COMMONWEALTH OF AUSTRALIA

DEPARTMENT OF NATIONAL DEVELOPMENT

BUREAU OF MINERAL RESOURCES GEOLOGY AND GEOPHYSICS

RECORDS:

REPORT ON PHOTO-INTERPRETATION OF MILLUNGERA 1:250,000 SCALE SHEET - QUEENSLAND.

by

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Records 1966/54

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QUEENSLAND

CONTENTS

SUMMARY

MILLUNGERA sheet area is a flat, featureless plain covered by Cainozoic formations. From the drainage pattern a monocline is inferred in the eastern part of the sheet, and a north-westerly trending anticlinal ridge in the western part.

Three outcrops can be related to the Upper Wilgunya Formation; the only remarkable features of the sheet area are three small outcrops of basement rising above the plain.

I. INTRODUCTION

The Millungera 1:250,000 scale sheet is situated in the northern part of the Great Artesian Basin (141°-142°30'E, longitude - 19°-20°S, latitude). It is mostly covered by Quaternary or Cainozoic formations, therefore the photo-interpretation was directly reported on the 1:250,000 scale National Mapping compilation sheet.

MILLUNGERA occurs north of JULIA CREEK which is part of a previous photo-geological work (De Lassus, Perry and Scanvic, 1962) and for which the result of the field work have been published (Vine, 1963).

II. PHYSIOGRAPHY

The sheet area is a flat, featureless plain drained by numerous tributaries of the Flinders, Saxby and Clara rivers; it is mainly composed of alluvium, sand and calcareous duri-crust. Sand areas are covered by timber.

III. HYDROGRAPHY

In the eastern part of the sheet, the creeks flow westward as far as Cooradine Creek, whereas in the western part, the drainage is in a northwest direction towards the Gulf of Carpentaria. It suggests that the eastern part of the sheet may be a monocline dipping gently westward and the western part a very gentle anticline having a northwest trend.

The lineaments shown on the map are suggested by the drainage pattern; to make a general geomorphological study, it would be necessary to draw on overlays every creek, even the smallest ones; the drainage of the topographic sheet is not sufficiently detailed to carry out such a work.

IV. LITHOLOGY

The lithological divisions interpreted are shown in Table I. Three areas of calcareous formations have been found, which can be compared with unit Klw of JULIA CREEK; three outcrops of basement occur in the western part of the sheet.

TABLE I.

Photogeological character			Possible geological equivalent		
	Qa	alluvium soil	- Quaternary		
	$Qs-Qs_1$	sand sheets			
	CP	clay or salt pan			
Grey tone, irregular pattern with lighter spots				- CAINOZOIC	
	Cz	gravel, duri-crust	- undifferentiated		
Light grey tone	Qt	travertine			
Irregular pattern of white to grey toned, very low outcrop	Klw	limestone, silty limestone	?Upper Wilgunya Formation	LOWER CRETACEOUS	MESOZOIC
High relief	pG	conglomerate, sandstone	- PRECAMBRIAN		
High relief, bedded outcrop	pGm	metamorphic rock			

Precambrian

Three outcrops of basement (Mount Fort Bowen, Mount Brown, Mount Little; R10/129-130; R12/035) rise above the alluvial plain and form the only elevated features of this sheet. Carter, Brooks and Walker (1961) refer to Mount Brown and Mount Little as probably Lower Proterozoic schist (pGm), and Mount Fort Bowen as possibly Upper Proterozoic conglomeratic sediments (pG).

Klw

Three light toned, smooth textured areas have been correlated with the upper part of the Wilgunya formation (Cretaceous) of JULIA CREEK.

Qt

Some areas with white spots have been differentiated as Travertine.

Cz

It is probably a calcareous duricrust.

Qs

Sand is widely distributed on the sheet. In the central part, within the sand, numerous salt pans and old watercourses occur.

In the eastern part the sand takes on a special photogeological character and has been differentiated as QsCz (light areas) and Qs_1Cz (dark areas). It may be that a calcareous formation underlies the sand in the light toned areas.

Qa

Alluvium covers the western part of the sheet area. It is a very flat, light to grey toned formation with darker areas due to ground moisture. No timber occurs within this area.

REFERENCES

CARTER, E.K., BROOKS, J.H., and WALKER, K.R., 1961 - The Precambrian Mineral Belt of North-Western Queensland. Bur. Min. Resour. Aust. Bull.51.

De LASSUS ST. GENIES, B., PERRY, W.J., and SCANVIC, J.Y., 1962 - Report on photo-interpretation of the northwestern Artesian Basin. Inst. Fr. Pet. AUS/38 (unpubl.).

