COMMONWEALTH OF AUSTRALIA.

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BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS.

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1962/94

EXPLANATORY NOTES
ROPER RIVER 1:250,000 GEOLOGICAL SHEET, NORTHERN TERRITORY, (INCLUDING CAPE BEATRICE 1:250,000 GEOLOGICAL SHEET).

Compiled by

P.R. Dunn.

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(including Cape Beatrice 1:250,000 sheet area)

INTRODUCTION

The Roper River 1:250,000 Sheet covers the area between latitudes 14°00', 15°00'S and longitudes 135°00', 136°30'E. The Sheet forms part of the eastern coast of the Northern Territory on the Gulf of Carpentaria and includes the tidal estuaries of the Roper, Rose, and Towns Rivers; the south-western portion of Groote Eylandt and several other islands. The mainland north of the Roper River is within the Arnhem Land Aboriginal Reserve; Groote Eylandt is also an aboriginal reserve.

The only settled population is about 15 Europeans and 200 aboriginals at the Rose River Mission. Small groups of aboriginals from Roper River Mission (in the adjacent Urapunga Sheet area) spend part of the "wet" season in the area. The main industry at the Rose River Mission is fishing and cutting cypress pine; the Roper River Mission raises cattle on the plains around the Roper River salt flats and collects salt from the flats. There are no proper access roads; a track between the Roper and Rose River Missions has been used in recent years by 4-wheel drive vehicles in the "dry" season only. The Rose River Mission receives its heavy supplies by sea and is visited by a weekly light-aircraft service throughout the year. There is a disused airstrip near the old site of the mission station on Groote Eylandt (the present site of the Groote Eylandt Mission is in the Blue Mud Bay Sheet area several miles north of the old site).

Available maps and air photographs of the Sheet area are: air photographs at a scale of 1:50,000 flown by the Royal Australian Air Force in 1950; a photomosaic at 4 miles to 1 inch; a planimetric map at 4 miles to 1 inch compiled by the Division of National Mapping, Department of National Development from a controlled photo-scale slotted template assembly.

The Royal Australian Army Survey Corps are currently (1961) preparing a topographic map of the area at a scale of 1:250,000.

PREVIOUS INVESTIGATIONS

No systematic geological mapping had previously been done in the Roper River Sheet area. Brown (1908) noted the presence of sandstone on Groote Eylandt, Maria Island, and Mt. Moore when he landed at those places from the steamship "Federal" in 1907. In 1955 geologists of Broken Hill Pty. Ltd. made a reconnaissance traverse through the country between the Phelp and Rose Rivers near the western margin of the Sheet area (Cochrane, 1956).

The mapping, from which the map accompanying these notes was compiled, was carried out by geologists of the Bureau of Mineral Resources in 1959.

PHYSIOGRAPHY

Most of the area is coastal plains and estuarine flats, with scattered ridges of resistant sandstone. The main drainage is through the Towns, Roper, Rose, and Phelp Rivers, of which the first three are tidal for many miles upstream from their mouths. The rivers are mainly aggradational, deriving their sediment from farther west, but a recent fall in sea-level has forced the rivers to entrench their channels in many places up to 20 feet below their previous flood plains.

Dunn et al. (1962) have divided the region between Arnhem Land and the Queensland border into three broad physiographic units: Barkly-Beetaloo Tableland, Gulf Fall, and Coastal Plains. The Roper River Sheet area consists of portions of the Gulf Fall and Coastal Plains; on Plate 1 the Groote Eylandt Plateau is an isolated part of the Gulf Fall and the Estuarine and Coastal Alluvium is part of the Coastal Plains.

The Gulf Fall area extends westwards from the coastal plains and occupies most of the adjacent Urapunga Sheet area. In the Roper River Sheet area the hills are being eroded down to plain level; towards the coast the valleys between ridges are broader, and in places only very resistant sandstone with moderate dip remains to form long ridges such as that north of the Roper River estuary. Mt. Roper and Mt. Moore are the only prominent hills.

The Coastal Plains are best developed north of the Phelp River. Here they are covered by dense, low scrub. The plains are mainly lateritic with a cover of later soil, sand, and shelly limestone. The surface drainage is poorly defined, except for the principal rivers; numerous small lagoons, some permanent, but mostly seasonal, are scattered throughout the plains. The lagoons commonly have an internal drainage system,

but for most of the year the level of the water in them is governed by the ground-water level in the underlying porous laterite. Along the coastline sand dunes have been formed. There are two ages of dunes. The older dunes are parallel to the coastline although they may be some miles inland; they mark ancient strand lines and are partly consolidated by calcareous cement and fixed by vegetation. The younger dunes are active unstable parabolic dunes which were formed by prevailing winds blowing sand up from the beaches; these dunes may extend for many miles inland (e.g. in the south of Groote Eylandt), and in places they have blocked coastal streams and formed small lagoons.

