COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES, GEOLOGY AND GEOPHYSICS

Record No. 1971/49

Bureau of Mineral Resources

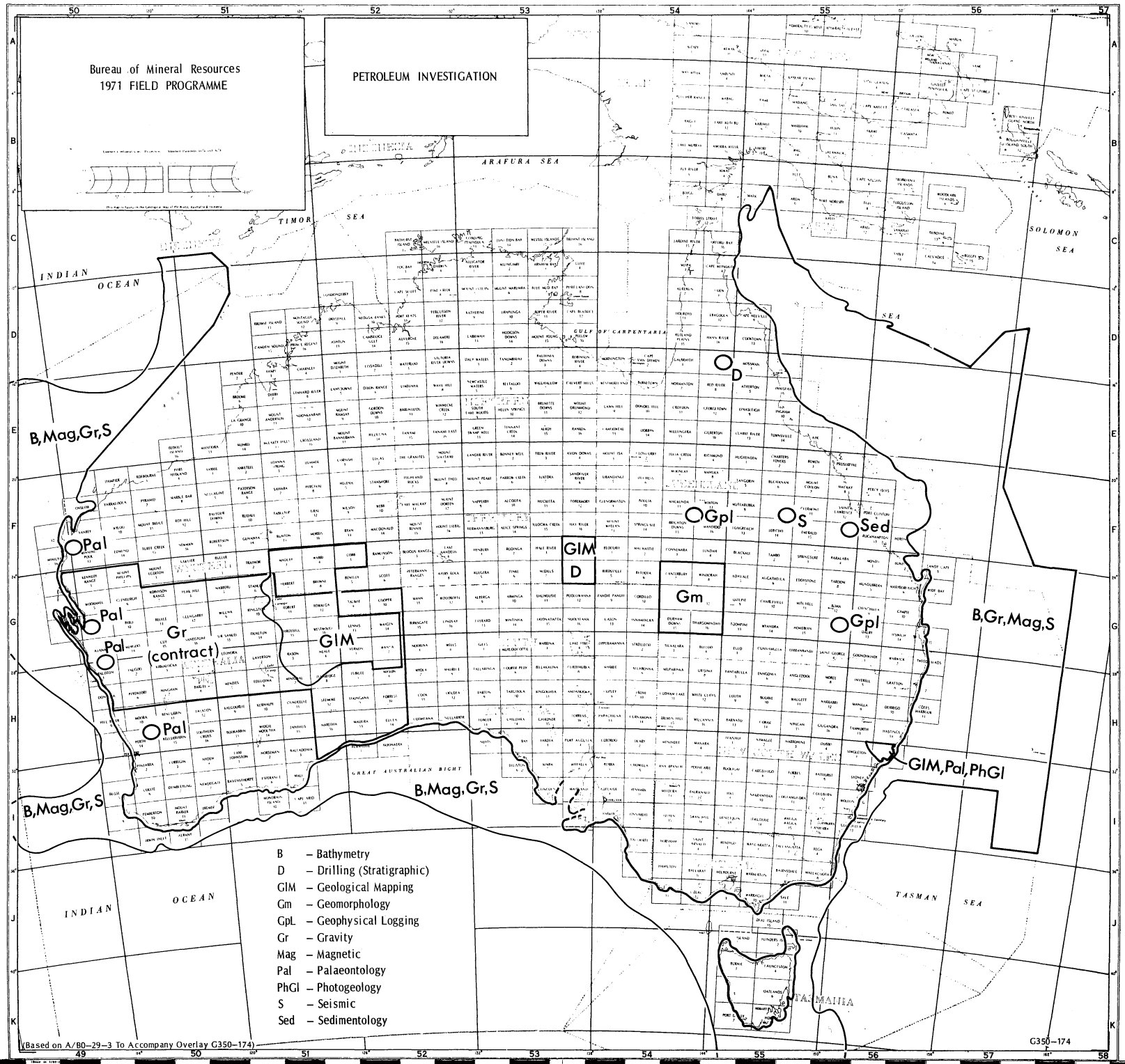
1971 PROGRAMME

Compiled by

R. Thieme

CONTENTS

1971 Programme	Page
PETROLEUM INVESTIGATION	
Geological Branch	1
Geophysical Branch	3
Petroleum Exploration Branch	7
Mineral Resources Branch (drilling)	8
METALS INVESTIGATION	
Geological Branch	9
Geophysical Branch	12
Mineral Resources Branch (drilling)	14
NON-METALS INVESTIGATION	
Geological Branch	15
Geophysical Branch	16
Mineral Resources Branch (drilling)	17
REGIONAL GEOPHYSICAL SURVEYS	
Geophysical Branch	19
OBSERVATORIES	
Geophysical Branch	21
ENGINEERING AND HYDROLOGY	
Geological Branch	25
Geophysical Branch	29
Mineral Resources Branch (drilling)	30
RESIDENT GEOLOGICAL STAFF	
Geological Branch	31
LABORATORIES AND WORKSHOPS	
Geological Branch	33
Geophysical Branch	40
Mineral Resources Branch	43
OFFICE AND MISCELLANEOUS	
Operations Branch	45
Geological Branch	46
Geophysical Branch	49
Mineral Resources Branch	50
PUBLICATIONS IN PREPARATION	53


Bureau of Mineral Resources
1971 FIELD PROGRAMME
PETROLEUM INVESTIGATION
INDIAN OCEAN
TIMOR SEA
ARAFURA SEA
GULF OF CARPENTARIA
SOLOMON SEA
GREAT AUSTRALIAN BIGHT
TASMAN SEA
TASMANIA
B,Mag,Gr,S
Pal
Pal
Pal
Gr
(contract)
GIM
D
GIM
Gm
Gpl
S
Sed
Gpl
B,Gr,Mag,S
GIM,Pal,PhGl
B,Mag,Gr,S
B,Mag,Gr,S
B – Bathymetry
D – Drilling (Stratigraphic)
GIM – Geological Mapping
Gm – Geomorphology
GpL – Geophysical Logging
Gr – Gravity
Mag – Magnetic
Pal – Palaeontology
PhGl – Photogeology
S – Seismic
Sed – Sedimentology
(Based on A/80–29–3 To Accompany Overlay G350–174)
G350–174

PETROLEUM INVESTIGATION

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Carpentaria Basin, Qld.	Field: Supervision of shallow stratigraphic drilling and field checking of problem areas resulting from 1970 geological mapping.	Mid June - mid Aug
	Office: Records on 1970 mapping and drilling; papers on important geological and hydrological results; compilation of 1:250,000 geological sheets mapped in 1970 - Mornington Is, Westmoreland, Lawn Hill, Cape Van Dieman, Croydon, Normanton, Galbraith, Rutland Plains, Walsh, Red River, Georgetown; compilation of 1:1,000,000 geological sheet of southern Carpentaria Basin; prepare maps and explanatory notes of 1:250,000 geological sheets of southern Carpentaria Basin for publication.	
Eromanga Basin, Qld.	Office: Preparation of two Bulletins and 1:1,000,000 maps relating to previous geological and geophysical studies, including re-interpretation where necessary.	
Western Eromanga Basin, N.T.	Field: Geological mapping (ground and helicopter traverses)of Simpson Desert North and South 1:250,000 sheet areas and Hay River region. Shallow stratigraphic drilling to about 500'.	May - Sept
Southwest Eromanga Basin, S.A.	Office: Record, map and explanatory notes on 1970 mapping of Gason and Pandi Pandi 1:250,000 sheet areas.	
Hydrogeological study of Great Artesian Basin, Qld., N.S.W., S.A., N.T.	Office: Collation and review of all hydrogeological data in the Great Artesian Basin, as requested by TCUW.	
	Field: Visit to intake areas of Qld. and N.S.W. with State officers.	July
Great Artesian Basin Qld.	Office: Completion of explanatory notes: Hughenden, Jericho, Dalby, Goondiwindi, Machattie 1:250,000 sheet areas.	

PETROLEUM INVESTIGATION
GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Southwest Queensland geomorphology	Field: Study relation of geomorphology to structure as basis for elucidating Cainozoic structural movements and deposition. (Co-operative project with University of New South Wales).	June - Sept
Eyre Creek, Qld.	Field: Shallow stratigraphic drilling in SW part of Springvale 1:250,000 sheet area; project to investigate the Eyre Creek alluvial deposits including the gamma-ray anomaly at the base of the alluvium as indicated in Breadalbane No. 9 water bore and the Svanbergite occurrence near Pigeongah Waterhole.	Mid May - mid July
Officer Basin, W.A.	Field: Geological mapping by helicopter of the following 1:250,000 sheet areas: Madley, Warri, Cobb, Herbert, Browne, Robert, Yowalga, Westwood, Lennis, Weigen, Neale, Vernon, Wanne; and parts of the following sheets: Throssel, Rasen, Minigwal, Plumridge, Mason. Detailed mapping of selected areas in the Officer Basin. Joint project with G.S.W.A. Office: Processing and re-interpretation (if necessary) of existing geological and geophysical information (assistance from Petroleum Exploration Branch). Record on results of 1971 mapping. Explanatory notes for 1:250,000 sheet areas: Browne, Lennis and Yowalga.	May - Sept
Bowen Basin, Qld.	Field: Environmental study of coal deposits in Bowen Basin. Office: Study of Triassic Mimosa Group - sedimentary environments, correlation and extent. Bulletin on investigation.	May - June
Hunter Valley, N.S.W.	Office: Writing up of 1970 field work on stratigraphic, palaeontological and structural study of the Carboniferous of the northern Hunter Valley. (Co-operative project with universities of Newcastle, Sydney, New South Wales, and New England).	
Carnarvon and Perth Basins, W.A.	Field: Visit to Carnarvon and Perth Basins to collect from Cretaceous and Tertiary sections.	June - July

PETROLEUM INVESTIGATION

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
SEISMIC, GRAVITY AND MARINE SECTION		
Oil Advisory Committee Reports	Office: Critical comments on company reports for O.A.C.	
SEISMIC SUB-SECTION		
Galilee Basin Seismic Survey, Qld.	Field: Seismic reflection/refraction survey to define nature of eastern margin of basin.	Aug - Nov
Bulloo Depression Seismic Survey, Qld.	Field: Seismic reflection/refraction survey to investigate the nature of the Bulloo Depression and the possible presence of Permo-Triassic sediments.	Tentative proposal only - depends on whether sufficient time available after completion of Galilee Basin project.
Roma Shelf Seismic Survey, Qld.	Office: Completion of reporting.	
Geo-Traverse and other Crustal Reflection Surveys	Office: Completion of data processing and reporting.	
Ngalia Basin, N.T.	Office: Completion of writing Record and Bulletin contribution.	
Airborne Seismic Survey, New Guinea	Office: Data processing and reporting.	
Preparations for 1972 Structural Survey, Central Australia (including magneto-tellurics)	Office: Full assessment of work on Geo-Traverse, Further investigation of techniques. Preparation and procurement of equipment. Preparation of preview report.	
Gosses Bluff, N.T.	Office: Completion of data processing and reporting.	
Seismic Computer Programme for CDC 3600	Office: Development, review and documentation of Single-Time Series seismic computer programmes.	
Seismic Data Processing Group	Office: 1. Production of seismic record sections and processing of experimental work for the current seismic programme and for review work of the Seismic, Gravity and Marine Section and the Basins Studies Group, Petroleum Exploration Branch.	

