject	Author	Timetable to Complete		Fairdrawing	Remarks
		Compilation			
Australia and Oceania Sheet 8 Sheet 10 Sheet 1	Miss B.K. Graham Miss B.K. Graham Miss B.K. Graham	Apr. 1966 Apr. 1966 ?			Provision should be made for fair-drawing in second half of 1966 Only preliminary work possible. To be completed after Sheets 9 and 13 produced by New Zealand. As map is to some extent experimental and many basic tectonic data are not compiled, may take longer than indicated.
Metallogenetic Map of Australia	I. McLeod Miss Warren	June 1966??			For R.I. and D. Branch, National Development. Mainly supply of data - checking of compilations and contributions to test of accompanying notes.
Power and fuel map, Atlas of Australian Resources					
Fitzroy Basin 1:1,000,000 mineral, mining map. Burdekin-Townsville 1:1,000,000 geological map.		Check of compilation			May be requested to fill in gap in published geology for Burdekin-Townsville map - may involve some field mapping.

GEOPHYSICAL BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles, Equipment	Remarks
Rock Magnetism	Continuation of rock magnetism studies. Application to Victorian basalts. Mathematical study of magnetic effects of thin sheets. Investigation of spinner magnetometer for field use.	July-Dec.	B. Dockery			
Aeromagnetic Maps of Australia	Compilation of aeromagnetic contour map and basement contour map of Australia at scale of 1" - 40 miles. Liaison with Drafting Office.	Feb.-June Dec.	D. Tipper			
Computer Programme for Airborne Reductions	Rewriting of aeromagnetic reduction programme for use in C.D.C. 3600 computer at C.S.I.R.O. Canberra. Continuation of project commenced 1965.	As time available	R. Wells			
Magnetic Anomalies due to Cylindrical Bodies	Mathematical study of magnetic anomalies due to vertical and horizontal cylinders.	Sept.-Dec.	W. Finney			
Magnetic Model Studies by Digital Computer	Completion of 1965 work on development of programmes for calculating anomalies from 3-dimensional bodies. Application of programmes in interpretation of aeromagnetic survey data.	Sept.-Dec.	G. Young			
Magnetic Compensation of VH-MIIN	Theoretical and practical study of magnetic compensation of survey aircraft.	Nov.-Dec.	P. Shelley			
Power Spectral Analysis of Aeromagnetic Anomalies	Investigate application of power spectral analysis to results of Tasmanian high-altitude aeromagnetic survey.	As time available	J. Quilty			
Radiation Sensors	Literature search for information on development and application of radiation sensors.		As available			

MINERAL RESOURCES BRANCH

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles	Remarks
<u>MINERAL ECONOMICS SECTION</u>						
Commodity Studies 6X	Surveys of industry	*	As required	-	Short-term hire	* The amount of time which can be spent on these projects will depend on the pressure of other commitments, in particular ad hoc activities and publications (the latter taking about 45 man-months), and the incidence of vacant positions. The experience of 1965 indicates, that the time available will be limited or negligible. Accordingly, no estimate of time to be spent on these has been made, but they appear on the programme as desiderata.
Regional Studies	Studies of world mineral industry	*	As required	-		
Basic Investigations	Investigations of					
	(1) Long-range production and consumption trends	*	D.F. Livingstone Others as available	Clerk/Draftsman		
	(2) New techniques in mineral extraction, processing, utilization.	*	As available		Short-term hire	
	(3) Substitution	*	D.F. Livingstone Others as available			
	(4) Resources economics	*	D.F. Livingstone Others as available	Clerk/Draftsman		
(5) Cost factors	*	As available				
International Commodity Problems	Preparation of appropriate advices	3 man-months	As required	As required		
Publications	Preparation of A.M.I.R.	45 man-months	Section	Editor (Miss Rawson) Clerk/Draftsman		
General	Preparation of advices, briefs, papers, etc. Preparation and circulation of specialized information. Dealing with enquiries and visitors.	At least 50 man-months	As required	As required		