The largest area of Estuarine and Coastal Alluvium is formed by the extensive salt flats of the Roper River. They have little or no vegetation. The flats are partly flooded at high tide and in the wet season; pools of water left in shallow depressions later evaporate to form salt deposits. Across the flats the courses of the Roper River and its tributaries are marked by dense mangrove growth. The Rose River has similar, but much smaller flats near its mouth. The Phelp River does not flow into the sea, but flows out onto a large flood-plain which, during the wet season, drains into the Roper River.

Part of the Groote Eylandt Plateau occurs in the north-eastern part of the Sheet area; it is a rugged plateau of hard, jointed sandstone which forms cliffs on the eastern coast of the island and rises to a maximum 500 ft. before gently sloping down to coast level in the west. The plateau is deeply dissected along major joints.

STRATIGRAPHY

The geology of the Roper River Sheet area represents a poorly exposed extension of the stratigraphic succession present in the Urapunga Sheet area (Dunn 1962). Table 1 summarises the stratigraphy of the area.

Upper Proterozoic

Age of the Units. After his brief examination of the sandstones along the Roper River, Brown (1908) tentatively regarded them as Permo-Carboniferous. Several years later Woolnough (1912) and Jensen (1914), mapping in adjacent areas suggested a Cambrian age. Later geologists have tentatively assigned these rocks to the Upper Proterozoic (David, 1950;

Noakes, 1956) or Middle Proterozoic (Hossfeld, 1954). The latest mapping by the Bureau of Mineral Resources shows that the main sedimentary sequence between Arnhem Land and the Northern Territory - Queensland border unconformably overlies the Lower Proterozoic and is unconformably overlain by Lower to Middle Cambrian volcanics and limestone; this mapping supports an Upper Proterozoic age.

The Upper Proterozoic sequence between the Queensland border and central Arnhem Land was deposited in a composite basin - the McArthur Basin - and is divided into natural groups by a number of unconformities.

The strongly jointed sandstone of the Tawallah Group, exposed on Groote Eylandt, is the oldest rock in the Roper River Sheet area. It is a cross-bedded, medium to coarse-grained grey sandstone containing numerous scattered quartz pebbles. In the Blue Mud Bay Sheet area, which adjoins the Roper River Sheet to the north, the sandstone unconformably overlies metamorphic rocks and granite, suggesting that it is a platform deposit on the eastern margin of the McArthur Basin; it shows structural and lithological affinities with sandstone of the Katherine River Group in the north-west marginal platform area of the Basin (Walpole, 1962). The Tawallah Group is best developed in the Mt. Young-Bauhinia Downs area, which adjoins the Roper River Sheet area to the south where, as an arenite-carbonate-volcanic sequence, it is about 15,000 feet thick.

The Tawallah Group is overlain by the McArthur Group, a carbonate-arenite sequence in the Mt. Young-Bauhinia Downs area (Smith, 1962) which grades into a more silicified sequence with volcanics in the Urapunga Sheet area (Dunn, 1962). Part of both sequences are represented in the few isolated outcrops of the McArthur Group exposed in the Roper River Sheet area. On Maria Island the succession is, from the base; flaggy calcareous siltstone and fine-grained quartz sandstone; laminated chert, siltstone and fine-grained sandstone; and flaggy fine-to-medium-grained calcareous quartz sandstone. These units are identified with the Lynott and Yalco Formations, and Stretton Sandstone, which were described from the Bauhinia Downs Sheet area (Smith, 1962). On the mainland the uppermost unit of the McArthur Group in the Urapunga Sheet area, the Kookaburra Creek Formation, has been traced onto the Roper River Sheet area. It crops out as low, rough hills of bedded

chert, in part oolitic, ferruginous chert breccia and medium-grained grey quartz sandstone containing chert fragments; volcanic rocks present in the Urapunga area do not crop out in the Roper River Sheet area.

The Roper Group overlies the McArthur Group. It is a sandstone-shale sequence and is remarkably consistent in its lithology from one area to another. The contact between the Roper Group and Kookaburra Creek Formation is unconformable in places although it is apparently conformable in the Roper River Sheet area. The Limmen Sandstone is the basal formation of the Group, and crops out as prominent hills and ridges. The lower part of the formation consists of hard, grey and purple, silicified, coarse-to-medium-grained quartz sandstone which has a characteristically polished, rounded surface in outcrop. Sandstone exposed along the Rose River is similar in appearance, but as the outcrops are isolated and show no other correlatable features they are mapped as undifferentiated Upper Proterozoic. The lower sandstone member grades up into a less resistant flaggy micaceous medium-grained sandstone. Overlying the Limmen sandstone is the Mainoru Formation consisting of poorly-exposed siliceous siltstone, micaceous sandstone and siltstone, calcareous shale; and some bedded limestone. Windblown sand has eroded pavements of multi-coloured laminated calcareous shale along the northern margin of the Roper River salt flats. The Wooden Duck Member is a green, glauconitic, micaceous greywacke in about the middle of the Formation; it crops out as low ridges. After deposition of the Mainoru Formation sedimentation again becomes more clastic although argillaceous material is still present in the Crawford Formation; and in the Jalboi Member of the Abner Sandstone. The Jalboi Member is commonly slumped and exhibits a wide variety of shallow-water surface markings; the surface markings are a feature common throughout the Roper Group, but are best developed in this Member. The Hodgson Sandstone Member of the Abner Sandstone and the Bessie Creek Sandstone are two units of cross-bedded medium-to-coarse-grained quartz sandstone, which both exhibit two strong vertical joint directions. The younger Bessie Creek Sandstone generally shows finer bedding, a closer joint system, and is more friable than the Abner Sandstone. These two units elsewhere are separated by the Corcoran Formation, a sequence of calcareous shale, micaceous sandstone, and siltstone. This unit is not exposed in the Roper River Sheet area.