PETROLEUM INVESTIGATION

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Seismic Data Processing Group (Cont.)	2. Laser Scan processing of seismic sections, investigation of application of Laser Scanning in other geophysical and geological fields. 3. Digitising of seismic data and well and other logs and processing of the data through CSIRO computer. 4. Digital processing of seismic data.	
GRAVITY AND MARINE SUB-SECTION		
Ngalia Basin, N.T.	Office: Interpretation of gravity data for inclusion in Bulletin on Ngalia Basin.	
Reconnaissance Helicopter Gravity Survey, W.A., 1971	Field: Helicopter gravity coverage of the remainder of W.A. - Carnarvon, Eucla and Officer Basins and Precambrian Shield.	Field work probably starting about July, possibly extending into 1972.
Compilation and recomputation of data	Office: Reduction of BMR gravity data for incorporation in the Gravity Map of Australia.	
Reconnaissance Helicopter Gravity Survey, S.A., 1970	Office: Preparation of preliminary report and interpretation of - Western area (area A) - Flinders Ranges area (area B).	
Detailed Gravity Survey, Kalgoorlie Area, W.A., 1970	Office: Finalization of preliminary report and preparation of interpretative report.	
Reconnaissance Helicopter Gravity Survey, N.G., 1970	Office: Preparation of preliminary report.	
Reconnaissance Helicopter Gravity Survey, W.A., 1969	Office: Finalization of preliminary reports.	
Reconnaissance Helicopter Gravity Survey, Qld., 1966	Office: Finalization of preliminary report.	
Collection of density data	Office: Documentation of programme to store and retrieve data.	

PETROLEUM INVESTIGATION

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Combined Geophysical Survey of the Northwest Continental Shelf, 1968	Office: Final data processing and presentation; preparation of final report.	
Continental Margin Survey	Field: Bathymetric, seismic, gravity and magnetic recording on lines 20 miles apart between 20 m and 4000 m isobaths. Office: Preparation, supervision and preliminary report: - Area 1 - Eastern margin north of Lat. 24°S - Area 2 - Eastern margin, Lat. 24-34°S - Area 3 - Vic. and Tas. margin, Lat. 34-44°S	Jan - Dec
Combined Geophysical Survey of the Gulf of Papua and the Bismarck Sea, 1970	Office: Preliminary interpretation and report of - Bismarck Sea - Gulf of Papua.	
Marine Progress Map of Australia	Office: Preparation of Record showing ships' tracks and geophysical data (other than BMR or subsidy).	
Techniques-Theoretical	Office: Analysis and development of techniques for computation, interpretation and presentation of gravity data.	
Programming	Office: Writing of new programmes, finalisation and documentation of existing programmes.	
Data Processing	Office: Compilation, reduction, re-computation and presentation of gravity and marine data. Including gravity map of Australia, Marine Progress Map, 1:1,000,000 scale maps, recomputation of helicopter gravity from 1963-1965 and 1967.	
ENGINEERING GEOPHYSICS GROUP		
Contract bore logging, Qld.	Field: Logging of water bores in Great Artesian Basin; gamma, resistivity, S.P. and temperature logs.	July - Sept

PETROLEUM INVESTIGATION

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Logging difficult artesian bores, Qld.	Field: Log holes which contractor could not undertake because of various technical difficulties.	May - July
AIRBORNE SUB-SECTION		
Ngalia Basin, N.T.	Office: Interpretation of aero-magnetic data for inclusion in Bulletin on the basin.	

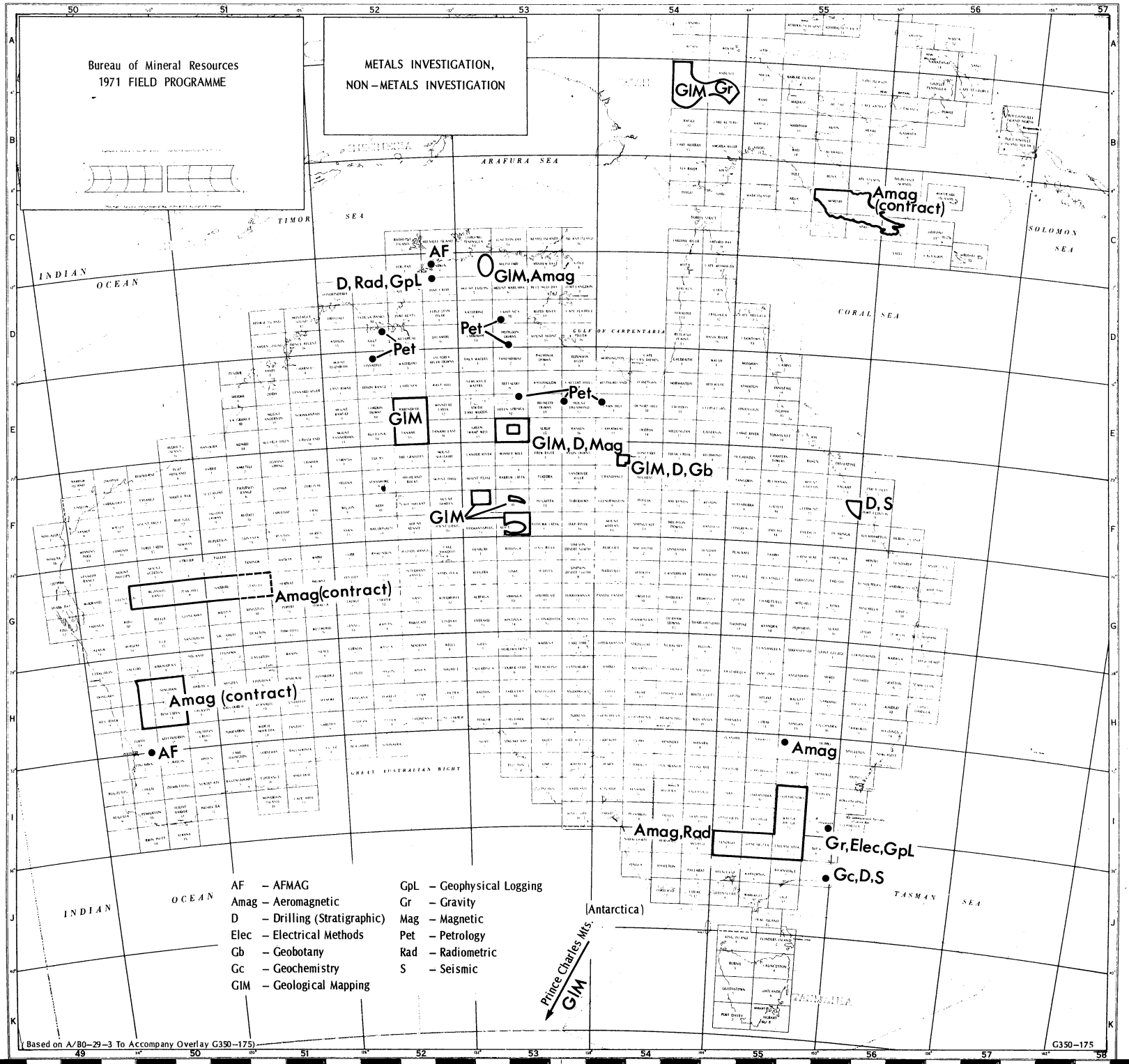
PETROLEUM INVESTIGATION

PETROLEUM EXPLORATION BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
SUBSIDY SECTION	Office:	
	1. Process applications for subsidy under Petroleum Search Subsidy Act; follow progress of operations; inspect operations; assess final reports; check cost statements; prepare reports for publication.	
	2. Inspect operations for offshore Northern Territory under Petroleum (Submerged Lands) Act on behalf of Northern Territory Administration.	
SUBSURFACE SECTION		
Sedimentary Basins Study Group	Office:	
	1. Complete Sydney Basin study. Collect, collate, compile and interpret all available data on Canning Basin in Report form. Reduce seismic cross-sections for Canning, Carnarvon and Officer Basins. Issue Carnarvon Basin Bibliography as Record.	
	2. Maintain a current assessment of the progress of petroleum exploration and of the prospectiveness of the sedimentary basins of Australia and Papua-New Guinea.	
Core and Cuttings Laboratory	Office:	
	1. Receive, catalogue and store core and cuttings received as a result of PSSA, P(SL)A, BMR drillings, donations from private companies and State Mines Departments, and exchange of material with State Mines Departments. Despatch approved samples to outside organizations for study. Make available samples for study and provide facilities for testing of samples. Equip BMR field parties with materials for examination and packing of subsurface samples. Distribute pre-labelled cutting bags on request.	
	2. Investigate automatic data processing techniques for cataloguing samples and storage and retrieval of information. Operate D.T.A. equipment as required. Prepare representative thin sections as required.	

PETROLEUM INVESTIGATION
MINERAL RESOURCES BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
PETROLEUM TECHNOLOGY SECTION		
DRILLING ENGINEERING SUB-SECTION		
Carpentaria Basin, Qld.	Field: Drilling and coring in support of geological party; about 16 holes; max. depth 600 ft.	June - Aug
Western Eromanga Basin, N.T.	Field: Drilling and coring in support of geological party; unspecified number of holes; max. depth 500 ft.	May - July
Eyre Creek, Qld.	Field: Drilling and coring in support of geological investigation; 4 holes to max. depth 80 ft; 3 holes to max. depth 450 ft.	Mid May - mid July
Galilee Basin, Qld.	Field: Shot hole drilling in support of seismic party.	Aug - Nov


Bureau of Mineral Resources
1971 FIELD PROGRAMME
METALS INVESTIGATION,
NON – METALS INVESTIGATION
GIM, Gr
Amag (contract)
AF
D, Rad, GpL
GIM, Amag
Pet
Pet
Pet
GIM
GIM, D, Mag
GIM, D, Gb
GIM
D, S
Amag (contract)
Amag (contract)
AF
Amag
Amag, Rad
Gr, Elec, GpL
Gc, D, S
Prince Charles Mts.
GIM
ARAFURA SEA
TIMOR SEA
INDIAN OCEAN
CORAL SEA
SOLOMON SEA
GULF OF CARPENTARIA
GREAT AUSTRALIAN BIGHT
TASMAN SEA
(Antarctica)
AF – AFMAG
Amag – Aeromagnetic
D – Drilling (Stratigraphic)
Elec – Electrical Methods
Gb – Geobotany
Gc – Geochemistry
GIM – Geological Mapping
GpL – Geophysical Logging
Gr – Gravity
Mag – Magnetic
Pet – Petrology
Rad – Radiometric
S – Seismic
(Based on A/80–29–3 To Accompany Overlay G350–175)
G350–175

METALS INVESTIGATION

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Arunta, N.T.	Field: Complete detailed mapping of Precambrian on Alice Springs and Alcoota 1:250,000 sheet areas, and the Reynolds Range on Napperby 1:250,000 sheet area. Collect samples for isotopic dating (Co-operative project with ANU). Office: Prepare Record on field work; prepare notes to accompany metamorphic maps of Central Australia.	May - Oct
Tennant Creek, N.T.	Field: 1. Complete mapping of Tennant Creek 1:250,000 sheet area; shallow stratigraphic drilling in areas mantled by superficial deposits; collect samples for isotopic dating; gather information from mining and exploration companies.	April - May
	2. Geochemical sampling of rock formations mainly from drill cores. Office: Prepare Record, Report, map and explanatory notes on field work.	June - July, Aug - Sept
Granites - Tanami N.T./W.A.	Field: Geological mapping (ground and helicopter traverses) of Birrindudu, Tanami, The Granites 1:250,000 sheet areas (N.T.) and the Precambrian rocks on Billiluna, Lucas, Stansmore and Webb sheet areas (W.A.). 3 year project; commence mapping of Birrindudu and Tanami in 1971; possibly some stratigraphic drilling. Office: Prepare Record on results of field work.	June - Oct
Cloncurry, Qld.	Field: 1. Finalize mapping of the Mt Isa 1:100,000 sheet area and check where necessary the geology of parts of the Marraba and Mary Kathleen 1:100,000 sheet areas. Collect samples for isotopic dating. Gather information from mining and exploration companies. Colour air photography to be completed by contractor. Up to 2000 ft of stratigraphic drilling.	May - Sept