Non-professional staff excludes two officers of C.B.C.S. stationed in Section

PUBLICATIONS

Subject	Author	Writing	Timetable	Editing	Remarks
A.M.I. Annual Review, 1965	Section	June-Sept.		July-Oct.	Followed by proof-reading by editor (Miss Rawson)
A.M.I. Quarterly Review	Section	Vol.18 No.3 Feb.		Feb.	Followed by proof-reading
		No.4 May		May	"
		Vol.19 No.1 Aug. (-Sept.)		Aug. (-Sept.)	"
		No.2 Nov.		Nov.	"
Bulletin No. 81 - "Australian Mineral Industry - Production and Trade 1842-1964"	Z. Kalix Miss Rawson				Proof-reading later in the year, by editor (Miss Rawson)

MINERAL RESOURCES BRANCH (Cont'd.)

Party/Project Symbol File	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles	Remarks
<u>MINING ENGINEERING SECTION</u>						
Gold Mining Assistance	Reports on operations of mines receiving assistance under the Gold Mining Industry Assistance Act.	As required	G.P. Lead		Short-term hire, Department of Supply, Perth.	
Export Control	Processing technical aspects of applications to export iron and manganese ores.	As required	H.W.L. King G.F. Lead			
Wire Rope Research	Representation on AMIRA Committee on wire rope research.	As required	G.F. Lead			Work is carried on at University of New South Wales by Professor J.P. Morgan and Dr. E.E.J. Symes
Conference of Chief Inspectors of Mines	Representation on Conference and preparation of codes of safe practice in mining.	Continuous	G.F. Lead			Mr. Lead is Secretary of the Conference
<u>PETROLEUM TECHNOLOGY SECTION</u>						
Drilling	Supervision of stratigraphic shot-hole and scout hole drilling, including contracts if any, ordering, maintenance etc. of drilling equipment and materials	Continuous	A. Churchill J. Henry H.S. Taylor-Rogers (gen. supervision)	E.G. Beaver	As required	Includes visits to field operations
Petroleum Policy General	Through the Assistant Director, Mineral Resources Branch, advise the Director on matters and legislation concerning exploration, discovery, development and conservation of petroleum resources; attendance at conferences and meetings concerned with these matters; prepare answers to Ministerial correspondence, Parliamentary questions etc.; preparation of submissions and reports on the above matters.	Continuous	H.S. Taylor-Rogers M. Konecki J. Henry			
Statistics	Preparation of the following: (a) Drilling and exploration statistics (b) Drilling Rig Activity (c) Articles and data for trade journals, pamphlets and other publications	Continuous	J. Henry M. Bell	L.K. Jeffrey		Produced quarterly Produced fortnightly
Petroleum Engineering	(a) Estimation of petroleum reserves and valuation work. (b) Reports and papers on laboratory investigations in reservoir engineering etc. (c) Liaison with the Petroleum Exploration Branch on drilling and policy matters in connection with Petroleum Search Subsidy Act 1959-1964.		M. Konecki J. Henry P. Duff			

1967 TENTATIVE PROGRAMS

OIL SEARCH

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GEOLOGICAL BRANCH

Party/Project	Nature of Work	Approx. Timetable	Staff	Remarks
Ngalia N.T.	Commence geological mapping of the Ngalia Basin	1967-1968	A.T. Wells	Depends on completion of report writing of Amadeus. Helicopter operation and shallow core hole drilling
Daly Waters/Wiso N.T.	Complete report writing and map preparation of geology of Wiso-Daly Waters area.	1967	H.A. Randal	
Bonaparte	Complete reports on geology, petrology and palaeontology of the basin.	To July 1967	J.J. Veevers. J. Roberts	
S.W. Eromanga	Continue geological mapping of 1:250,000 areas of Barrolka, Eromanga, Durham Downs, Thargomindah	1967	C. Gregory	Light aircraft charter and core hole drilling
Surat	Continue mapping eastern intake area of Artesian Basin by covering 1:250,000 areas of Dalby, Surat, Coonidwindi.	1967	H. Exon	Core hole drilling
Drummond	Continue compilation of Drummond basin mapping, and extend study in subsurface to Adavale Basin.	1967	F. Olgers	
Bandanna	Complete laboratory work on 1965/66 project and write up reports.	July 1967	A.R. Jensen	
Bowen	Complete bulletin, explanatory notes, maps on this basin.	1967	E.J. Malone J.M. Dickins	
Carpentaria	Commence geological mapping by starting 1:250,000 areas of Coen, Cape Weymouth, Oxford Bay.	1967	E. Milligan	Helicopter, boat hire, core hole drilling