The Bessie Creek Sandstone is the youngest Upper Proterozoic formation on the Roper River Sheet. The iron-bearing Malwok Sub-Group (Dunn, 1962) and the Cobanbirini Formation (Smith, 1962), which overlie the Bessie Creek Sandstone to the west and south respectively, do not crop out here.

Mesozoic-Lower Cretaceous

The Mullaman Beds are Lower Cretaceous fresh-water and marine sediments which unconformably overlie older rocks throughout the northern part of the Northern Territory. In places they form extensive plateaux and cap numerous flat-topped mesas. In the Roper River Sheet area flat-lying ferruginous sandstone, porcellanite, and siltstone crop out in several small isolated areas. The westernmost outcrop on the Sheet area lies on a ridge of Limmen Sandstone and the other outcrops are just above the level of the Roper River salt flats. This is possible evidence for a post-Cretaceous downwarping east towards the coast.

Cainozoic

Superficial cover includes most of the post-Cretaceous sediments and soils which cover the coastal plains. The plains are mostly covered by loose white sand which has probably been derived from friable Upper Proterozoic sandstones. Streams are not a major feature of the coastal plains and the mechanism of distribution of the sand is obscure; some was probably windblown during an earlier more arid period when vegetation was sparse. Near the coast, beach sand has been blown into sand dunes.

A shelly limestone is exposed locally in some stream banks and creek terraces; it is nowhere more than 20 feet thick and was probably formed in shallow lagoons which covered part of the plains in Recent times.

The sand and limestone is underlain by laterite and limonite-cemented rubble which formed a capping on most of the older Tertiary land surface ("duricrust" (Woolnough 1927)).

A thin sandy soil has developed in some places directly on Upper Proterozoic sediments, it is a skeletal soil on which only very stunted trees grow. The soil on the shelly limestone is travertinous.

Alluvium and estuarine deposits include the transported soils in the river valleys and the mud, sand, and salt of the coastal and estuarine flats. The flats have a superficial

covering of loose sand and in places salt crystals, but commonly there is a shiny dark grey saline mud within an inch or so of the surface, which makes them treacherous for vehicles even in the dry season.

Intrusive Igneous Rocks

Several small outcrops of dolerite crop out near the western edge of the Sheet area. They are part of the extensive sills which intrude Roper Group sediments in the Urapunga Sheet area. The dolerite is medium-grained, and contains pigeonite and plagioclase intermediate between an andesine and labradorite. The sills are up to 250 feet thick and show very little variation in texture and composition.

STRUCTURE

(see plate 2)

The Upper Proterozoic rocks in the Roper River Sheet area occur on the eastern side of the McArthur Basin . The Tawallah Group on Groote Eylandt is a stable platform sediment overlying basement rocks and probably represents the eastern margin of the Basin area. The rest of the Sheet area was probably occupied by a shallow shelf slope on which no great depth of sediment was deposited; the Wonmurri Syncline may have been a local depression formed during sedimentation.

Faulting. The faults in the area trend mainly north and west-north-west. The north-trending faults are part of a major system of north-trending faults which dominates the structure in the centre of the McArthur Basin. The Phelp River Fault Zone is an outstanding member of this system, although the apparent displacement in the zone is not very great. In the north the fault zone splits into two faults with opposite senses of throw, suggesting at least two periods of movement within the zone with alternate downthrow sides. The zone thus shows little resultant movement, but marks a distinct change in structure between the rocks to the east and west. Similar double movements have been suggested as occurring along the Emu Fault Zone in the Bauhinia Downs Sheet area (Smith, 1962).

The west-north-west trending faults appear to be of minor importance here, although the fault zone to the south of the Wonmurri Syncline is not well enough exposed to assess its influence on the general structure of the area.

Evidence elsewhere within the McArthur Basin suggests that some of the major faults were active during Upper

Proterozoic sedimentation and were probably controlled by movements along old basement faults or ridges. Some slight post-Cretaceous movement has also been observed.