METALS INVESTIGATION

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Cloncurry, Qld. (Cont.)	2. Geobotanical study by Professor M. Cole (Bedford College, London). Office: Prepare Record, Report and brief Bulletin on results of field work.	Commencing March
Victoria River, N.T.	Field: Complete mapping and sampling of the Antrim Plateau volcanics and their stratigraphic equivalents in the Northern Territory and northwest Queensland. Office: 1. Complete compilation of Victoria River Downs, Wave Hill, Limbunya and Waterloo 1:250,000 sheet areas. 2. Compile 1:500,000 geological map of Victoria River Basin. 3. Prepare report on Antrim Plateau volcanics.	June - Sept
Darwin Uranium Group, N.T.	Field: If staff available, commence detailed mapping of the uraniferous and potentially uraniferous areas on Alligator River and Mt Evelyn 1:250,000 sheet areas. Office: Complete the compilation of all work in the Rum Jungle Area. Prepare contour map of base of Kombolgie Sandstone.	June - Sept
West Sepik, T.P.N.G.	Field: Regional geological mapping of central ranges from Porgera to West Irian border (helicopter and ground traverses). Office: Compile - 1. Wabag, May River, and Blucher Range 1:250,000 sheets and explanatory notes. 2. Record, Bulletin and 1:500,000 map incorporating South Sepik geology.	June - Oct or Nov
Antarctica	Field: Regional geological mapping in northern Prince Charles Mountains, including areas which could not be mapped during the 1969/1970 field season.	Jan - March

METALS INVESTIGATION

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
West Kimberley Project, W.A.	Office: 1. Prepare Bulletin on Precambrian geology of the West Kimberley area. 2. Compile West Kimberley 1:500,000 map, and Leopold Downs and Yampi 1:100,000 maps. 3. Prepare Record on geology of Yampi 1:250,000 sheet area. 4. Prepare notes on the younger Precambrian geology of the Lennard River 1:250,000 sheet area. 5. Prepare report on the petrology and geochemistry of new leucite lamproite occurrences in the Kimberley area.	
Carpentaria, N.T.	Office: 1. Complete Arnhem Land Bulletin. 2. Complete Roper River - Queensland border Bulletin. 3. Complete report on basement rocks, Arnhem Land.	
McArthur River, N.T.	Office: Complete report on McArthur River zinc-lead environment.	
Kimberley Basin, W.A.	Office: Commence writing Bulletin and compilation of 1:500,000 geological map.	
Papua - New Guinea	Office: 1. Prepare Bulletins on Eastern Papua, New Britain, N.G. Highlands (Ramu - Karimui), and New Ireland. 2. Prepare Report on Kubor Anticline in the Kubor Range. 3. Compile 1:1,000,000 geological map of T.P.N.G. and prepare explanatory notes.	
Burdekin, Qld.	Office: Prepare Bulletin to accompany 1:500,000 geological map.	

METALS INVESTIGATION
GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
METALLIFEROUS AND AIRBORNE SECTION		
AIRBORNE SUB-SECTION		
VH-BMG (Twin Otter), N.S.W.	Field: Aeromagnetic and radiometric survey of Wagga and Cootamundra 1:250,000 sheet areas at 1.5 km line spacing.	Sept - Oct
	Office: Prepare Record on results.	
VH-BMR (Aero Commander), N.S.W.	Field: Detailed aeromagnetic and radiometric survey of area near Tottenham (300 m line spacing).	March - June
	Office: Prepare Record on results.	
VH-BMG (Twin Otter) NE Vic. and N.S.W.	Field: Aeromagnetic and radiometric survey of Wangaratta, Tallangatta, and Bendigo 1:250,000 sheet areas at 1.5 km line spacing.	Aug - Oct
	Office: Prepare Record on results.	
VH-BMR (Aero Commander), N.T.	Field: Aeromagnetic and radiometric survey of Alligator River area or Arltunga Nappe Complex. (Detailed survey).	Aug - Oct
	Office: Prepare Record on results.	
Contract Aeromagnetic Survey, W.A.	Field: Aeromagnetic survey of Nabberu, Peak Hill, Robinson Range, Glenburgh (part), Ninghan, Bencubbin, Perenjori (part), Moora (part) and possible Stanley 1:250,000 sheet areas at 1.5 km line spacing.	
Contract Aeromagnetic Survey, East Papua	Field: Completion of survey of onshore panel at 13,000 ft altitude.	
Victoria River Area, N.T.	Office: Interpretation of aeromagnetic data and correlation with geological mapping.	
Captains Flat, N.S.W.	Field: Trial gravity and E.M. surveys as training exercise for recruits.	
	Office: Preparation of Record on results.	
Investigation of IP and other logging methods	Field: Periods of testing at Captains Flat, Tarago and Rum Jungle.	Jan - Sept (intermittent)
	Office: Study of IP and other logging methods. Development of IP Logger. Preparation of Record on results.	

METALS INVESTIGATION

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Investigations of E.M. Methods	Office: Study of literature and new developments in equipment. Preparation of Record on results.	
Establishment of Test Area, A.C.T./N.S.W.	Field: Investigations for geophysical test area. Office: Preparation of Record on investigation.	May - July
Mt Isa - Cloncurry, Qld.	Office: Assessment of geophysical data as part of a study of mineralization of the field. Prepare progress Record.	
Darwin Uranium Group, N.T.	Office: Laboratory services, assaying and investigations using gamma-ray spectrometer logging, field surveys. Compilation and analysis of geophysical data from Rum Jungle area. Prepare Records on: 1. Geophysical surveys, Stapleton Area, 1970. 2. Ground follow-up of airborne spectrometer anomalies. 3. Geophysical surveys, Mary River, 1970. 4. Logging investigations in connection with S.P. anomalies, Rum Jungle Area 1970. Assess all geophysical data in the Hundred of Goyder and prepare Record on results.	
Tennant Creek, N.T.	Field: Detailed ground magnetic survey in area to be selected in conjunction with N.T. Mines Branch. Office: Assessment of geophysical data as part of a study of the mineralization in the Tennant Creek mineral field.	Aug - Sept
AFMAG Recording	Field: Continue recording at stations at Darwin, Perth, (Adelaide). Office: Filing and preliminary assessment of data.	Jan - Dec

METALS INVESTIGATION

MINERAL RESOURCES BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
PETROLEUM TECHNOLOGY SECTION		
DRILLING ENGINEERING SUB-SECTION		
Tennant Creek, N.T.	Field: Drilling in support of geological investigation; 3-5 holes; max. depth 100 ft; max.footage 500 ft; no coring.	
Cloncurry - Mt Isa, Qld.	Field: Drilling in support of geological investigation; 3-4 holes; max. depth 1000 ft; max. footage 2000 ft; up to 1000 ft coring.	Sept - Nov
Alligator River, N.T.	Field: Drilling in support of geological investigation. (Provisional project).	
Granites - Tanami, N.T.	Field: Drilling in support of geological investigation. (Provisional project).	

NON-METALS INVESTIGATION

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Georgina Phosphate, Qld./N.T.	Office: Complete Bulletin on Georgina Basin Phosphate province.	
Tasman Geosyncline Phosphate	Office: Evaluation of phosphate potential of selected areas.	
	Field: Short visit to New England district.	Feb
Estuary Study, Vic., Qld.	Office: Laboratory work on samples and preparation of short papers and Bulletin on results of 1970 and 1971 work.	
	Field:	
	1. Broad Sound, Qld. - seismic sparker survey and shallow drilling in bay; shallow drilling on land.	Mid year
	2. Mallacoota, Vic. - sampling and geochemical investigation of estuary waters, sediments and bordering catchment area; shallow drilling on land; seismic sparker survey of inlet. (Co-operative project with ANU).	Jan - April and mid year
Marine geology	Office: Compilation and publication of previous work.	
Study of evaporites and sulphur in sedimentary basins	Field: Visit by overseas specialist to evaporite areas in N.T.	April - May
	Office: Compilation of worldwide information and its application to Australia; report by specialist; Record on evaporite holes drilled in 1970 - Mt Leibig (BMR) No. 1; Hermannsburg (BMR) No. 40; Lake Amadeus (BMR) 3, 3A & 3B.	

NON-METALS INVESTIGATION

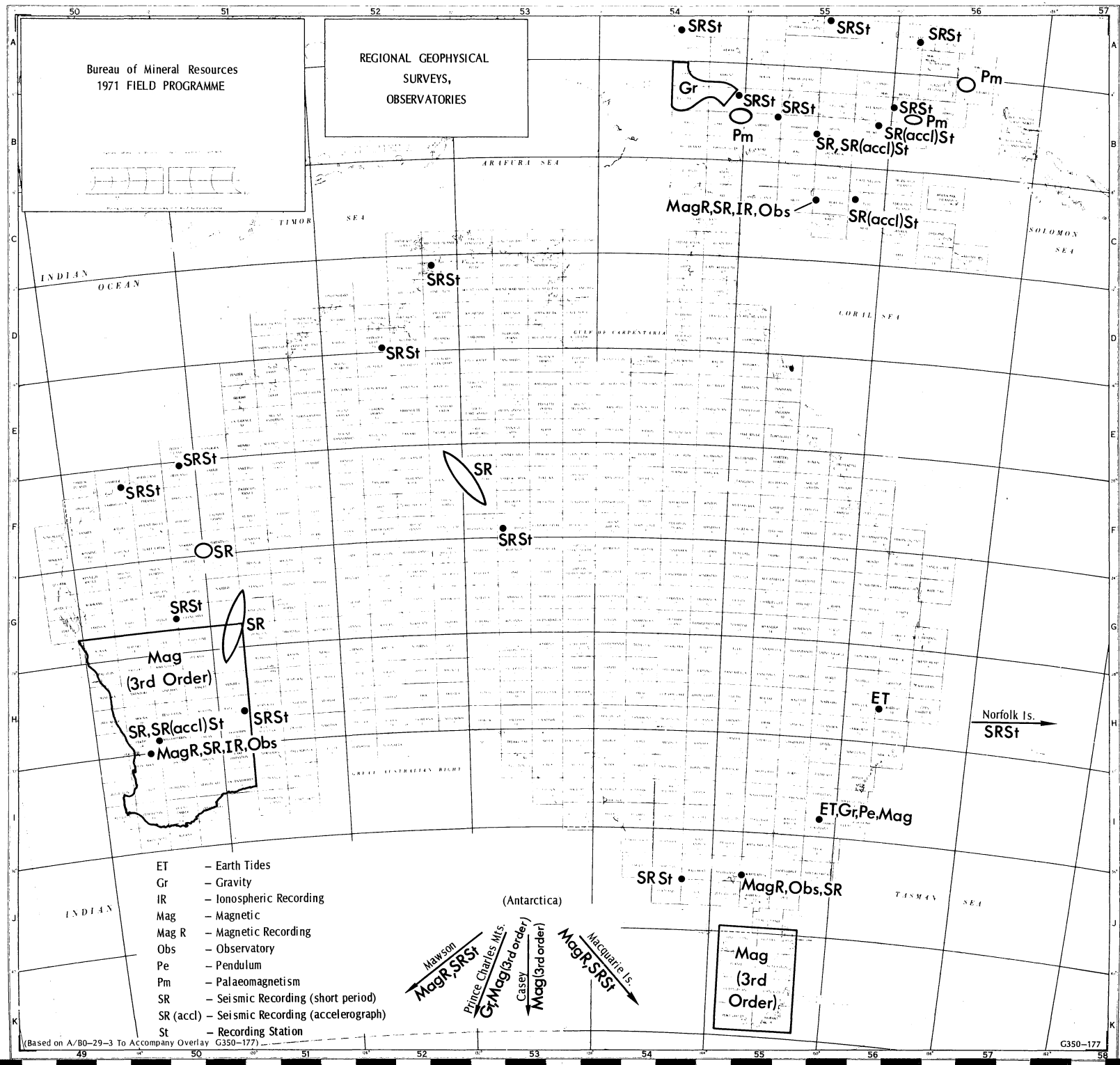
GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Heat Flow, Great Artesian Basin	Office: Preparation of data for heat flow maps using existing temperature logs from Great Artesian Basin bores and measurements of thermal conductivity of existing cores.	
VH-BMR (Aero Commander), Mallacoota Inlet, Vic.	Field: Colour and infra-red 70 mm photography in support of geological investigation.	Feb; possibly repeated in winter.