OIL SEARCH

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GEOPHYSICAL BRANCH

Project	Nature of Work	Approx. Timetable	Remarks
SEISMIC NO. 1 Reconnaissance Traversing	Testing of hypotheses derived from Reconnaissance Gravity Surveys (includes alternatives Wiso Basin, Ayers Rock Depression, and Sydney Basin).		1965 and 1966 helicopter gravity surveys have a bearing
SEISMIC NO. 2 Experimental Work	(a) Elimination of multiples in Tertiary and Mesozoic Basins (S.E. Aust.) or (b) Estimating thickness of refractors from rate of attenuation of energy (? Carnarvon Basin) or (c) Matching of synthetic seismograms with field records and inversely filtered field recordings with velocity logs. (? Surat Basin)		
Contract Operations Marine Gravity - Spark array	(a) Gulf of Papua and Torres Strait or (b) Sahul Shelf or (c) Canning - Carnarvon Basins seaward link or (d) Carnarvon - Perth Basins seaward link (e) Gulf of Carpentaria (f) Southern part of Perth Basin (g) Eucla Basin (W.A. part)		
Helicopter Gravity, Arnhem Land, the Kimberleys and the Ngalia Trough	Coverage of the following 1:250,000 areas: Pellew*, Mt. Young*, Hodgson Downs*, Urapunga*, Roper River*, Cape Beatrice*, Port Langdon*, Blue Mud Bay*, Mt. Marumba*, Millingimbi*, Arnhem Bay*, Cove*, Truant Island*, Wessel Islands*, Junction Bay*, Cobourg Peninsula*, Alligator River, Mt. Evelyn, Katherine, Larrimah, Victoria River Downs (part), Delamere, Fergusson River, Pine Creek, Darwin, Melville Island, Bathurst Island, Fog Bay, Cape Scott, Port Keats, Auvergne, Waterloo, Limbunga, Birrindudu (part), <u>The Granites</u> (part), <u>Highland Rocks</u> , <u>Lake Mackay</u> , Mt. Doreen, Mt. Theo, Gordon Downs, Dixon Range, Lissadell, Cambridge Gulf, Medusa Banks, Londonderry, Drysdale, Ashton, Mt. Elizabeth, Lansdowne, Mt. Ramsay, Lennard River (part), Charnley, Prince Regent, Montague Sound, Camden Sound and Yampi (part) (about 34 sheets in total area are expected to be covered).	Mar.-Dec.	Contract Helicopter \$240,000. It is possible that some of the sheets marked with an asterisk will be covered in 1966. The sheets underlined denote reserve sheets that are not expected to be covered.

OIL SEARCH

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GEOPHYSICAL BRANCH (Cont'd.)

Project	Nature of Work	Approx. Timetable	Remarks
VH-LIN Great Artesian Basin, Qld.	Aeromagnetic survey to fill in gaps in coverage of Great Artesian Basin - parts of LONGREACH, BLACKALL, JUNDAR, WINDORAH, EROMANGA, THARGOMINDAH at 2-mile spacing.	2 months	Tentatively programmed for 1966 as contract survey but deleted from 65/66 estimates.
Dept. of Interior Levelling	Levelling required for the 1968 Helicopter Gravity on approximately 35 sheets. Alternative areas: (a) Ngalia Trough, South Canning Basin, and North Carnarvon Basin and areas in between i.e. completion of coverage of continent above latitude 25° (b) Completion of coverage of Artesian Basin east of longitude 132°30' North of Latitude 31° to longitude 147° then north of latitude 32° to the coast.		Irrespective of which area is chosen The Granites, Highland Rocks, Mt. Theo, Mt. Doreen and Lake MacKay should be done early in the season.
Water bore logging Great Artesian Basin			\$100,000? 1966/67 estimates.