Folding. The mainland area is affected by broad folding with dips up to 15°. Steeper dips occur adjacent to faults or on monoclinal flexures in the fault zones. Most of the folds have axes roughly parallel to the north-trending faults and were probably formed at the same time as the faults. The Wonmurri Syncline which trends west-north-west, is an exception. The Syncline may have been an original sedimentary feature or may have been formed by movement on the west-north-west-trending fault on its southern margin. The west-north-west trend is fundamental in the McArthur Basin, but is not generally expressed as directly in the north-eastern part of the Basin as elsewhere.

Jointing. Minor stress in the sandstone on Groote Eylandt has been mostly taken up in a system of strong vertical joints. Systems of closely spaced joints affect the competent sandstones within the Roper Group. The spacing of the joints appears to be related to the total thickness of the sandstone and of its individual beds: the greater the thickness the broader the spacing.

ECONOMIC GEOLOGY

No occurrences of metallic minerals have been discovered.

There is a plentiful supply of surface water for the few cattle in the area; although most of the main rivers contain salt or brackish water, freshwater lagoons and billabongs occur throughout most of the area; Rose River Mission draws most of its water from a lagoon in the coastal sandhills although this tends to become brackish towards the end of the dry season.

The lagoons on the coastal plains suggest that the ground-water level is near the surface and underground water should be available at shallow depths throughout the area.

Salt is harvested from the salt pans of the Roper River flats and is used to supply the local pastoral properties with all their salt needs for cattle.

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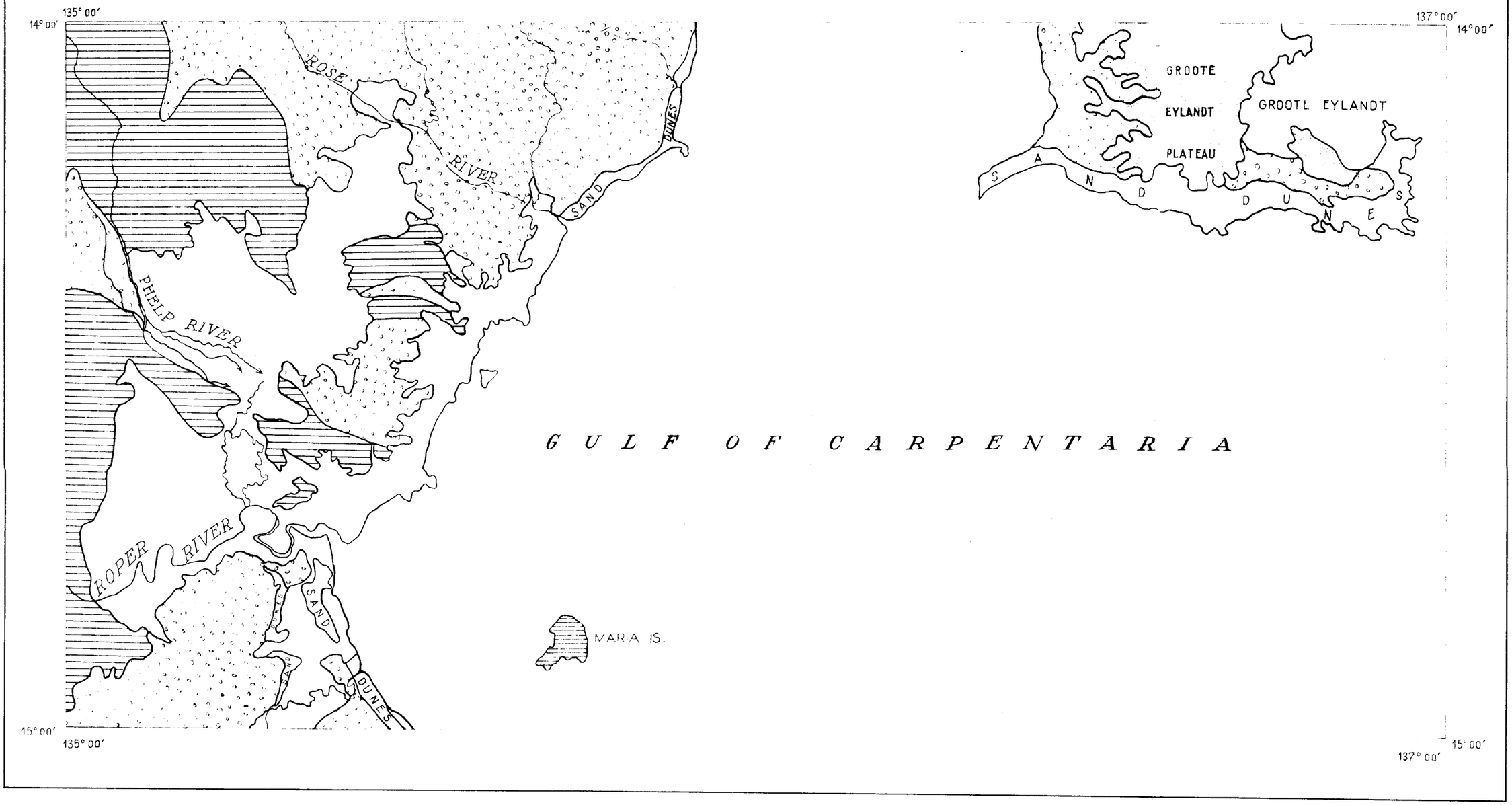
PLATE I