NON-METALS INVESTIGATION

MINERAL RESOURCES BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
PETROLEUM TECHNOLOGY SECTION		
DRILLING ENGINEERING SUB-SECTION		
Broad Sound, Qld.	Field: Drilling and coring in support of geological investigation; 12 holes; max. depth 300 ft; max. footage 3600 ft; over 50% coring.	April - May
Mallacoota Inlet, Vic.	Field: Drilling and coring in support of geological investigation; 6 holes; max. depth 200 ft; max. footage 1200 ft; 50% coring.	June - July


Bureau of Mineral Resources
1971 FIELD PROGRAMME
REGIONAL GEOPHYSICAL
SURVEYS,
OBSERVATORIES
ARAFURA SEA
TIMOR SEA
INDIAN OCEAN
GULF OF CARPENTARIA
CORAL SEA
SOLOMON SEA
GREAT AUSTRALIAN BIGHT
TASMAN SEA
INDIAN
SRSt
Gr
Pm
SR, SR(accl)St
MagR,SR,IR,Obs
SR(accl)St
SR
OSR
Mag
(3rd Order)
SR,SR(accl)St
MagR,SR,IR,Obs
ET
Norfolk Is.
SRSt
ET,Gr,Pe,Mag
SR St
MagR,Obs,SR
(Antarctica)
Mawson
MagR,SRSt
Prince Charles Mts.
Gr,Mag(3rd order)
Casey
Mag(3rd order)
Macquarie Is.
MagR,SRSt
Mag
(3rd
Order)
ET – Earth Tides
Gr – Gravity
IR – Ionospheric Recording
Mag – Magnetic
Mag R – Magnetic Recording
Obs – Observatory
Pe – Pendulum
Pm – Palaeomagnetism
SR – Seismic Recording (short period)
SR (accl) – Seismic Recording (accelerograph)
St – Recording Station
(Based on A/80–29–3 To Accompany Overlay G350–177)
G350–177

REGIONAL GEOPHYSICAL SURVEYS

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
MAGNETIC SURVEYS		
Third-order survey of Australia	Field: Observations at 15 km intervals along roads in	
	1. Tasmania	Jan - Feb
	2. SW Australia.	March - June
	Office: Preparation of charts.	
Third-order measurements, Antarctica	Field:	
	1. Observations in Prince Charles Mountains.	Jan - March
	2. Observations on ANARE inland glaciological traverse, Casey region.	
GRAVITY SURVEYS		
B.M.R. Gravity Pendulum Development	Field and Office: Testing pendulum apparatus and new pendulums with new electronic timing apparatus.	3 months
West Sepik and North Fly River Helicopter Gravity Survey, T.P.N.G.	Field: Helicopter gravity survey in conjunction with the West Sepik geological party.	Aug - Oct
Earth Tides - deflections of the vertical	Field: Installation of horizontal pendulums in tunnel near Armidale in co-operation with University of New England.	3-4 weeks
Earth Tides - variations in the intensity of gravity	Field: Tidal gravity meter to be installed at Kowen Forest near Canberra.	
Crustal Study of T.P.N.G. regional gravity field	Office: Interpretation of gravity data from Bismarck Sea marine survey and other T.P.N.G. surveys.	
Canberra Gravity Survey	Field: Detailed survey of Canberra and surrounding areas of A.C.T. and N.S.W. to provide detailed coverage of area and training for university vacation students.	Jan - Feb
Computing and Gravity Map of Australia	Office: Computation and integration of existing data; compilation of gravity maps. (In co-operation with University of Hawaii).	

REGIONAL GEOPHYSICAL SURVEYS

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
PALAEOMAGNETIC SURVEYS	Field:	
	1. Collection of samples from New Guinea Highlands.	May - June
	2. Collection of samples from New Ireland and New Britain.	Aug - Sept
	Office:	
	1. Assembly of demagnetization equipment and testing spinner magnetometer.	
	2. Processing of samples and preparation of report.	
STRUCTURE SURVEYS		
New Britain Crustal Study	Office: Writing of interpretation reports and publications.	
Surface Wave Dispersion, W.A.	Field: Installation and operation of equipment.	April - June
	Office: Preparation of data and data processing techniques.	
Crustal Structure Project Review	Office:	
	1. Completion of Review of past projects.	
	2. Long term proposals for regional structural investigations.	
Equipment Development	Office: Continue design, development and testing of portable refraction equipment.	
Ord Blast Refraction Recording	Field: Record seismic arrivals from the 1971 1,000,000 lb Ord River damsite explosion at stations throughout Australia. (Co-operative project with various universities and other institutions).	May or June
East T.P.N.G. Crustal Survey, 1972	Office: Prepare preview report and commence project design.	
Bismarck Sea Marine Survey	Office: Interpretation of results of 1969 Bismarck Sea survey.	

OBSERVATORIES

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
HEADQUARTERS GROUP		
Reduction and data	Office: 1. Scaling and conversion of magnetograms. 2. Preparation and distribution of Geophysical Observatories Report (magnetic data). 3. Preparation of ISC phase and epicentre data tapes. 4. Collation of specific seismic data and information. 5. Maintenance of magnetic standards.	
Magnetogram analyses and variograph recordings	Office: Derivation of morphology of transient variations.	
Digital magnetic recorders	Office: 1. Development and testing of BMR digital variograph. 2. Evaluation of commercial automatic observatory. 3. Development of digital F magnetograph.	
Seismological data centres	Office: 1. Analysis of accelerograms. 2. Development of regional earthquake data file. 3. Development of regional hypocentre programme.	
Seismological studies	Office: Investigation of regional earthquakes, and determination of Australian travel times.	
Accelerograph recording	Office: Supervision of BMR network of accelerographs.	
Magnetic Observatory, Canberra, A.C.T.	Field: Test and select site for new observatory. Office: Evaluate instrumentation to be installed.	

OBSERVATORIES

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Macquarie Island	Field:	
	1. Geomagnetic and seismic recordings and analyses.	Jan - Dec
	2. Installation of telemetered seismic system.	Dec 70 - March 71
	3. Operation of tide gauge and micro-pulsation recorders.	Jan - Dec
Mawson	Field: Geomagnetic and seismic recordings and analyses.	Jan - Dec
Norfolk Island	Field: Seismic recording.	Jan - Dec
Alice Springs	Field: Seismic recording.	Jan - Dec
Darwin/Manton Dam	Field: Seismic recording; installation of 3 component seismograph at Manton Dam (dependent on completion of buildings).	Jan - Dec; at Manton Dam from Oct(?)
TOOLANGI OBSERVATORY, VIC.		
Observatory operations	Office:	
	1. Geomagnetic, seismic and microbarograph recording and analysis.	
	2. Seismogram analyses Norfolk Island, Alice Springs and Manton Dam.	
	3. Standardisation of magnetometers.	
Regional seismology	Field:	
	1. Establishment western Victoria regional station.	March
	2. Select and acquire site in Gippsland.	July
Variograph tests	Field: Operate and calibrate digital and fluxgate variographs.	May - Oct
MUNDARING OBSERVATORY, W.A.		
Observatory operations	Office:	
	1. Geomagnetic, seismic and ionospheric recordings and analyses.	
	2. Training of recruits for Antarctica (1972).	

OBSERVATORIES

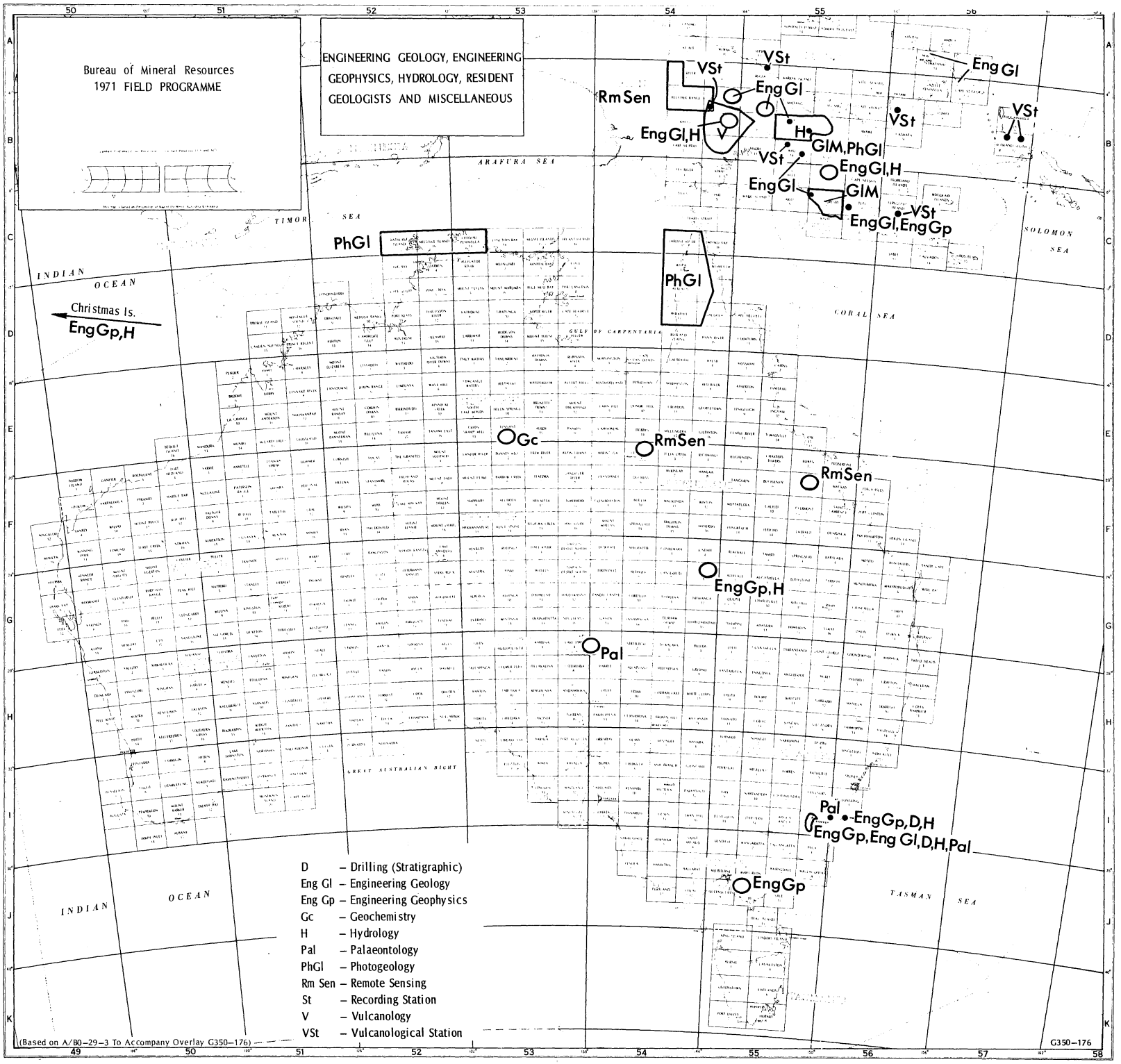
GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Regional seismology	Field:	
	1. Short period stations at Kalgoorlie, Meekatharra, Dampier, Meckering and Kununurra.	Jan - Dec
	2. Establishment of short period station at Swan View.	Nov
	3. Testing and acquisition of site Mt Goldsworthy area.	May
	4. Short term recording on and near SW Shield (4 months recording at Meckering, Mt Barker and Wagin to detect weaker events).	Jan - Dec
	Office:	
	1. Local seismicity analyses.	
	2. Studies of microtremors in SW seismic zone.	
Crustal Structure	Field: Refraction recordings of explosions including Ord River Damsite blast.	
Surface wave dispersion, W.A.	Field: Long-period recording using 3 station network, KLG, MEK and MUN.	
Accelerograph recording	Field: Installation and maintenance of accelerographs: Perth, Meckering and Mundaring.	Jan - Dec
AFMAG	Office: Operation of recorder for Metalliferous Group.	
PORT MORESBY OBSERVATORY, T.P.N.G.		
Observatory operations	Office: Geomagnetic, seismic and ionospheric recording and analysis.	Jan - Dec
Regional seismology	Field:	
	1. Short period recording at Wabag, Lae, Momote, Goroka, Talasea, Kavieng, Vanimo - Kavieng operational from June (?), Vanimo from November (?). Feasibility of site in Star Mountains to be investigated.	Jan - Dec
	Office:	
	1. Determine regional focal mechanisms.	
	2. Produce annual seismicity report.	
	3. Aftershock recordings following major events.	