PETROLEUM EXPLORATION BRANCH

Subsidy Section	Normal subsidy programme similar to 1966
Subsurface Section	(a) Sedimentary Basin Study Group. Complete Basin Studies on: 1. Sydney Basin 2. Clarence - Ipswich Basin (b) Core and Cuttings Lab. As for 1966 but directed to (a) above.

METAL SEARCH (INC. URANIUM) SEARCH

65

GEOLOGICAL BRANCH

Party/Project	Nature of Work	Timetable	Staff	Non-professional Staff	Vehicles	Remarks
Darwin Uranium Group	Continue Hum Jungle investigations	1967 Continuous	As per establishment	As per establishment		
Kalgoorlie Party	<u>Geochemistry</u> Complete trace element studies	1967	R. Beevers I. Pontifex			
Sepik Party, T.P.N.G.	Continue regional mapping selected area - Sepik Region.	May-July 1967	2 Geologists		? 3 Jet Boats	Area selected depends on availability of air photos
Papuan Basic Belt Party, T.P.N.G.	1. Continue regional geological mapping. 2. Compiling geology and preparation of geological report. 3. Continue gravity surveys.	May-Sept. 1967	H. Davies	Native carriers (1 Boss Boy)		Line cutting Helicopter hire \$4,000. Boat hire.
<u>Results:</u>	Progress Record					
Petermann Ranges	Regional Geology of the S.W. Portion of Petermann Range 1:250,000	May-Aug. 1967	2 Geologists			
Cape York Q.	Continue regional mapping parts Ebagoola, Coen, Cape Weymouth and Torres Strait 1:250,000 Sheet areas. Collection of samples for age determination	May-Oct. 1967	D. Trill 2 Geologists 1 G.S.Q.			Helicopter Boat
Geochemical Sampling Party Q.	Stream sediment, rock and mineral geochemical sampling Bowen and Charters Towers 1:250,000 Sheet areas.	1967 Continuous	J. Kelly 3 Leading Hands	3 F/A's.		
Victoria River N.T.	Selection of 1:250,000 Sheet areas to be made		H.G. Roberts			Two parties? Helicopter Hire Light aircraft
Mt. Isa Q.	Continue Geochemical Investigations		K.R. Walker S.E. Smith			
The Granites N.T.	Regional geology of Granites and Tanami 1:250,000 areas.		G.N. Derrick			

METALS (INCL. URANIUM) SEARCH

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GEOPHYSICAL BRANCH

Party/Project	Nature of Work	Approximate Duration	Remarks
VH-MIN South Australia	Aeromagnetic and radiometric survey in north-west of South Australia. 2 1:250,000 areas	2 months	
	or		
VH-MIN Experimental Flying	High altitude survey for crustal investigation or other project	2 months	If Tasmanian high altitude survey 1966 successful, further work of this type would be proposed
VH-MIN Western Australia	Aeromagnetic and radiometric survey of MT. EGERTON, ROBINSON RANGE, MT. PHILLIPS (part), GLENBURGH (part) at 1-mile spacing	3 months	Requested by Western Australia Mines Department
VH-MIN New England N.S.W.	Aeromagnetic and radiometric survey of Tingha, Glencoe, Glen Innis, Clive, Emmaville, Maryland and Inverell (part), 1-mile areas, at 1/2-mile spacing	1 month	If mapping available
VH-GEO Northern Territory	Detailed aeromagnetic survey of DC3 anomalies in selected areas	5 months	
VH-GEO Qld.	Spotting of water bores (Great Artesian Basin)	2 weeks	
VH-GEO N.T.	Following up DC3 radiometric survey over phosphate areas in Amadeus Basin	2 weeks	
VH-GEO Victoria	Detailed aeromagnetic survey to investigate basalt over brown coal deposits. Possible application to deep lead exploration	2 months	Depends on outcome of 1966 experimental survey in western Victoria
Contract Victoria River Basin, N.T.	Aeromagnetic survey of DELAMERE, VICTORIA RIVER DOWNS, WAVE HILL, WINNECKE CREEK		Continuation of 1966 work \$100,000 on 1966/67 Estimates
Blue Tier Tinfield Tasmania 65/1664	Investigation of tin-bearing granites. Survey of Anchor Mine	4 months	Requested by Tasmanian Mines Department and Aberfoyle Tin Development Partnership. Joint Geochem.- Geophy. project?
Tennant Creek Northern Territory	Gravity Survey	3 months	
Darwin Uranium Group	Laboratory services, logging, field surveys as required	Continuous	
Contract P.N.G. (Ultrabasic-Astrolabe - Papuan Basin)		Jan. Mar. April	Continuation of 1966 programme. \$218,000 in 1966/67 estimates