PHYSIOGRAPHIC SKETCH MAP ROPER RIVER 1:250,000 SHEET AREA



Scale
10 Miles to 1 Inch

10 5 0 10 20 30 40 Miles

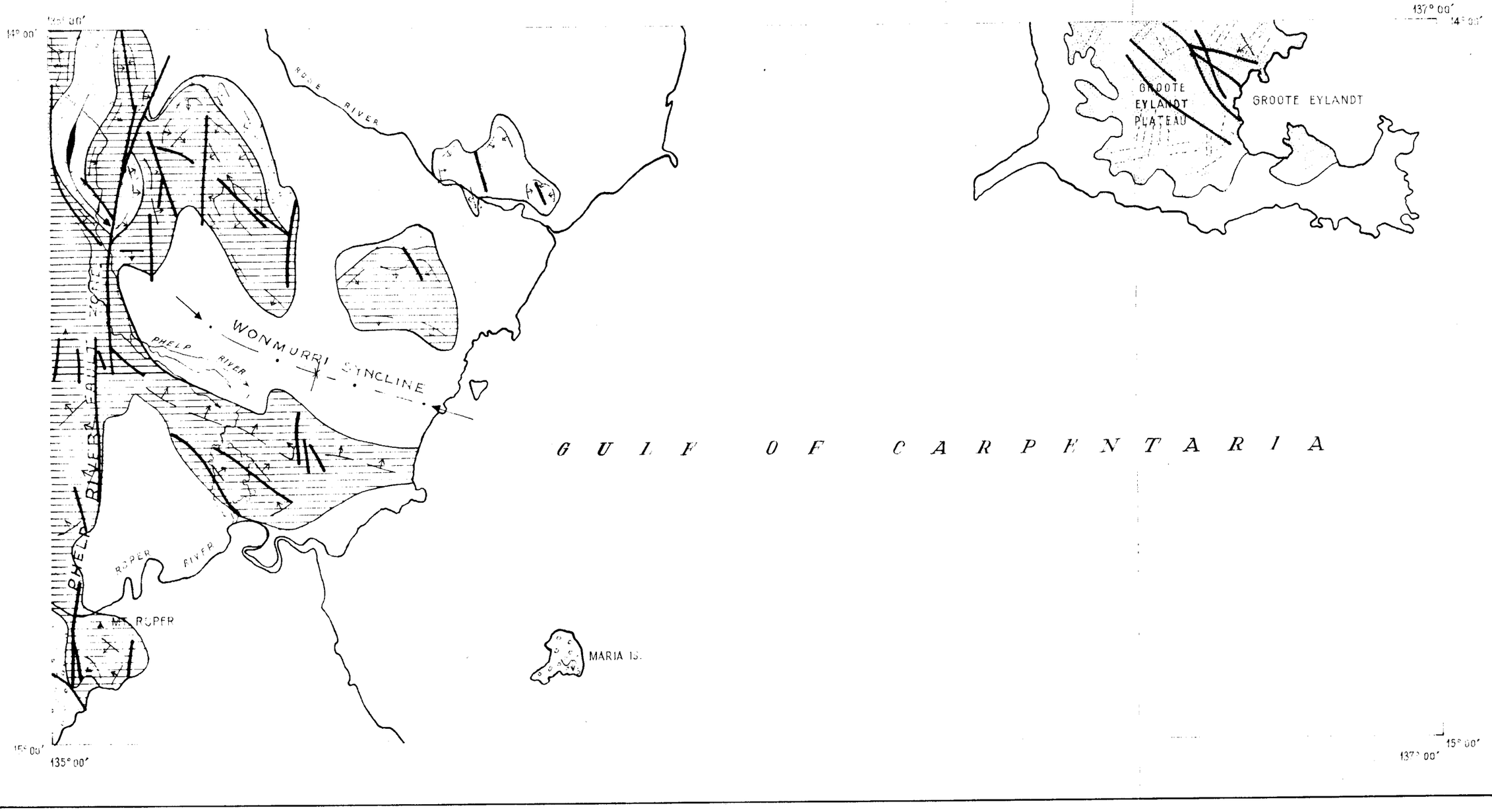
Reference

- Gulf Fall Area
- Coastal Plains
- Groote Eylandt Plateau
- Estuarine and Coastal Alluvium