OBSERVATORIES

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Crustal structure	Office: Refraction recordings of explosions (as required).	
Accelerograph recording	Field: Installation and maintenance of accelerographs - additional sites at Talasea and Pomio (late 1971).	Jan - Dec


Bureau of Mineral Resources
1971 FIELD PROGRAMME
ENGINEERING GEOLOGY, ENGINEERING GEOPHYSICS, HYDROLOGY, RESIDENT GEOLOGISTS AND MISCELLANEOUS
ARAFURA SEA
TIMOR SEA
INDIAN OCEAN
GULF OF CARPENTARIA
CORAL SEA
SOLOMON SEA
GREAT AUSTRALIAN BIGHT
TASMAN SEA
Christmas Is.
Eng Gp,H
PhGl
PhGl
Rm Sen
Eng Gl,H
VSt
VSt
Eng Gl
VSt
Eng Gl
VSt
H
Gl M,Ph Gl
VSt
Eng Gl,H
Eng Gl
Gl M
VSt
Eng Gl,Eng Gp
Gc
Rm Sen
Rm Sen
Eng Gp,H
Pal
Pal
Eng Gp,D,H
Eng Gp,Eng Gl,D,H,Pal
Eng Gp
D – Drilling (Stratigraphic)
Eng Gl – Engineering Geology
Eng Gp – Engineering Geophysics
Gc – Geochemistry
H – Hydrology
Pal – Palaeontology
PhGl – Photogeology
Rm Sen – Remote Sensing
St – Recording Station
V – Vulcanology
VSt – Vulcanological Station
(Based on A/80–29–3 To Accompany Overlay G350–176)
G350–176

ENGINEERING AND HYDROLOGY

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
AUSTRALIAN CAPITAL TERRITORY AND ENVIRONS		
	FIELD INVESTIGATIONS:	
Googong Damsite, Queanbeyan River	Complete current detailed feasibility study and report. Conduct design investigation, including materials and access road.	Probably most of year
Belconnen Lake	Mapping and engineering geology advice on reservoir area. Possible groundwater studies.	
Pump station, water treatment plant and balance storage for Googong Dam	Investigate foundation and excavation conditions; mapping, seismic work, augering and drilling.	Sept
Belconnen water reservoirs Nos. 5, 6A & 6B	Investigate foundation and excavation conditions; mapping, seismic and augering.	
Water main routes: (a) Between Belconnen reservoirs Nos. 5 and 6A (b) North-east bulk water supply (Belconnen-Weetangerra) (c) Outlet route from Belconnen reservoir No. 6A (d) Rivett reservoir-Tuggeranong (e) Aranda-Belconnen Town Centre.	Investigate excavation conditions; mapping, seismic and augering.	
Molonglo Junction water pollution control centre	Detailed investigation of foundation and excavation conditions; further mapping, seismic, augering and drilling.	Early 1971
Tuggeranong temporary sewerage treatment plant	Investigate foundation and excavation conditions.	Late 1971?

ENGINEERING AND HYDROLOGY

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Sewer mains (tunnels and trenches): (a) Molonglo Valley outfall (b) Tuggeranong outfall tunnel (c) Belconnen trunk extension, right bank Ginninderra Creek (d) Belconnen upstream of lake (e) Relocation of Belconnen trunk on left bank of lake (f) Sullivans Creek (Wattle St to Gould St) duplication (g) Extension of Woden outfall to Weston Creek (h) Tuggeranong-Molonglo River junction along right back of Murrumbidgee River (i) Molonglo interceptor, right bank.	For trenches: mapping, seismic and augering for excavation. For tunnels: mapping, seismic drilling for excavation, support and lining requirements. All investigations to be carried to, or near, completion of design stage in 1971.	
Building Foundations: (a) Deep space instrument facility site	Foundation investigations; mapping, seismic and drilling or augering.	
(b) Major building sites, Central Area and Barton - Probably only National Gallery site in 1971.	Excavation and foundations conditions for siting and design of building.	
Roadworks: (a) Molonglo Freeway-Acton Saddle to Coulter Drive including Molonglo Tuggeranong Freeways interchange.	Generally mapping, seismic, augering and soil studies. Possibly some stability studies of cut slopes in rock.	By mid 1971

ENGINEERING AND HYDROLOGY

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Roadworks: (Cont.)		
(b) Ginninderra Arterial-Kingsford Smith Drive to Hospital access road.		By mid 1971
(c) Tuggeranong Freeway-Hindmarsh Drive to Village Creek Arterial.		By end 1971
Bridge site, Belconnen Lake	Foundation conditions; mapping, seismic, drilling and possibly costeaning.	Mid-late 1971
Construction Materials	1. Continuation of current programme to locate base grade and pavement material for road construction and maintenance. 2. Assess sand and gravel resources East Lake and ad hoc. 3. Testing building stones. 4. Advice to Government Departments and Instrumentalities, and to prospectors.	
Hydrology	1. Maintain and study observations of water levels and quality of ACT, Lake George and Jervis Bay groundwater. 2. Site and test bores for rural land-holders, Government and other organisations in A.C.T.; advice on groundwater supply problems. 3. Groundwater movement study from Lake Windermere, Jervis Bay. 4. Further minor studies on Corin Dam leak. 5. General hydrological advice to Nat. Dev. and other bodies; participation in A.W.R.C. projects.	
Drainage	Examine proposed urban development areas for potential drainage problems and investigate problems as they arise.	
Urban Development	1. Detailed geological mapping and classification of soils, Village Creek area, Tuggeranong. 2. Map trenches and other temporary exposures to improve knowledge of urban development areas.	Jan - March

ENGINEERING AND HYDROLOGY

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Urban Development (Cont.)	3. Preparation of engineering geology and detailed geological maps of A.C.T. development areas. 4. Preparation for publication of reports on geology of Woden, Belconnen and Canberra districts.	
Miscellaneous	1. Investigation of district garbage sites Belconnen and Mugga Saddle. 2. Assistance and advice on Jervis Bay nuclear power station. 3. Investigation of expanded and new aerodrome facilities (possibility only).	Early 1971

ENGINEERING AND HYDROLOGY

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
A.C.T. Miscellaneous Engineering	Field: Mostly small seismic refraction surveys in co-operation with Engineering Geology Group (Geological Branch) see preceeding Section.	
Christmas Island groundwater investigation	Office: Continuation of interpretation of geophysical data collected by British Phosphate Commission.	
	Field: Temperature, salinity, and magnetic traverses around the island, and magnetic and resistivity survey on the island.	June - July
Canaway Ridge groundwater survey, Qld.	Field: Experimental survey to locate shallow aquifers (to 1000 ft) and guide to water quality.	Oct - Nov
Musa Gorge Damsite, T.P.N.G.	Field: More detailed seismic, magnetic and resistivity work.	Sept - Oct
Lae-Markham groundwater	Office: Preparation for field work in 1972.	
Investigation of shallow profiling techniques	Field: Experimental marine seismic work at Mallacoota Inlet.	
Ground vibration measurements A.C.T.	Field: Ad hoc requests from N.C.D.C. and Dept. of Works; will include some controlled experiments if opportunity arises.	
Rock testing	Office: Dynamic and static tests in laboratory.	
Jervis Bay groundwater investigation	Field: Investigation of underground outflow from Lake Windemere using refraction seismic, resistivity, flow through porous media experiments.	March; late 1971
Pumped Storage Hydro-Electric Scheme, Vic.	Field: Seismic refraction, magnetic and resistivity survey to determine foundation conditions on Ada-Latrobe Scheme and Wilhelmina Falls Scheme. (Requested by S.E.C.)	Jan - March

ENGINEERING AND HYDROLOGY

MINERAL RESOURCES BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
PETROLEUM TECHNOLOGY SECTION		
DRILLING ENGINEERING SUB-SECTION		
Kowen Forest Test Hole A.C.T.	Field: Complete drilling and coring of 1000' hole at Kowen Forest for Engineering Group, (Geophysical Branch) for use in instrument testing.	Jan - Dec (intermittent)
A.C.T. & Environs	Field: Drilling and coring in support of Engineering and Hydrology Group (Geological Branch) - 1. Canberra (Riverside Formation) - 1 hole; 1000 ft depth; continuous coring. 2. Belconnen: 1-2 holes; max. depth 160 ft; coring 20 ft. 3. Piccadilly Circus: 2-3 holes; max. depth 150 ft; coring 60 ft. 4. Yass Basin: 1 hole; 80 ft; 1 core. 5. Uriarra: 1 hole; max. depth 150 ft; 1 core. 6. Googong: 1 hole; max. depth 150 ft; 1 core. 7. Tidbinbilla: 1 hole; max. depth 200 ft; max. coring 50 ft. 8. Lake George: 1-2 holes; max. depth 200 ft; max. coring 350 ft. 9. Jervis Bay: 1 hole; max. depth 200 ft; continuous coring. 10. Jervis Bay: Workover existing bore No. U11 (fit screen?). 11. Canberra (Black Mountain): 1 hole; 1000 ft depth.	Jan - Dec (intermittent)

RESIDENT GEOLOGICAL STAFF - PAPUA/NEW GUINEA

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
HEADQUARTERS	Office: Services to T.P.N.G. Administration and administration of Resident Geological and Vulcanological Branch.	
REGIONAL MAPPING AND MINERAL INVESTIGATION SECTION	Field:	
	1. Regional mapping of Markham 1:250,000 sheet area.	Jan - Feb
	2. Regional mapping of Port Moresby 1:250,000 sheet area.	Oct
	3. Musa H.E.P. regional mapping.	Jan - March
	4. Regional mapping of Huon 1:250,000 sheet area.	June - July
	5. Assist BMR West Sepik regional mapping party.	Aug - Sept
	6. Kuta Limestone - collection of fossils.	July
	Office: Carry out mineral resources assessments; compilation of regional mapping data.	
ENGINEERING GEOLOGY SECTION	Field:	
	1. Hydrogeology:	
	Markham Valley - appraisal study only.	April - May
	2. Village Water Supply Surveys:	
	New Ireland	Jan - Feb
	Northern District	May - July
	Southern Highlands	Sept - Nov
	3. Hydro-Electric Schemes:	
	Ramu	July(?) - Dec
	Musa Gorge	Jan - March
	Laloki River	Jan - Oct (intermittent)
	4. Roads:	
	Togoba-Wapenamanda	
	Mendi-Tari	
	Port Moresby-Lae	
	Asaro-Gembogl	
VULCANOLOGICAL SECTION		
Routine Activities	Office:	
	1. Routine station operations and data processing.	
	2. Routine volcanic data processing and compilation of source files.	