NON - METALS SEARCH

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GEOLOGICAL BRANCH

Party & Project	Nature of Work	Timetable	Staff	Non-professional Staff	Equipment	Remarks
<u>PHOSPHATE</u>						
Two parties planned for 1967 but deployment will depend on results of 1966 programme and on the level of Company and State Survey Activity						
<u>MARINE GEOLOGY</u>						
No. 1 Project North Coast Shelf	Rece submarine mapping of shelf and platforms Ashmore Reef to Dampier Archipelago	Tracks from Oct.-Dec. 1967 Mar.-May 1968	Project Leader 2 Geologists	1 T.P. 1 F/A	Marine investigation equipment. Chartered ship	Firm arrangements to be made in 1966, will probably include arrangements for 2nd Project - Solomons and Coral Sea - to commence early 1968.

GEOLOGICAL BRANCH

Party/Project	Nature of Work	Approximate Timetable	Staff	Remarks
<u>AUSTRALIAN CAPITAL TERRITORY</u>				
Corin Damsite, Cotter River	Construction services	Discontinuous through year	E.J. Best	
Burbong Damsite	Design investigation?	6 months	1 geologist	May not be undertaken in 1967
Googong Damsite	Design investigation			Whether these schemes will be proceeded with depends largely on the outcome of a study of the feasibility and economics of a possible Tantangara diversion scheme currently being carried out by S.M.H.E.A.
Queanbeyan River	(Possible project only)			
Gudgenby and/or Cotter Damsite	Possible detailed feasibility investigation			
Minor engineering geology investigations, including construction materials	As for 1966. Expected to include 2 or 3 water reticulation reservoirs and urban development work	Continuous through year	2 geologists	
Miscellaneous investigations (hydrology and drainage)	As for 1966	Discontinuous through year	1 geologist	
<u>PAPUA - NEW GUINEA</u>				
Port Moresby No. 2 Underground power station	Possibly some construction services; probably only writing of completion report	Jan.-Apr.	I.S. Cumming	Completion report to be written by I.S. Cumming and J.R.L. Read.
Upper Ramu hydro-electric project - underground power station	Construction services	June 1967-1969?	1 geologist	Temporary position to be sought by B.M.R. for duration of project
The following projects will be undertaken essentially by Port Moresby staff, with assistance as required from Canberra and/or project geologist/s:				
Lower Warangoi hydro-electric scheme	Possible design investigation	? 6 months	1 geologist	
Musgrave River hydro-electric scheme	Possible follow-up work from 1966 investigation	?	1 geologist	If Musgrave scheme is not feasible alternative schemes will have to be investigated
Sirinumu Dam - second stage	Feasibility and design investigation	6 months	1 geologist	
Minor hydro-electric projects	Follow-up work from 1966, together with additional feasibility investigations	?		
<u>NORTHERN TERRITORY</u>				
Unspecified damsites	Feasibility investigation			Information being sought from Darwin.