To accompany Record 1962/94

PLATE 2

STRUCTURAL SKETCH MAP ROPER RIVER 1:250,000 SHEET AREA



Scale

10 Miles to 1 Inch

10 5 0 10 20 30 40 Miles

Reference

- Cainozoic cover
- Roper Group
- Group boundaries
- Prevailing dip and strike
- Fault
- Plunging anticlinal axis
- McArthur Group
- Tawallah Group and other sandstone
- Trend lines
- Joints
- Closed synclinal axis

To accompany Record 1962/9

AUSTRALIA 1:250,000

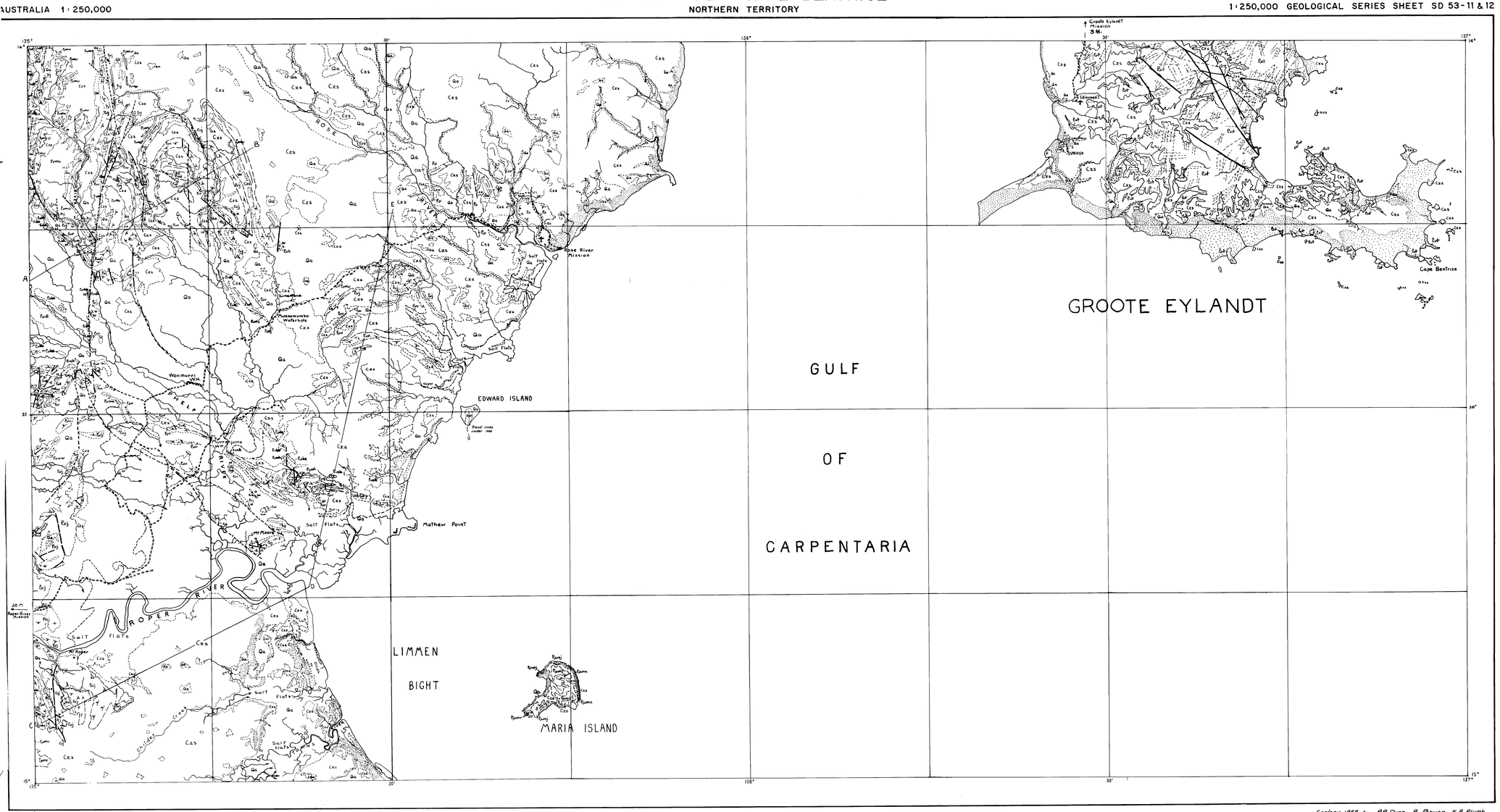
ROPER RIVER – CAPE BEATRICE

NORTHERN TERRITORY

1:250,000 GEOLOGICAL SERIES SHEET SD 53-11 & 12

PRELIMINARY EDITION, 1962

SUBJECT TO AMENDMENT



Reference

CAINOZOIC

- QUATERNARY
  - Qa — *Alluvium, soil; Coastal and estuarine deposits – mud, silt, sand and salt*
  - UNDIFFERENTIATED — Czs — *Laterite, sand, soil, ferruginous gravel, shelly limestone; Sand dunes, ancient and recent*