RESIDENT GEOLOGICAL STAFF - PAPUA/NEW GUINEA

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Routine Activities (Cont.)	3. Design, installation and maintenance of equipment.	
	4. Evaluation of seismic and volcanic data.	
Investigation of Volcanic Areas	Field: Highland Volcano Survey. (In conjunction with Canberra based Vulcanological Research Group).	July - Sept
Site investigations of new surveillance stations	Field:	
	1. Hoskins	Feb - March
	2. Doma Peaks	June - July
	3. Yelia	
Emergency volcano surveillance	Field:	As needed
Seismic Investigations	Field:	
	1. Seismic studies of volcanic areas.	Dependant on seismic activity
	2. Structure study of Rabaul caldera.	Dependant on seismic activity

LABORATORIES AND WORKSHOPS

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
PALAEONTOLOGY		
Permian palaeontology and stratigraphy	Office: 1. Describe Permian fossils from Warwick 1:250,000 sheet area Queensland. 2. Prepare review on Permian-Triassic boundary in Australia for 1971 International Calgary Symposium on Permian-Triassic boundary. 3. Examine, identify and describe Upper Palaeozoic fossils, especially Permian molluscs.	
Tertiary vertebrates	Office: Systematic palaeontology of: 1. Middle Tertiary vertebrates from Bullock Creek, Camfield Station, N.T. 2. Early to Middle Tertiary vertebrates from Riversleigh Station, north Queensland. 3. Late Tertiary and Pleistocene vertebrates from T.P.N.G. 4. Establishment of comprehensive reference collections of Australian and New Guinean Tertiary and Quaternary fossil mammals. Field: Continuation of the study of vertebrate palaeontology of Nerriga (N.S.W.) and possibly areas of the Eyre Basin, S.A.	
Ordovician invertebrates	Office: Systematic descriptions of fossils - 1. Rusophycus in the Ordovician of the Northern Territory. 2. Joint paper with A.Ritchie (Aust. Museum, Sydney) on cyathaspidid heterostracans in the Northern Territory.	
Geology and Palaeontology of the A.C.T.	Office: 1. Study and description of the stratigraphy and palaeontology of the Palaeozoic sedimentary rocks of the A.C.T. and surrounding areas.	

LABORATORIES AND WORKSHOPS

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Geology and Palaeontology of the A.C.T. (Cont.)	2. Study of the taxonomy and stratigraphic distribution of the Late Ordovician to Middle Devonian corals, trilobites and brachipods of the Tasman Geosynclinal Zone, with emphasis on their relationships to the faunas of the Canberra region.	
	3. Prepare 1:50,000 geological maps of the Canberra area in conjunction with ANU staff and students.	
	Field: Visit A.N.U. Students Excursion at Quidong, N.S.W. to search for fresh material of the trilobite Onycopyge liversidgei.	Jan
Upper Devonian - Carboniferous stratigraphy	Office:	
	1. Compilation of information on the Carboniferous system of Australia for the Carboniferous Lexicon being prepared under the auspices of IUGS Commission on stratigraphy.	
	2. Carboniferous and Upper Devonian correlations of Australia.	
Cambro-Ordovician trilobites	Office: Systematic palaeontology of:	
	1. Cambro-Ordovician trilobites from the Burke River Structural Belt, western Queensland.	
	2. Late Cambrian trilobites from Chatsworth, western Queensland.	
	3. Cambro-Ordovician trilobites from the Bonaparte Gulf Basin, Western Australia.	
	4. Correlation of trilobite Zones within Australia and overseas.	
Devonian vertebrates	Office:	
	1. Systematic palaeontology of antiarch fishes from the Upper Devonian of Australia and Antarctica.	
	2. Stratigraphic and geographic distribution of Upper Devonian vertebrates in Australia and Antarctica.	
	3. Systematic palaeontology of Lower Devonian arthrodires from Taemas/Wee Jasper.	

LABORATORIES AND WORKSHOPS

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Foraminifera	Office:	
	1. Continue study of Lower Tertiary and Cretaceous foraminifera from Western Australia; prepare results for publication.	
	2. Study of foraminifera from Nassau Range, West Irian.	
	3. Study outcrop samples from Eastern Papua; prepare appendix for Bulletin on area.	
	4. Study material collected during 1970 field trip to Eastern Highlands, New Guinea.	
	5. Preparation of record and publication on foraminiferal fauna from New Britain.	
	Field:	
	1. Visit to West Sepik Party to examine outcrop samples and collect samples from selected sequences.	Aug - Sept depending on party programme
	2. Visit to Carnarvon and Perth Basins, Western Australia, to collect Cretaceous and Tertiary sections.	July
Ostracods	Office:	
	1. Systematic palaeontology of Lower Carboniferous Ostracods from Bonaparte Gulf Basin; prepare results for publication.	
	2. Add to collection of Upper Devonian and Lower Carboniferous ostracods from the Canning Basin, W.A. for future study.	
Thelodont scales	Office: Study of Upper Silurian thelodont scales, Toko Range, western Queensland.	
Palynology and Microplankton	Office:	
	1. Completion of manuscript for publication, dealing with Tertiary fossils from the Ngalia Basin, N.T.	
	2. Complete report on Cenomanian microfossils of Bathurst Island, N.T.	

LABORATORIES AND WORKSHOPS

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Palynology and Microplankton (Cont.)	3. Complete manuscript on spore stratigraphy and systematics in the marine Rolling Downs Group (Aptian-Albian) in the Eromanga and Surat Basins, Qld.	
	4. Complete report on stratigraphy and systematics of Neocomian spores and microplankton in the Surat and Eromanga Basins, Qld.	
	5. Continue the study of Permian spore and pollen assemblages from Queensland. Taxonomic and biostratigraphic work leading to publication.	
	6. Continue a study of systematics and palynostratigraphy of Palaeozoic spores of Western Australia, and prepare papers on this research for publication.	
	7. Study of nannoplankton from Western Australia.	
	8. Continue research on autofluorescence of palynomorphs in Recent and Tertiary material of Australia and New Guinea.	
	9. Study of Upper Jurassic and Lower Cretaceous microplankton from the Papuan Basin leading to publication.	
PALAEONTOLOGY SPECIALISTS	Continue preparation of catalogue of Australian fossil type specimens. (I. Crespin).	
	Trilobite studies. (A.A. Öpik)	
	Determine and report on plant fossils. (M.E. White)	
SEDIMENTOLOGY		
Bowen Basin	Field: Environmental study of coal deposits in Bowen Basin.	May - June
	Office: Study of Triassic Mimosa Group - sedimentary environments, correlation and extent. Prepare Bulletin on investigation.	

LABORATORIES AND WORKSHOPS

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
PETROLOGY, MINERALOGY AND MINERAGRAPHY		
Miscellaneous investigations	Office:	
	1. Geochemical investigation of Australian granites and associated mineralization; continue study of North Queensland.	
	2. Geochemical and petrological studies on representative rocks and minerals from the Cloncurry-Mount Isa area - continuing investigation.	
	3. Investigate mineralogical changes that occurred with progressive metamorphism of basic rocks and pelites in the Soldier's Gap Formation (Cloncurry-Mt Isa area, Qld.) and compare them with changes in amphibolitic terrains of the Petermann Ranges, N.T.	
	4. Complete petrological investigations for the West Kimberley project.	
	5. Strangways Range carbonatite project.	
	6. Continue with the preparation of X-ray diffraction charts of minerals to supplement cards in the ASTM Index.	
GEOCHEMISTRY		
Miscellaneous investigations	Office:	
	1. Estuary Study Project, Broad Sound, Qld. - complete geochemical investigation of sediments in Styx River catchment area.	
	2. Complete study of trace element assemblages in carbonate sequence of the McArthur River and Victoria River areas N.T. and prepare report.	
	3. Write a review article for Salinity and Water Use Symposium, 1971, on analytical methods and the presentation of data.	
Tennant Creek, N.T.	Field: Geochemical investigations relevant to Tennant Creek mineralization (to be planned in collaboration with N.T.G.S. and companies working in the area).	

LABORATORIES AND WORKSHOPS

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Tennant Creek, N.T. (Cont.)	Office: Investigate and develop methods of mercury and halogen detection for geochemical applications in Australian conditions - investigation initially to meet requirements of Tennant Creek geochemical investigations.	
GEOCHRONOLOGY		
Miscellaneous investigations	Office: 1. Continue isotopic study of metamorphic and igneous rocks from Cape York Peninsula. 2. Complete study of granites and volcanic rocks of New Guinea, including additional work on the Panguna Andesite and Kieta Volcanics, Bougainville. 3. Continue isotopic studies in support of current Bureau projects in T.P.N.G.	
BAAS BECKING GEOBIOLOGICAL RESEARCH LABORATORY		
Biological Group	Office: Continue study of: 1. Concentration of metal sulphides by bacteria. 2. Formation of metal sulphides from organic material. 3. Physiology, taxonomy, and ecology of sulphate-reducing bacteria. 4. Effects of metals, pressure, and temperature on micro-organisms. 5. Metabolism of metals. 6. Isolation of chemical components of sulphate-reducing bacteria.	
Mineralogical Group	Office: 1. Continue study of the chemistry of metal sulphides and sulphosalts at low temperatures. 2. Investigate effects of temperature and pressure on the above minerals.	

LABORATORIES AND WORKSHOPS

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Mineralogical Group (Cont.)	3. Conduct mineralogical studies of selected ore deposits in sedimentary rocks, including European examples.	
	4. Continue study of the physical chemistry of brines containing transition and heavy metal ions.	
	5. Study crystal growth of carbonates and sulphides from aqueous solutions.	
	6. Study synthesis and stability of scapolite.	
	7. Investigate melting in sulphide-water systems.	
	8. Conduct geochemical and mineralogical studies of thermal waters and sediment samples from Talasea, New Britain.	
	9. Investigate rates of leaching of metals from rocks by aqueous solutions.	
	Field: Collection and determination of metal contents of waters from the Great Artesian Basin in Queensland (Tentative proposal only).	1-4 weeks

LABORATORIES AND WORKSHOPS

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
INSTRUMENT DEVELOPMENT	Office:	
	1. Minor modifications and installation problems in connection with production of MNS-2 proton magnetometers.	
	2. Installation problems in connection with operation of MFS-7 fluxgate magnetometer in Twin Otter aircraft.	
	3. Construction of second MFS-7 fluxgate magnetometer.	
	4. Complete integration of data acquisition system in Twin Otter aircraft.	
	Stage 1: Analogue recorder drives, power distribution unit, scaler.	
	Stage 2: Doppler display system.	
	Stage 3: Replace timing control unit.	
	5. Prototype low power digital clock for use on portable seismic outstations.	
	6. Construction of high temperature gamma ray spectrometer logging tool with larger crystal.	
	7. Construction of I.P. logging tool and up hole electronics (if required).	
	8. Investigation of response characteristics of potentiometric recorders.	
	9. Construction of central control clock for B.M.R.'s marine seismic CDP profiler system and for marine data acquisition system.	
SYSTEMS DEVELOPMENT	Office:	
	1. Completion of automatic digital observatory.	
	Stage 1: Check out of servo loop with analogue output for two horizontal components.	
	Stage 2: Interface from digital voltmeter to digital tape recorder.	
	Stage 3: Build vertical component.	
	2. Check out of GSI absolute pendulum equipment.	
	3. Investigation of new remote sensing techniques.	
	4. Tidal gravity recording equipment.	

LABORATORIES AND WORKSHOPS

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
SYSTEMS DEVELOPMENT (Cont.)	1970 stage: completion of beam drift tests and integration of new electronics. Next stage: Investigation of better temperature stabilising and/or monitoring system. 5. Design of Helmholtz coil system for check out of proton precession magnetometers over full range. 6. Adaption of VLF range-range navigation system to LF band. 7. Drift compensation etc. of long period seismometers for crustal study projects. 8. Miscellaneous investigations e.g. (i) A.C.T. water bore recording. (ii) Telemetered water tilt meter (possibly). (iii) Navigation and ship's course for near shore work.	
ELECTRONIC MAINTENANCE	Office: 1. Construction of additional 8 MNS-2 proton magnetometers. Construction of 3 three component fluxgate magnetometers Type MFR-2. 2. Check out of 7 portable seismic recording outstations. 3. Check out of magnetotelluric equipment. 4. Check out of (i) Flat bed digital plotter. (ii) Associated analogue-digital and digital-analogue conversion system. 5. Improve dynamic range of seismic CDO system. 6. Check out of seismic telemetry system for Darwin and installation in Darwin.	
Shallow marine seismic profiling	Office: Development of 1. Switched 100-1000 joule source (modified EG & G). 2. Modified boomer for high resolution. 3. Modified amplifier to give time varied gain control.	