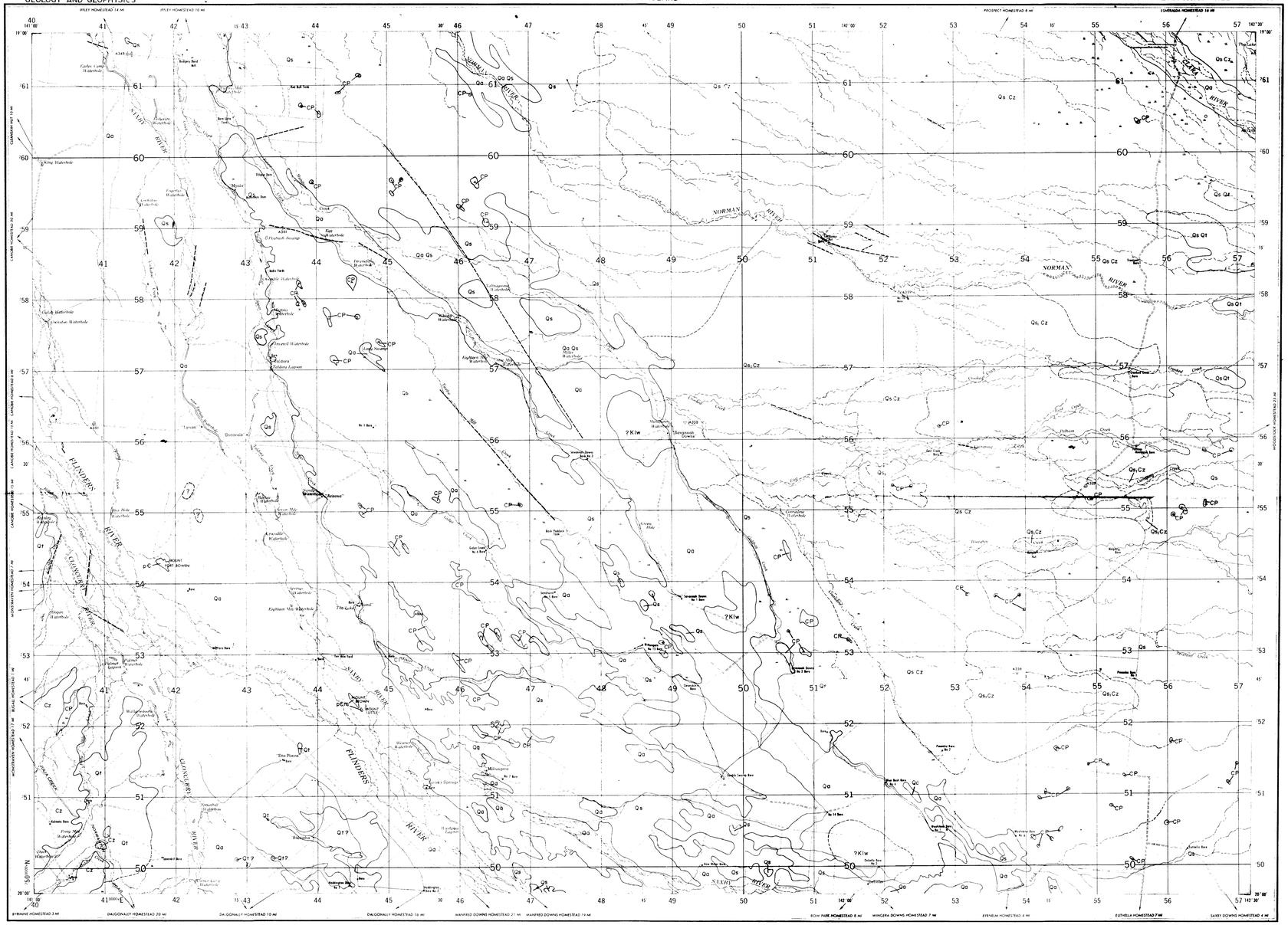
VINE, R.R., 1964 - Julia Creek Queensland 1:250,000 Geological Series. Bur. Min. Resour. Aust. explan. Notes SF/54-3.

BUREAU OF MINERAL RESOURCES,
GEOLOGY AND GEOPHYSICS

MILLUNGERA

QUEENSLAND

AUSTRALIA 1:250,000
PHOTOGEOLOGICAL SHEET SE54-15



REFERENCE

Photogeological Character		Possible Geological Equivalent			
	Qa	Alluvium, soil	QUATERNARY		CAINOZOIC
	Qs Qs,	Sand sheets			
	CP	Clay-salt pan			
Grey, fine, irregular pattern with lighter spots	Cz	Gravel, duri-crust	UNDIFFERENTIATED		
Light grey tone	Qt	Travertine			
Irregular pattern of white to grey toned, very low outcrop	?Klw	Limestone - silty limestone	?Upper Wilgunya Formation	LOWER CRETACEOUS	MESOZOIC
High relief	pC	Conglomerate, sandstone			PRECAMBRIAN
High relief, bedded outcrop	pCm	Metamorphic rock			

- Lithological boundary
- Probable lithological boundary
- Anticlinal axis
- Synclinal axis
- Fault
- Lineament
- Edge of bed
- Probable edge of bed
- Edge of bed expressed as scarp

Estimated dips

- Horizontal
- Very low
- Low
- Medium
- Steep
- Vertical

- Trend line
- Joint pattern
- Topographic scarp
- Laterite (L), Terrace (T), Scree (S)
- Dyke

- Principal road
- Minor roads and tracks
- Railway line
- Telephone line
- Fence
- State boundary
- Mine
- Homestead
- Yard
- Windpump
- Airport or Airfield, Landing ground
- Bore
- Tank
- Well
- Spring
- Waterhole
- Dam
- Photo-centre points
- Photo-centre points - adjoining sheet

Compiled by the Bureau of Mineral Resources, Geology and Geophysics.
Detail adjusted to planimetric base prepared by the Royal Australian Survey Corps.
Aerial photography by Royal Australian Air Force, complete vertical coverage at 1:50,000 scale.
Transverse Mercator Projection.

SCALE 1:250,000

5 0 5 10 15 MILES
5 0 5 10 15 20 25 KILOMETRES

INDEX TO ADJOINING SHEETS

DONORS HILL	CROYDON	GEORGTOWN
DOBBYN	MILLUNGERA	GILBERTON
CLONCURRY	JULIA CREEK	RICHMOND

Photo-interpretation by the Photogeological Group,
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E54/A15/1