MESOZOIC

- LOWER CRETACEOUS
  - Mullaman Beds — Ekm — *Siltstone, quartz sandstone in part ferruginous, porcellanite*

PRECAMBRIAN

- UPPER PROTEROZOIC
  - Eudl — *Dolerite sills*
  - Undifferentiated — Eu — *Quartz sandstone*
  - Roper Group
    - Bessie Creek Sandstone — Eubbe — *Blocky, white friable quartz sandstone*
    - Corcoran Formation — Euco — *Siltstone and shale. (In Section only)*
    - Abner Sandstone, Hodgson Sandstone Member — Eueh — *Blocky and flaggy quartz sandstone, ferruginous sandstone*
    - Jalboi Member — Euwj — *Blocky quartz sandstone, micaceous siltstone and slumped pink micaceous quartz greywacke*
    - Crawford Formation — Eur — *Blocky and flaggy slumped quartz greywacke and micaceous sandstone, in part glauconitic; siltstone*
    - Mainoru Formation — Eum — *Pink, fine-grained micaceous greywacke, pink to cream siltstone, in part silicified; calcareous shale*
    - Wooden Duck Member — Eumw — *Flaggy quartz greywacke, micaceous greywacke, few glauconitic bands*
    - Limmen Sandstone — Eulj — *Massive and flaggy silicified quartz sandstone; Flaggy micaceous sandstone*
  - McArthur Group
    - Kookaburra Creek Formation — Eumu — *Bedded chert, ferruginous chert breccia and sandstone*
    - Batten Sub-Group
      - Stretton Sandstone — Eumr — *Flaggy, grey calcareous quartz sandstone*
      - Yalco Formation — Eumj — *Laminated chert, siltstone and fine-grained sandstone*
      - Lynott Formation — Eumn — *Flaggy calcareous siltstone and fine-grained sandstone; some chert*
  - Tawallah Group
    - Undifferentiated — Eut — *Massive quartz sandstone*

- Geological boundary
- Fault
- *Where location of boundaries and faults is approximate, lines are broken, where inferred, queried; where concealed, boundaries are dotted, and faults shown with short dashes*
- Horizontal bedding
- Strike and dip of strata
- Dip of strata <15°
- Dip of strata 15-45°
- Joint pattern
- Trend of bedding, showing direction of dip

(Air-photo interpretation)

- Vehicle track
- Landing ground
- Mission

Compiled and issued by the Bureau of Mineral Resources, Geology and Geophysics, Department of National Development. Topographic base compiled and drawn by the Division of National Mapping, Department of National Development. Aerial photography by the Royal Australian Air Force; complete vertical coverage at 1:50,000 scale. Transverse Mercator Projection.

Geology 1958, by P.R. Dunn, R. Bryan, K.R. Plumb
Compilation 1960, by R. Bryan

Scale 1:250,000

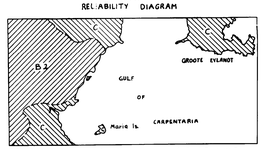
5 0 5 10 15 Miles
5 0 5 10 15 20 Kilometres

INDEX TO ADJOINING SHEETS
Showing Magnetic Declination

MT MARUMBA	BLUE MUD BAY	PORT LANGDON
TURAPUNGA	ROPER RIVER	CAPE BEATRICE
HODGSON DOWNS	MT YOUNG	BELLEW

ANNUAL CHANGE 48' E

GEOLOGICAL RELIABILITY DIAGRAM

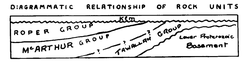


B2. *Reconnaissance - few traverses, air-photo interpretation.*
C. *Air-photo interpretation*

INDEX TO 1 MILE SHEETS.

PHELP RIVER	EVELYN PONDS	TRISMAN POINT	GROOTE EYLANDT	
Zone 5 Sheet 64	EDWARD ISLAND			CAPE BEATRICE
PORT ROPER	MATHEW POINT			
ROPER RIVER	MARIA ISLAND			

DIAGRAMMATIC RELATIONSHIP OF ROCK UNITS



Unconformity

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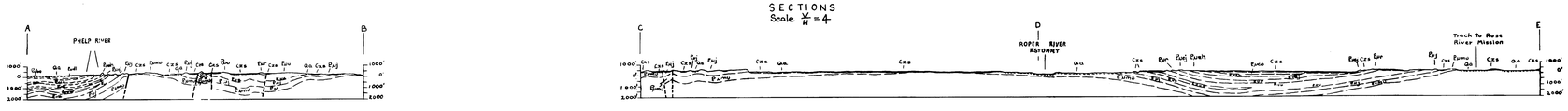