LABORATORIES AND WORKSHOPS

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Shallow marine seismic profiling (Cont.)	Field: Tests at Mallacoota Inlet in co-operation with Marine Geology and Engineering Geophysics Groups.	
MECHANICAL	Office: Continuation of radar intersection buoy tests for marine surveys.	
ROCK MEASUREMENTS	Office: 1. Complete check out of low speed spinner magnetometer. 2. Design additional demagnetising coil for AC magnetic washer for harder magnetic samples. Check out new current control gear. 3. Further development of present equipment for measuring elastic properties of rocks and investigation of relationship between rock strengths and rock types. 4. Investigation of heat conductivity measuring equipment. 5. Theoretical and experimental investigation into ground coupling efficiency of geophones.	

LABORATORIES AND WORKSHOPS

MINERAL RESOURCES BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
PETROLEUM TECHNOLOGY SECTION		
Laboratory	Office:	

1. Petrophysical
Determination of physical properties of cores, cuttings and outcrop rock samples (porosity, permeability, density, fluid content, overburden pressure, sand size analyses, etc.).

2. Petroleum Reservoir Engineering
Investigations of primary and secondary hydrocarbon recovery, fluid distribution and flow properties of reservoir rocks, including relative permeability, water flooding, capillary pressure, pore size distribution, formation damage etc.

3. Drilling Fluids
Evaluation of native clays, barytes and imported and domestic proprietary clays and additives for use in rotary drilling operations.

4. Petroleum Source Rocks and Other Geochemical Investigations
Study of the effects of diagenesis on organic material of marine and terrestial origin. Bottom sediment samples from Estuary Study Project will be analysed to assess contribution of various types of organic material to sediments in an estuarine environment. Co-operative studies with Baas-Becking Geobiological Laboratory on bacterial cell constituents. A detailed geochemical study of an Australian oilfield to be undertaken.

5. Petroleum Reservoir Fluids
Analyses, testing, and evaluation of oil, gas, condensate and water from bores and seepages in Australia and T.P.N.G. Investigation of possible sources of hydrocarbons in some Australian oilfields.

LABORATORIES AND WORKSHOPS

MINERAL RESOURCES BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Drilling Engineering Workshops (Fyshwick, A.C.T. and Alice Springs, N.T.)	Office: 1. Administrative Services, including equipment procurement and preparation of technical specifications for drilling and ancilliary equipment. 2. Technical Services including overhaul, repair, maintain and modify drilling plant and ancilliary equipment.	

OFFICE AND MISCELLANEOUS

OPERATIONS BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
PLANNING AND CO-ORDINATION SECTION	Office: 1. Review and investigate short and long term programme proposals in terms of co-ordination, priorities, man-power and cost-benefit. Prepare BMR programmes for publication. 2. Provide liaison with authorities outside BMR on matters concerned with the Bureau's scientific work. 3. Review computer applications throughout BMR.	
PUBLICATIONS AND INFORMATION SECTION		
Publications Sub-Section	Office: Edit BMR publications and papers for various journals.	
Information Sub-Section	Office: 1. Answer enquiries from Minister, Parliament, Public Service and general public. 2. Disseminate information to industry, press and public. 3. Design and co-ordinate data storage and retrieval systems. 4. Library; undertake accession, cataloguing, circulation and loan of material; prepare indexing system; compile bibliographic project material; etc.	

OFFICE AND MISCELLANEOUS

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Minerals index and technical files	Office: Develop and keep up to date the index to Australian mineral deposits, maintain technical files, prepare and revise statements on Australian mineral occurrences.	
Stratigraphic index	Office: Maintain stratigraphic index; complete preparation of Volume 5H (Australia, General) of International Stratigraphic Lexicon.	
Map Editing	Office: Edit geological maps for publication.	
Map Compilation	Office: Compile the following maps 1. Geology of Northern Territory 1:2,500,000. 2. Geology of Papua and New Guinea 1:1,000,000. 3. Metallogenic Map of Australia 1:5,000,000. 4. Tectonic map of Australia 1:5,000,000. (Work in co-operation with the Geological Society of Australia). 5. Geology of the Burdekin area, Qld. 1:500,000 6. Groundwater resources of Australia 1:5,000,000 (For Australian Water Resources Council. Compiled in co-operation with Water, Power and Geographic Branch, Nat. Dev.). 7. Assist Water, Power and Geographic Branch, Nat. Dev. with (i) Atlas of Australian Resources, Underground Water, 2nd Edition. (ii) Atlas of Australian Mineral Deposits 3rd Edition. (iii) Burdekin-Townsville Region, Resource Series Map.	

OFFICE AND MISCELLANEOUS

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
PHOTOGEOLOGY AND REMOTE SENSING GROUP		
Photogeology	Office: Photogeological interpretation of 1:250,000 sheet areas: Ebagoola, Coen, Cape Weymouth, Holroyd, Aurukun, Weipa, Jardine River, Orford Bay (Qld.), Bathurst Is., Melville Is., Cobourg Pen. (N.T.), Huon, Madang (part) (T.P.N.G.).	
Remote Sensing	Office: Research on the application of remote sensing techniques.	
Bedford College Remote Sensing Project, Cloncurry area, Qld.	Office: Interpretation of multispectral photography and thermal infrared imagery in collaboration with Bedford College personnel.	
Bowen Basin Thermal Infrared Survey	Office: Interpretation of thermal infrared imagery over Rangal Coal Measures to determine whether the technique can be used to locate weathered coal seams.	
New Guinea Regional Mapping Programme	Office: Interpretation of side-looking radar imagery of 1:250,000 sheet areas: Blucher Range, May River (west part), Wabag (west part).	
VH-BMR Western Australian Project	Office: Interpretation of multispectral photography in combination with detailed aeromagnetic and spectrometer data. Field: Possible visit to survey areas (Laverton and Leonora) in collaboration with GSWA.	
Jervis Bay Water Supply (A.C.T.); Lake George Study (N.S.W.)	Interpretation of thermal infrared imagery.	
MISCELLANEOUS		
Vulcanological Research	Investigate petrology and palaeovulcanology of volcanoes of T.P.N.G. Field: 1. Reconnaissance survey of Highland and Gulf Districts Volcanoes.	July - Sept

OFFICE AND MISCELLANEOUS

GEOLOGICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Vulcanological Research (Cont.)	2. Surveillance of volcanic centres as required. 3. Investigation of surveillance instrumentation in conjunction with A.N.U. Establishment of an instrument test site in tunnel at Murrumbateman (N.S.W.). Office: 1. Study of material from Eastern Papua and preparation of Record. 2. Study of and preparation of Record on material from western New Britain including Vitu Islands and island volcanoes west of New Britain to Schouten Group, plus Admiralty Islands. 3. Study of and preparation of Record on material from New Ireland, Karkar, and Manam.	
Strangways Range Carbonatite	Office: Petrology and geochemistry of carbonatite from the Strangways Range area, N.T. Preparation of Record.	

OFFICE AND MISCELLANEOUS

GEOPHYSICAL BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Law Ice Dome, Antarctica	Office: Reduction and interpretation of seismic data obtained during 1970 ANARE glaciological programme.	
Test flying, A.C.T. and N.S.W.	Field: Flights as required for testing of airborne equipment in VH-BMG (Twin Otter) and VH-BMR (Aero Commander).	As required

OFFICE AND MISCELLANEOUS

MINERAL RESOURCES BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
MINERAL ECONOMICS SECTION	Office:	
	1. Investigation of:	
	(i) Long-range production and consumption trends in metals and minerals.	
	(ii) New techniques in mineral extraction, processing, utilization.	
	(iii) Cost factors.	
	2. Assessment of Australian resources of coking coal.	
	3. Assessment of Australian tin resources.	
	4. Finalization of feasibility study of zirconium sponge production in Australia.	
	5. Projection of mineral exports.	
	6. Investigation of mineral processing in Australia of selected mineral commodities.	
MINING ENGINEERING SECTION	Office:	
	1. Reports on operations of mines receiving assistance under the Gold Mining Industry Assistance Act.	
	2. Processing technical aspects of applications to export iron and manganese ores.	
	3. Representation on AMIRA on wire rope research, Conference of Chief Inspectors of Mines, Standards Association of Australia.	
	4. Study of possibilities of zirconium metal production in Australia.	
	5. Theoretical studies on applications of econometrics, operational research and mathematical statistics to mining; estimation of functions relating mining costs to scale of operations, etc.	
PETROLEUM TECHNOLOGY SECTION		
Drilling Engineering	Office:	
	1. Provision of drilling services for BMR operations and, upon request, for other Departments; supervision of drilling services.	

OFFICE AND MISCELLANEOUS

MINERAL RESOURCES BRANCH

PROJECT	NATURE OF WORK	TIMETABLE
Drilling Engineering (Cont.)	2. Preparation of technical specifications for the purchase, manufacture and modification of drilling plant and equipment. 3. Preparation of technical specifications for BMR drilling operations carried out under contract.	
Petroleum and Reservoir Engineering	Office: 1. Estimation of petroleum reserves and resources, prospects, field valuation and economics. 2. Preparation of tender schedules for borehole logging and other service contracts for BMR operations associated with the petroleum investigation phase of its operations. 3. Provide liaison with Commonwealth departments, States and Territories on matters arising out of the Petroleum (Submerged Lands) Act 1967-1968 and other petroleum legislation. 4. Receipt, verification, acknowledgement and indexing of material submitted under the Petroleum (Submerged Lands) Act 1967-68.	
Petroleum Information and Statistics	Office: Provide information on 1. Exploration, development and production activity and expenditures thereon. 2. Petroleum exploration and development titles and company equity. 3. Developments in the petroleum exploration and production industry in Australia and overseas.	