ROPER RIVER – CAPE BEATRICE

SHEETS SD 53-11 & 12

TABLE 1 - SUMMARY OF STRATIGRAPHY OF ROPER RIVER SHEET AREA

Age	ROCK UNIT: Group or Sub-Group	Formation	Member	Approx. Thickness	Lithology	Stratigraphic relationships	Topography	Remarks
Recent				Up to 50ft.	Sandy alluvial soil, mud, salt deposits, some sand		River flood plains, swamps, estuarine and coastal flats.	
Cainozoic (Undiff.)				Up to 50ft.	Sand, rubble, laterite, soil and shelly limestone.	Overlies older rocks	On flat mature land surface.	
Lower Cretaceous	Mullaman Beds			20 ft. +	Mottled buff sandstone, porcellanite, siltstone.	Unconformably overlies Upper Proterozoic	Flat topped capping on low hills.	Only several small outcrops mapped.
					UNCONFORMITY			
		Basic Intrusives			Pigeonite dolerite sills Intruded into Roper Group		Boulder strewn plains.	
U P P E R P R O T E R O Z O I C	Roper Group			2500 ft.	Sandstone-shale sequence.	Overlies McArthur Group with unconformity in places.	Arenaceous members as strike ridges with softer members as low rubble hills and in valleys.	Top portion of Group not exposed.
		Bessie Creek Sandstone		100 ft.	Blocky and flaggy white friable quartz sandstone, cross-bedded.	Conformably overlies Corcoran Formation.	Strongly jointed isolated masses of sandstone.	
		Corcoran Formation		500 ft.	Micaceous sandstone, siltstone and shale; calcareous shale, some limestone.	Conformably overlies Abner Sandstone	Broad flat valleys and plains.	Does not crop out.
		Abner Sandstone		400 ft.+	Blocky and flaggy quartz sandstone; micaceous siltstone, sandstone and greywacke, shale.	Conformably overlies Crawford Formation.	Prominent ridges in west - much lower ridges towards coast.	Two members recognised here. Elsewhere up to four members.
			Hodgson Sandstone Member	100 ft.	Blocky and flaggy quartz sandstone; ferruginous sandstone.	Top portion of Abner Sandstone in this Sheet area.	Jointed sandstone forming dip slope of ridges.	
			Jalboi Member	300 ft.	Micaceous siltstone, sandstone and greywacke interbedded ; blocky quartz sandstone.	Bottom portion of Abner Sandstone in this Sheet area.	Quartz sandstone forms small ridges on main rubbly ridge.	
		Crawford Formation		200 ft.	Pink micaceous quartz greywacke and sandstone in part glauconitic. Siltstone.	Conformably overlies Mainoru Formation.	Small ridges on backslope of Abner Sandstone ridges.	Base is gradational with Mainoru Formation.
		Mainoru Formation		1000 ft.	Pink fine micaceous greywacke and siltstone silicified siltstone, chert, some limestone; calcareous shale.	Conformably overlies Limmen Sandstone.	Outcrop poor. Open plains with scattered low rubble-covered rises along more resistant horizons.	
			Wooden Duck Member		Green flaggy micaceous greywacke containing glauconite. Quartz greywacke.	In about the middle of the Mainoru Formation.	Low strike ridges.	Appears to lense out to east.
		Limmen Sandstone		300 ft.	Silicified quartz sandstone, flaggy micaceous sandstone.	Unconformably overlies Kookaburra Creek Formation.	Long cuesta-form ridges and massive hills (e.g. Mt. Roper)	

Age	ROCK UNIT: Group or Sub-Group	Formation	Member	Approx. Thickness	Lithology	Stratigraphic relationships	Topography	Remarks
	McArthur Group				Carbonate-chert-volanic-arenite sequence in Urapunga Sheet area.	Overlies Tawallah Group but no contact exposed.		
		Kookaburra Creek Formation			Bedded chert, chert breccia and sandstone.	Base not exposed.	Chert in rough rubbly outcrops. Sandstone in low sandy ridges.	
		Stretton Sandstone			Flaggy, pale grey, fine-to-medium-grained calcareous quartz sandstone.	Conformably overlies Yalco Formation. Overlying formations not exposed but is below Kookaburra Creek Formation.		On Maria Island only.
		Yalco Formation			Laminated chert, siltstone and fine-grained sandstone.	Conformably overlies Lynott Formation.		On Maria Island only.
		Lynott Formation			Flaggy calcareous siltstone fine-grained sandstone. Some chert.	Base not exposed but underlain by several other formations in McArthur Group in Mt. Young Sheet Area.		On Maria Island only.
	Tawallah Group			500 ft.+	Grey massive quartz sandstone with quartz pebbles.	Unconformably overlies Lower Proterozoic granite and metamorphics to north of Sheet.	Gently dipping jointed sandstone plateau.	On Groote Eylandt only.