PUBLICATIONS IN PREPARATION

Subject	Author
BULLETINS	
Ngalia Basin, N.T.	A.T. Wells et al
Northern Eromanga and Galilee Basin.	R.R. Vine
Central Eromanga Basin.	B.R. Senior
Periodotite-gabbro-basalt complex in Eastern Papua.	H.L. Davies
Chemical analyses of Australian Rocks: Igneous and metamorphics for the period 1962-1969.	Germaine A. Joplin (ANU)
Lamboo Complex, Western Australia.	I. Gemuts (GSWA)
Herberton-Mount Garnet area.	D.H. Blake
South Sepik.	D.B. Dow, J.A.J. Smit, H.J.C. Bain, R.J. Ryburn
Geochronology, East Kimberley region, W.A.	V.M. Bofinger
Cape York Peninsula and Torres Strait Islands.	W.F. Willmott, W.D. Palfreyman, W.G. Whitaker (GSQ)
Bulletin 125: Short geological papers.	R.N. England, A.Y. Glikson, D.C. Gellatly, G.M. Derrick, K.A. Plumb, M.C. Brown
Primary element dispersions associated with mineralization at Mount Isa, Queensland.	S.E. Smith, K.R. Walker
Manam Volcano.	G.A.M. Taylor
Joint Investigation of Gosses Bluff Structure.	B.C. Barlow, J.R.H. van Son, D.M. Finlayson, E.J. Milton (USGS)
Gravity Meter Measurements on the Western Pacific Calibration Line 1969.	R.J.S. Cooke
Palaeontological Papers	
- Foraminifera from Nassau Range, West Irian.	D.J. Belford
- Calcareous Nannaplankton Miria Marl, Carnarvon Basin, Western Australia.	M. Owen

PUBLICATIONS IN PREPARATION

Subject	Author
BULLETINS (Cont.)	
Palaeontological Papers (Cont.)	
- Upper Silurian thelodont scales, Toko Range, Western Queensland.	P.J. Jones
- Numerical classification.	P.J. Jones
- Syst. and stratigraphy of spores and microplankton in the Aptian and Albian, Great Artesian Basin, Qld.	D. Burger
- Systematics of pollen, spores and microplankton from the basal Cretaceous in the Great Artesian Basin, Qld.	D. Burger
- New mammals from the Riversleigh Fauna, N. Queensland.	M. Plane
- Ordovician trilobites of northern Australia. 1. Dikelokephalinidae.	Joyce Gilbert-Tomlinson
- Idem 2. Rusophycus.	"
Larger foraminifera from New Britain.	H. Binnekamp
Late Cambrian and early Ordovician trilobite faunas from the southern part of the Bourke River Structural Belt, Western Queensland.	J.H. Shergold
The Bullock Creek Fauna.	M. Plane
The Ordovician graptolites from the Canning Basin, W.A. Part 2.	S.K. Skwarko
Domerian (Lower Jurassic) marine Mollusca from New Guinea.	S.K. Skwarko
The Carboniferous geology of the Northern Hunter Valley.	J. Roberts, B.S. Oversby

PUBLICATIONS IN PREPARATION

Subject	Author
REPORTS	
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Carpentaria, Qld.	F. Doutch
Sydney Basin Review.	A.L. Bigg-Wither, S.J. Mayne, E. Nicholas, M. Raine
Carnarvon Basin Bibliography.	S. Ozimic
Well Completion Report, BMR Wollongong Nos. 1, 2 & 2A.	S. Ozimic, S.J. Mayne
Geotraverse, W.A. - Deep Crustal Investigation.	F.J. Moss et al
Roma Shelf Seismic Study.	A.R. Brown et al.
The geology of the north-eastern part of Hughenden 1:250,000 Sheet area, Queensland.	A.G. Paine, R.R. Harding, D.E. Clarke (GSQ)
The geology of the Townsville 1:250,000 Sheet area, Queensland.	D.H. Wyatt (GSQ), A.G.L. Paine, R.R. Harding, D.E. Clarke (GSQ)
The geology of the Ayr 1:250,000 Sheet area, Queensland.	A.G.L. Paine, C.M. Gregory, D.E. Clarke (GSQ)
ANARE 1961 Geological traverses on the MacRobertson Land and Kemp Land coast.	D.S. Trail
The geology of the Charters Towers 1:250,000 Sheet area, Queensland.	D.H. Wyatt (GSQ), A.G.L. Paine, D.E. Clarke (GSQ), C.M. Gregory, R.R. Harding
Palaeozoic rocks of the Hardman, Rosewood, and Argyle Basins, East Kimberley Region, Western Australia.	D.B. Dow
The geology of the Proserpine 1:250,000 Sheet area, Queensland.	D.E. Clarke (GSQ), A.G.L. Paine, A.R. Jensen
The geology of the northern half of the Bowen 1:250,000 Sheet area, Queensland.	A.G.L. Paine, D.E. Clarke (GSQ), C.M. Gregory
Adelaidean and Cambrian stratigraphy of the Mount Ramsay 1:250,000 Sheet area, Western Australia.	H.G. Roberts, I. Gemuts (GSWA), R. Halligan (GSWA)
Catalogue of isotopic age determinations carried out on Australian rocks in 1966.	R.W. Page

PUBLICATIONS IN PREPARATION

Subject	Author
REPORTS (Cont.)	
Compilation of geological and chemical information from the Hundred of Goyder, Rum Jungle district, NT.	Y. Miezitis
Exploration of the Woodcutters area, near Rum Jungle, NT 1964-67.	C.E. Prichard
Catalogue of isotopic age determinations on Australian rocks in 1967-68.	R. Bennett
The geology of the northern part of the Victoria River Basin, NT.	I.R. Pontifex, C.M. Morgan, I.P. Sweet
The geology of the Auvergne 1:250,000 Sheet area, NT.	I.R. Pontifex, C.M. Morgan, I.P. Sweet, A.G. Reid
Permian sediments around Beaver Lake, Antarctica.	A. Medvecky
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The geology of the Gazelle Peninsula, New Britain.	R.P. Macnab
Late Cainozoic Volcanism in the D'Entrecastreaux Group and adjacent islands.	I.E. Smith
The Australian Isogal Regional Gravity Survey, 1964-69.	B.C. Barlow
Australian Calibration Line Gravity Survey, 1970.	R.J.S. Cooke
New Britain Crustal Investigation.	W.A. Wiebenga, J. Cull, A.S. Furumoto (University of Hawaii), J. Webb (University of Queensland)
New Guinea Earthquakes 1960-1965.	D. Denham
New Guinea Seismicity 1966.	D. Denham
New Guinea Seismicity 1967.	D. Denham
New Guinea Seismicity 1968.	D. Denham
New Guinea Seismicity 1969.	W. Byrne
Kalgoorlie Seismic Events 1965-1970.	P.J. Gregson
Western Australia Seismicity 1966-1969.	I.B. Everingham

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REPORTS (Cont.)	
Magnetic MHV Reports	
Port Moresby 1957-58.	J.R. Wilkie
" " 1959-60.	"
" " 1961-62.	"
Gnangara 1957-58.	P.M. McGregor
1959-60.	"
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Toolangi 1959-60.	C.A. van der Waal
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Macquarie Is. 1957-58.	G.R. Small
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Mawson 1957-58.	G.R. Small
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Focal Mechanisms New Guinea.	I.D. Ripper
Mineral Industry Reports	
Bauxite Deposits	Pamela Thieme
Iron ore Deposits	"
Phosphate Deposits	"
Nickel Deposits	"
Lead-Zinc Deposits	Susan Roddick

PUBLICATIONS IN PREPARATION

Subject	Author
EXPLANATORY NOTES AND 1:250,000 MAPS	
Warwick	F. Olgers
Homeboin	B.R. Senior
St. George	Daniele Senior
Dirranbandi	Barbara Graham
Machattie (2nd Edition)	B.R. Senior
Hughenden	R.R. Vine
Jericho	R.R. Vine
Dalby	A. Medvecky
Goondiwindi	A. Medvecky
Dobbyn	J. Smart
Millungara	K. Grimes (GSQ)
Gilberton	J. Smart
Croydon	H.F. Doutch
Donors Hill (2nd Edition)	J. Ingram
Burketown	J. Ingram
Cloncurry	K. Grimes (GSQ) and Derrick?
Cambridge Gulf	K.A. Plumb, J.J. Veevers
Medusa Banks	K.A. Plumb, W.J. Perry
Montague Sound	A.D. Allen (GSWA)
Prince Regent - Camden Sound	I. Williams (GSWA)
Charnley	D.C. Gellatly, R.A. Halligan (GSWA)
Lennard River (revised)	
Yampi	J. Sofoulis (GSWA), D.C. Gellatly
Hughenden	A.G.L. Paine, R.R. Vine
Bowen	A.G.L. Paine
Proserpine	A.G.L. Paine

PUBLICATIONS IN PREPARATION

Subject	Author
EXPLANATORY NOTES AND 1:250,000 MAPS (Cont.)	
Coen (part) Cape Weymouth (part)	D.S. Trail et al.
Torres Strait (part) Daru-Maer Island	W.F. Willmot, W.D. Palfreyman, D.S. Trail, W.G. Whitaker (GSQ)
Auvergne, NT	I.R. Pontifex, C.M. Morgan, I.P. Sweet
Port Keats Fergusson River (2nd Ed) Cape Scott Delamere	C.M. Morgan, I.P. Sweet, J.R. Mendum
Victoria River Downs Wave Hill Waterloo Limbunya	I.P. Sweet, J.R. Mendum, R.J. Bultitude
Wabag, NG (part) Ambunti May River	H.L. Davies, R.J. Ryburn, D.S. Hutchison
Ramu, NG Karamui, NG	J.H.C. Bain, D.E. Mackenzie
Wau, NG	H.L. Davies, J.A.J. Smit
Tufi	D.L. Davies, I.E. Smith
Abau	I.E. Smith
Samarai	I.E. Smith
Rossel	I.E. Smith, H.L. Davies
Fergusson Island	H.L. Davies
Gazelle Peninsula	H.L. Davies, R.J. Ryburn

PUBLICATIONS IN PREPARATION

Subject	Author
EXPLANATORY NOTES AND 1:250,000 MAPS (Cont.)	
Pomio) Talasea) Gasmata) Arawe) Cape Raoult)	H.L. Davies, R.J. Ryburn
OTHER MAPS	
1 inch to 1 mile	
Herberton	
Mount Garnet	
1:100,000 Scale	
Yampi	
Leopold Downs	
Marraba	
Cloncurry	
1:500,000 Scale	
Cape York Area	
West Kimberley	
Eastern Papua	
Louisiade Archipelago	
Papuan Ultramafic Belt	
Burdekin River Region	
Kimberley Basin	
Victoria River	
New Britain	
Central Highlands	

PUBLICATIONS IN PREPARATION

Subject	Author
OTHER MAPS (Cont.)	
1:1,000,000 Scale	
Geological map of Papua & New Guinea	
1:5,000,000 Scale	
Petroleum Exploration and Development Titles Map and Key.	W.R.W. Dunn

PUBLICATIONS IN PROGRESS

Subject	Author
MISCELLANEOUS PAPERS	
Cainozoic stratigraphy, southern Carpentaria Basin.	H.F. Doutch
Subsurface correlations, southern Carpentaria Basin.	J. Smart
Stratigraphic nomenclature, southern Carpentaria Basin.	J. Smart et al.
The geological sequence and the Permo-Triassic boundary in Australia and Eastern New Guinea.	J.M. Dickins
Carboniferous of Australia.	J. Roberts and others
The Bonaparte Gulf Basin, northwestern Australia.	J. Roberts, J.J. Veevers
Upper Devonian correlation of Australia.	J. Roberts and others
A fossil macropodia from the marine Pliocene of Victoria.	M. Plane
Spore & microplankton stratigraphy in the basal Cretaceous of the Great Artesian Basin, Qld (in abstract).	D. Burger
Tertiary sporomorphs from the Ngalia Basin, NT.	D. Burger
Systematics of pollen, spores and microplankton (Cenomanian) of Bathurst Island, NT.	D. Burger and M.S. Norvick
An early Cyclocystoid from the Middle Cambrian of western Queensland.	J.H. Shergold
Bibliography and Index of Australian Cambrian trilobites, 2.	J.H. Shergold

PUBLICATIONS IN PREPARATION

Subject	Author
MISCELLANEOUS PAPERS (Cont)	
Revision of Cyrtina wellingtonense Dun from the Lower Devonian of Wellington, NSW (provisional title).	D.L. Strusz
Devonian Rugosa from the Silverwood Group, Texas High, southern Queensland (provisional title).	D.L. Strusz
Revision of the encrinurid trilobites of the Silurian of Canberra and Yass (provisional title).	D.L. Strusz, J.H. Shergold
Revision of 'Lichas' sinuata Rattee from the Lower Devonian of Wellington, NSW (provisional title).	D.L. Strusz

PUBLICATIONS IN PREPARATION

Subject	Author
PERIODICALS	
A.M.I. Annual Review 1970.	
Preprints of Selected Chapters of 1970 A.M.I. Review - aluminium, coal, copper, iron ore, lead, nickel, petroleum, tin, titanium, zinc, and the General Review.	
A.M.I. Quarterly Review.	
The Petroleum Newsletter (quarterly)	W.R.W. Dunn
Petroleum Exploration Contractors, Service Companies and Consultants.	W.R.W. Dunn
Petroleum Exploration and Development Companies (annually).	W.R.W. Dunn
Petroleum Wells and footage drilled (quarterly, annually).	
Drilling Rig Activity (monthly).	